## RESEARCHARTICLE

# GUIDELINES AND IMPLEMENTATION STRATEGY FOR THE USE OF CANNABIS

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## ABSTRACT

Over the past few decades, particularly after the discovery of pharmacology, several realms in the field of medical research and practices have drawn the valid contribution of the use of cannabis for medicinal purposes. Research indicates that medical cannabis is useful in the treatment of nausea and vomiting associated with cancer chemotherapy, epilepsy, adult chronic pain treatment, and multiple sclerosis. Despite this significant result, the topic remains debatable in many countries, including Lebanon. In this paper, we focus on understanding the ability and willingness of different Lebanese community layers that have a direct or indirect impact on the legalization of cannabis use. Sensing the political and social constituent of the Lebanese community, it is inevitable to survey various categories, including Politicians of multiple sects, religious representatives, and doctors of different specialties, including hematology /oncology and neurology. Hence, a qualitative approach using a semi-structured interview used to explore the depth of participants' understanding and perspectives on the topic in addition to the intangible factors such as social constructions, norms, socioeconomic status, gender roles, ethnicity, and religion. We find that a considerable percentage of the total categories (81%) support the legalization of cannabis for medical purposes, whereas (19%) either support with reservation or decline to position themselves in either category of opinion. Parliament representatives all advocate the medical use of cannabis with operant concerns on abuse and control; on the other hand, Religious category experience discrepancy in the perspective of the legislating cannabis as far as there is an alternative to it. (71% support the legalization while 29% express a significant concern). As for the physicians,75% uphold the legalization of cannabis for medical use and show a sincere will to prescribe for patients who are in medical need compared to 17% who don't undergird cannabis use and 8% who declined to answer the question. The article concludes with a preposition on the possible model to govern the legalization of medical cannabis, which might be of interest to public policy specialists or further research in the field of medical cannabis.

## INTRODUCTION

Cannabis (Cannabis sativa or hemp) is an annual herbaceous plant included in the family of Cannabaceae. It was used for multiple purposes (medicinal, recreational, seed oil, and industrial fiber, etc.) for thousands of years. The psychoactive and physiologically active constituents are mainly found in the flowers and are known as cannabinoids. They are found in leaves' extent, minimally in the stems, and in seeds with lesser amounts (Andre, 2016).Cannabis is used in three main forms: Marijuana (Dried flowers and leaves, the least potent), Hashish (The resin, a secreted gum, from the plant), and Hash oil (Thick oil obtained from hashish, the most potent cannabis product).

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The first recorded pharmaceutical use of cannabis comes from the Pen-ts'aoching, the world's oldest pharmacopeia (Hand, 2016).The therapeutic use of cannabis was introduced to Western medicine in 1839 when the Irish doctor William O'Shaughnessy distributed the arrangements of Indian hemp or gunjah. The growth of medicinal cannabis continues to grow in the late eighteenth and early nineteenth century, where it could be readily found in over-the-counter pharmaceutical markets such as Piso's cure and the One-day cough cure. Cannabis was initially marked as Schedule I for reasons related to race and class. At the beginning of the 1900s, recreational cannabis use in the United States of America was in large restricted to Mexican and African minority groups who had immigrated into the country. By the 1930s, there was an increase in recreational use among all US citizens, leading narcotics officers to push for restrictive legislation on both the recreational and medicinal use of cannabis.

