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EDITORIAL

Cannabis and cannabinoids: new hope *versus* the level of scientific evidence

Cannabis e canabinoides: nova esperança versus nível de evidências científicas

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Yes! It is definitely noticeable that cannabis and cannabinoids have been conceived by many categories of health professionals and by the very section of society that suffers from health disorders as a new hope or potential alternative for the management of various pathological and dysfunctional conditions, especially those that have been refractory to the pharmacological and non-pharmacological treatments available on the market and in services.

A growing number of countries have legalized the use of certain components of *Cannabis sativa* for the treatment of various clinical conditions. However, although the clinical use of these substances has expanded exponentially in recent years, the scientific evidence from randomized controlled clinical trials remains insufficient and has not grown in methodological quality to the same extent, which really limits decision-making by health professionals, both in terms of therapeutic effect and patient safety[1]. For the scientific community, limitations in the planning and conduct of clinical studies, as well as in the analysis and interpretation of data, have been understood as a barrier to understanding and recommending treatments based on medicinal cannabis[2].

The first publications on the topic of cannabis and cannabinoids date back to the 1940s, and it is clear that there has been a vertiginous growth in the publication of scientific articles in this area in the last five years, notably represented by the more than 200 systematic reviews, which cover topics ranging from brain molecular changes to effectiveness in conditions such as cancer pain, chronic pain, cognitive disorders, autism, bariatric surgery, sleep disorders, emesis, movement disorders, neurological diseases, substance abuse, eating disorders in different age groups (adolescents, adults and the elderly) and different ethnicities.

The cost-benefit ratio is not only restricted to the financial aspects of the treatment, but also to the balance between proven therapeutic effect and safety for patients, considering problems such as solubility in body fat, toxicity, dose matching between humans and animals, liver microsomes, hypothermia, behavioral effects, psychopathological phenomena, predisposition factors to continued and increasing use and, last but not least, the effects of long-term use, which are still not very well known.

But what is the current problem with scientific evidence on the therapeutic effects and adverse effects of cannabis and cannabinoids for clinical proposals? Certainly, and considering the level of evidence and degree of recommendation of systematic reviews on the subject in different contexts, it is urgent that scientists follow minimum parameters of methodological rigor to reduce biases that compromise support for the indication of clinical use based on moderate or strong evidence for the intended outcomes.

Thus, three minimum measures are suggested to be adopted and faithfully followed from the planning phase of controlled clinical trials: 1. registration of the clinical trial; 2. use of the Consolidated Standards of Reporting Trials (CONSORT), a checklist designed to help researchers report their clinical trial properly, so that the report does not prejudice the interpretation of the research results[3,4]; 3. use of the Template for Intervention Description and Replication (TIDieR) checklist[5], a tool designed to improve the description of interventions in randomized clinical trials.

Thus, methodologically, clinical trials should: 1. mention that it is a randomized clinical trial in the title; 2. follow the CONSORT-Abstract rules in the structured abstract; 3. provide a precise description of the type of study, including the allocation rate; 4. provide clear and well-founded eligibility criteria so as not to cause confounding factors; 5. provide the place and setting of data collection; 6. provide details of the interventions in each group (a valid control group is essential); 7. report primary and secondary outcome measures clearly specified in the clinical trial registry and information on any changes after starting data collection; 8. present in detail how the sample size was determined, with reference and precise data for the calculation; 9. describe the method used to generate the randomized allocation sequence, as well as the type of randomization; 10. describe the allocation and secrecy/hiding mechanism promoted by the researchers; 11. describe the masking process; 12. describe in detail the statistical analysis for comparing primary and secondary outcomes[3,4].

According to TiDier, clear and detailed information should indicate WHAT (describe materials and procedures), WHO (report the experience/qualification/training of those who offered the treatment and measured it), HOW (describe how the intervention

was delivered), WHERE (describe where the intervention took place), WHEN (describe the number of times the intervention was offered, the number of sessions, the duration of the intervention) and HOW MUCH (describe the intensity and dose of the intervention). In addition, it is necessary to describe changes made to the procedures if the intervention was altered and it is recommended to measure adherence to the intervention by the participants and describe how this was conducted[5].

It is clear that the cannabis market still faces barriers and challenges that prevent it from advancing in various regions of the world, including Brazil, which are widely and thoroughly discussed in the supplement. Much progress has been made so far, including in the most recent scientific evidence. So, here we leave our positive reinforcement for future clinical trials testing the therapeutic efficacy of cannabinoids to become increasingly robust and well-founded in reports, in order to strengthen and consolidate the body of scientific evidence, influence the formulation and approval of public policies, expand the sources of funding for scientific research, to finally facilitate decision-making by professionals and enable the treatment of diseases, generating a better quality of life.

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REFERENCES

1. Barthwell A, Baxter L, Cermak T, DuPont R, Kraus M, Levounis P. The role of the physician in "medical" marijuana: American Society of Addiction Medicine ASAM; 2010.
2. Kondrad E, Reid A. Colorado family physicians' attitudes toward medical marijuana. J Am Board Fam Med. 2013;26(1):52-60.
3. Schulz KF, Altman DG, Moher D; CONSORT Group. CONSORT 2010 statement: updated guidelines for reporting parallel group randomised trials. BMJ. 2010;23;340:c332.
4. Moher D, Hopewell S, Schulz KF, Montori V, Gøtzsche PC, Devereaux PJ, Elbourne D, Egger M, Altman DG; Consolidated Standards of Reporting Trials Group. CONSORT 2010 Explanation and Elaboration: Updated guidelines for reporting parallel group randomised trials. J Clin Epidemiol. 2010;63(8):e1-37. Erratum in: J Clin Epidemiol. 2012;65(3):351.
5. Hoffmann T, Glasziou P, Boutron I, Milne R, Perera R, Moher D, Altman D, Barbour V, Macdonald H, Johnston M, Lamb S, Dixon-Woods M, McCulloch P, Wyatt J, Chan A, Michie S. Better reporting of interventions: template for intervention description and replication (TIDieR) checklist and guide. BMJ. 2014;348:g1687.