Over thousands of years, many different cultures had been exposed to cannabis and often realized the medicinal application of cannabis use. When cannabis was introduced to Western medicine, its therapeutic applications were swiftly recognized, and its use spread rapidly. Around 23 countries worldwide legalized medicinal cannabis use, where some authorized recreational cannabis uses also. In the United States, around 33 states legalized medical cannabis, where recreational cannabis is legal in 10 states (Alaska, California, Colorado, Maine, Massachusetts, Michigan, Nevada, Oregon, Vermont, and Washington) (Pacula, 2017; Leung et al., 2018). The same situation applied to many countries such as the Netherlands in 2003 (de Hoop, 2018).In 1992, in occupied Palestine, the hazardous substances law allowed the use of medicinal cannabis and research under strict regulations. Uruguay became the first country in the world to legalize cannabis for medical and scientific purposes, as well as for industrial and recreational use in 2014 (Cruz, 2018).On the 11th of December 2018, New Zealand passed the Government-sponsored Misuse of Drugs (Medicinal Cannabis) Amendment Act to allow terminally ill people to consume medicinal cannabis. Cannabis is widespread in many Arab countries where the possession of a single joint can lead to jail. However, some governments acknowledge the harmful effects of their policies and are seriously considering a change in the law.

**Lebanon:** The cultivation, sale, and possession of any form of cannabis for medical or recreational purposes are illegal in Lebanon (673/98 date 16-3-98) signed by President Elias Hrawi. Cannabis use is widespread in Lebanon, particularly among the youth (high school students and university students). Cannabis market expanded due to civil war from 1975-1990,In 2011, Lebanon ranked within the world's top five sources of cannabis by the United Nations office on drugs and crime. In 2014, the legalization of cannabis cultivation was brought back to the discussion by politicians. In 2018, after a five-year study done by McKinsey Company, the report released and recommended that Lebanon should initiate the development of a cannabis regulatory framework (Mckinsey, 2018).The report considered that such a step would yield around 1 billion $ /year, and medicinal cannabis will increase the GDP percentage and decrease the unemployment rate. The report provided a future vision with estimated high economic benefits that yield a high percentage of revenues to the local economy (Ajami, 2018).

After the release of the McKinsey report, the Lebanese Parliament is preparing to study and adopt the necessary legislative forms to legalize the cultivation of cannabis and its manufacture for medical uses. LAU held an event chaired by spearhead professor Dr. Mohammad Mroueh introducing its initiative to establish the Medicinal Cannabis Research Center, which aims to generate evidence-based knowledge on the potential medical value of Lebanon-grown cannabis. LAU's center will be a first in Lebanon and the region (Ajami, 2018). Last year after urgent requests from policymakers and stakeholders, K2P (knowledge to policy) founded by the Faculty of Health Sciences (FHS) at the American University of Beirut conducted a study through summarizing research evidence drawn from systematic reviews and single research studies. K2P studied Legalizing Cannabis Cultivation and discussed the argument if Lebanon ready and what we need to know (NadeenHilal, 2018).

Professor Mohamad Farran, Faculty of Agricultural & Food Sciences (FAFS), at the American University of Beirut, was invited to deliver a detailed presentation to the Lebanese parliamentary committee considering the legalization of cannabis for medical and industrial (fiber) purposes, as a substitute to the narcotic plant. Dr. Farran discussed three varieties of cannabis (Sativa, indica, and ruderalis) and presented the uses of each and the proper soil and conditions for its growth. The presentation included recommendations for production and marketing through establishing a unit in the Bek'aa valley to grow the plants and selling the produce in collaboration with the private sector, universities, research facilities, grower associations, pharmaceutical industries, etc. Such a unit would distribute medical cannabis to interested farmers and facilitate the export of the resulting produced Lebanon is famous for its cannabis production and is particularly renowned for its top-quality hash. Implementing the McKinsey & Company report (Mckinsey, 2018) would substantially help Lebanon's economy, which is the third most-indebted nation in the world. It can also lead to economic diversification and therefore open new markets as by Lebanese Minister of Economy and Trade, Raed Khoury.

In July and September 2018, the speaker of the Lebanese Parliament and "Amal Movement" leader, Nabih Berry, introduced two different legalization bills. The two bills proposed by two rival political parties: the first one submitted by the "Lebanese Forces" MP for Baalbeck-Hermel, Antoine Habchi, while the second one was introduced by the "Tanmeiah & Tahrir" parliamentary bloc. Both bills aim to legalize the growing of cannabis for medicinal, industrial, and research purposes through two different approaches. The bill introduced by Habchi proposed putting pharmaceutical companies into direct contact with producers in Lebanon. At the same time, Berry's proposal calls for the creation of a state-controlled entity, similar to the "La régielibanaise des tabacs et tombacs," to manage the industry. A third bill was later on introduced by "Strong Lebanon bloc" through Dr. Mario Aoun that aims to legalize cannabis through the regulatory body under the supervision of the ministry of public health. All three bills recommended the importation of a specific type of plant, rich in CBD, rather than using the ones found in Lebanon. With all the detailed history mentioned, did the Lebanese leaders in favor of integration within the new trends and move forward, or they prefer to stay in a steady zone disregarding all economic benefits?

## MATERIALS AND METHODS

The essence of this research discusses people's perspective and their opinion regarding the legalization issue. The target is to test knowledge, readiness status, and the actions needed to go through the legalization process. Thus far, there are no clear studies done concerning this topic; therefore, this research focuses on the phenomenology and the different perspectives of concerned, religious and political, parties along with individuals with medical backgrounds. A qualitative study is chosen since it matches and serves the point of this project. A semi-structured interviewing system was conducted and a set of open-ended questions prepared for each related category. The interview questions covered seven categories (religious representatives, ministers, and MPs. MoPH, physicians, patients, DEA, Ministry of Justice).

The chosen categories integrate with the process of legalization either as legislative, control, support, or as beneficiary.

## RESULTS

**Religious Category:** The participants include Shia, Sunni, Druze, Catholic, Greek Orthodox, and Armenian Catholic and Armenian Orthodox. They all share a standard knowledge level and consider patient health a top priority. While the majority praised and was aware of the benefits that the use of cannabis has on patient's health, others raised red flags regarding the adverse effects that the legalization might have on the community. Furthermore, they all agreed that medical experts are the ones to decide whether cannabis legalization is beneficial, all while showing some concerns. Overall, 71 % supported the legalization process, and 29 % were concerned.

**Table A.1.1. Religious category perception of legalization process**

| Participants | answer | total | sum | percentage |
|---|---|---|---|---|
| Shia | yes | yes | 5 | 71% |
| Druze | concerned | no | 0 | 0% |
| Catholic | yes | concerned | 2 | 29% |
| Greek Orthodox | yes | total number | 7 | 100% |
| Armenian Orthodox | yes | | | |
| Armenian Catholic | yes | | | |
| Sunni | concerned | | | |

**Table A.1.2: Ministers and Parliament member's perception of legalization process**

| Parliament Members | answer | total | sum | percentage |
|---|---|---|---|---|
| FadiAlame | yes | yes | 7 | 87.5% |
| Paula Yaccobian | yes | no | 1 | 12.5% |
| Mario Aoun | yes | total number | 8 | 100.0% |
| Yaccoub Sarraf | yes | | | |
| Elias Hankach | yes | | | |
| Assem Araji | yes | | | |
| Wael Abou Faour | yes | | | |
| Hussein Haj Hassan | no | | | |

**Table A.1.3: Physician's perception of legalization process.**

| Physician | answer | total | sum | percentage |
|---|---|---|---|---|
| N.A(neuro-m.s) | no | yes | 9 | 75% |
| M.G(hem-onc) | yes | no | 2 | 17% |
| J.K (hem-onc) | yes | no answer | 1 | 8% |
| F.K (hem-onc) | yes | total number | 12 | 100% |
| A.T (hem-onc) | yes | | | |
| F.A (hem-onc) | yes | | | |
| H.A (hem-onc) | yes | | | |
| S.T (hem-onc) | yes | | | |
| G.K (A.P.M) | yes | | | |
| R.Y (A.P.M) | yes | | | |
| W.S (psych) | no | | | |
| B.Y (neuro) | no answer | | | |

**Ministers and Members of the Parliament:** This category includes eight members: Minister Hussein Haj Hasan, Minister Yaccoub Sarraf, Minister Wael Abou Faour, MP Fadi Alame, MP Paula Yaccobian, MP Mario Aoun, MP AssemAraji. The general perception is divided through supporting the legalization process. They share a standard knowledge level; moreover, there is general agreement on the economic and health benefits of cannabis. The majority concurred that Lebanon is incapable of proceeding with the cannabis legalization unless it's bound to a clear and strict legislative bill provided from experts on this matter. Some of the participants mentioned that laws and regulations from other countries could be applied.
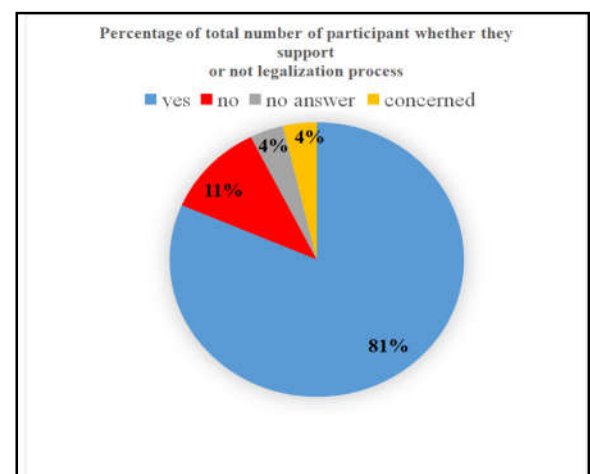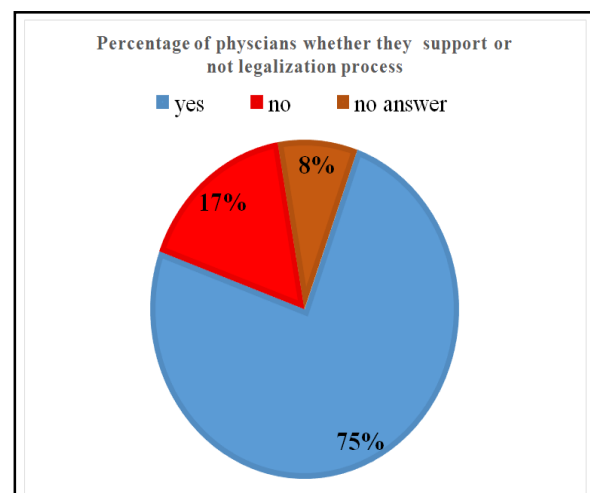


Percentage of religious people whether they support or not legalization process

■ yes   ■ no   ■ concerned



Percentage of parliament members and ministers whether they support or not legalization process

■ yes   ■ no



Percentage of physcians whether they support or not legalization process

■ yes   ■ no   ■ no answer



Percentage of total number of participant whether they support or not legalization process

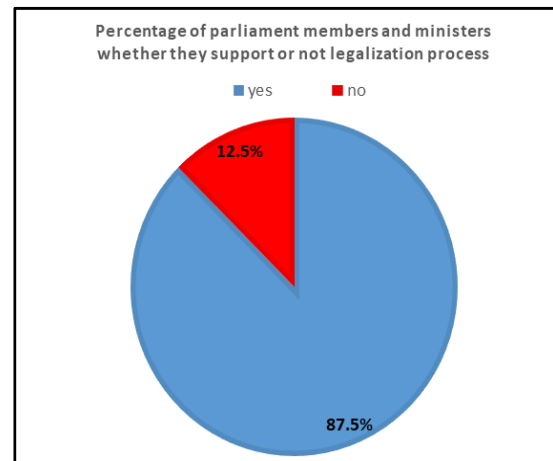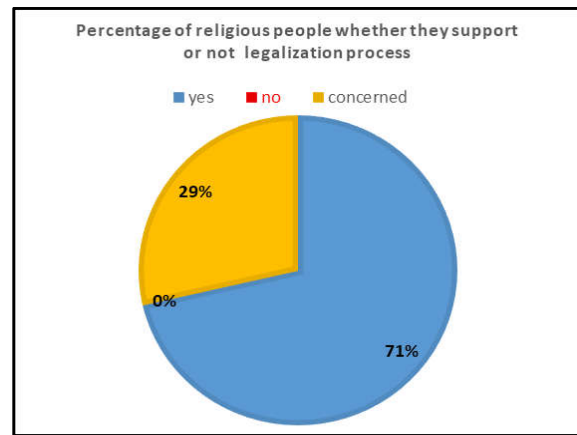■ yes   ■ no   ■ no answer   ■ concerned

**Table A.1.4: All respondent perception of legalization process**

| category | MPs and ministers | Physicians | Religious | MoPH | total | percentage |
|---|---|---|---|---|---|---|
| Yes | 7 | 9 | 5 | 1 | 22 | 81% |
| No | 1 | 2 | 0 | 0 | 3 | 11% |
| no answer | 0 | 1 | 0 | 0 | 1 | 4% |
| concerned | 0 | 0 | 1 | 0 | 1 | 4% |
| total number | 8 | 12 | 6 | 1 | 27 | 100% |

All respondents were concerned about the abuse and the incapacity to maintain control over the legal process. Overall, seven members (87.5%) support the legalization of cannabis, and only one member (12.5%) was against it.

**Table A.1.5 Medical cannabis legalization timeline**

| Country | Year of legalization |
|---|---|
| Occupied palestine | 1992 |
| USA (californiaarizona) | 1996 |
| Canada | 2001 |
| Netherlands | 2003 |
| Finland | 2008 |
| United Kingdom | 2010 |
| Italy | 2013 |
| Czech Republic | 2013 |
| France | 2013 |
| Uruguay | 2014 |
| Croatia | 2015 |
| Jamaica | 2015 |
| Chile | 2015 |
| COLOMBIA | 2015 |
| Philippines | 2016 |
| Australia | 2016 |
| Germany | 2017 |
| Brazil | 2017 |
| Mexico | 2017 |
| Peru | 2017 |
| Poland | 2017 |
| Puerto Ricco | 2017 |
| Greece | 2018 |
| New Zealand | 2018 |
| Oklahoma & Vermont states (USA) | 2018 |

**MoPH:** The interview reflects the opinion of Dr. Marie Therese Matar, the head of the narcotics department in the ministry of public health. Based on her personal opinion, there is no precise control policy for medical cannabis, only proposed ideas. Thus, a high level of collaboration between the numerous key players responsible for such legalization is essential and required. A professional team or committee responsible for all necessary research and updates, as well as the subsequent follow-ups and the set of mandatory measures to control and govern the legalization process, must be formed to facilitate this latter for medical purposes.

**Physicians:** This category includes professors and doctors of different specialties, including hematology /oncology and neurology. the participants selected from top academic and private hospitals in Lebanon. They agreed that medical cannabis is highly recommended, not as a sole agent for all indicated medical cases (including end-stage cases) but as a supportive care agent. While some were aware of and acknowledged the high success rate of cannabis use for medical purposes, others indicated that more evidence-based research is needed. 17% of them did not approve of its use and considered that cannabis does not have a high success rate of beneficial effects. On a separate note, the prescription of medical cannabis should be restricted to some specialties and not generalized. A majority of 60% showed their willingness to prescribe cannabis, 20% refused the concept while the other 20% preferred waiting for more research to be provided.

However, all of them settled on the idea of treating and processing cannabis as all other narcotic drugs, if legalized. Overall, 75% of the interviewed physicians supported the legalization of medical cannabis, while 17 % were against it, and the rest eight % preferred not to answer.

# DISCUSSION

All religious and political parties share essential knowledge about medical cannabis. While the religious parties and medical professionals focused on the impact of cannabis on individuals' health, all political parties are more engrossed with the economic implications of cannabis legalization in Lebanon. There is a noticeable unity on the importance of having a legal pathway similar to all other narcotic drugs, and they also shared common concerns regarding the abuse or misuse of cannabis. MoPH and some parliament members focused on the plan for any legalization process. The majority supported the legalization of cannabis for medical purposes with an enormous 81% of the entire participants, while 11 % were against it.

## Conclusion

The discussions pinpointed the status of cannabis in Lebanon and the possible ways to benefit from this field. During the study period, a remarkable lack of knowledge about medicinal cannabis was noticeable through some categories of the selected population. The awareness level needs improvement to obtain a comprehensive guide and thereby clarify the aim and the impact of such legalization and to provide a general understanding of the legal framework of the project. The ethical and moral concerns should be addressed to decrease the social stigma surrounding this topic and thus give grounds for the legalization process. The research and studies conducted around the world provided the necessary justification regarding the clinical indications of treatment with medicinal cannabis. The entire respondents were concerned about the controls and regulations of any legalization process. A governance issue emerged as a point of contention between the active parliament members; therefore, referring to experiments and trials from other countries can point out some ideas to proceed with such a step. Finally, Lebanon is capable of legalizing cannabis for medical purposes under a well-structured and controlled policy to avoid any abuse or misuse of cannabis.

## Recommendation

- The formation of an independent organizing body RBMC, capable of managing and controlling the production process starting from cultivation until it reaches the end-user.
- RBMC coordinate and control the assigned roles between all involved ministries (Ministry of Agriculture, Ministry of Economy& Trade, Ministry of Public Health, Ministry of Interior& Municipalities, and Ministry of Justice).

- The production process should be through local medical companies that are licensed and under control of RBMC.

**Ministry of Agriculture:** The Ministry of Agriculture is responsible for controlling the process of cultivation and issuing licenses to cultivate cannabis under clear and standard conditions.

**Ministry of Economy& Trade:** The responsibility of the ministry of economy is to specify the consumption by identifying the quantities, either to be exported out of the country or to be delivered to local companies for drug manufacturing in coordination with Mo PH.

**Ministry of Public Health (MoPH):** Mo PH will have a crucial role in the controlling process through auditing, monitoring, and follow-ups on the assigned sectors. Mo PH should develop a clinical research committee to audit and control the application of the various clinical pathways and provide scientific-based research to investigate medicinal cannabis success rates. On another note, Mo PH should select the most suitable and convenient medical companies interested in this industry, under strict and clear-up conditions and criteria.

Moreover, in collaboration and coordination with the Lebanese Order of physicians, Lebanese Order of pharmacists, and with the NSSF, the Mo PH will have to control prices after production and set clear-cut and strict policies and guidelines related to the prescription and administration procedures of cannabis-based drugs. On the other hand, consideration of medication coverage (by the social security fund) and patients' accessibility to cannabis, whether throughout community pharmacies across Lebanon or its availability, will be exclusive to the ministry itself.

**Ministry of Interior& Municipalities:** Establishing strict rules and regulations to control the whole process through DEA by supervising all ministries to support and direct their duties and actions to avoid any potential abuse or misuse of medicinal cannabis drugs. DEA is in charge due to its experience with anti-drug operations in case of breaking the law.

**Ministry of Justice:** Coordinate with DEA through the ministry of the interior to control medicinal cannabis use through strict controls and penal codes. Besides, to investigate any potential cases of drug abuse and take appropriate actions against the offenders. The ministry of justice will have to take into consideration the rehabilitation centers and transferring cases to these centers to help patients avoid addiction.

**Conflicts of interest:** The authors declare that there are no conflicts of interest.

## Abbreviations

| | |
|---|---|
| CBD: | Cannabidiol |
| DEA: | Drug Enforcement Administration or bureau |
| MoPH: | Ministry of public health |
| MP: | Member of Parliament |
| NSSF: | National Social Security Fund |
| RBMC: | Regulatory body of medical cannabis |
| HEM: | Hematology |
| ONC: | Oncology |
| A.P.M: | Anesthesia Pain Management |
| M.S: | Multiple Sclerosis |
| NEURO: | Neurology |

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