Medical and alternative treatments for Cluster Headache patients.
***A Multinational Study*.**

This study was written by Miguel Ángel de Pascual, chronic cluster headaches patient and president of the Cluster Headache Spanish Association, (Asociacion Cefaleas en Racimos y Primarias España-CRAES), with the collaboration of Shellie Clark Masini, founder of the patient's organization Cluster Headache Community. May 2,023.

Introduction.

Given the low prevalence of Cluster Headaches, which can vary from 0.1% to 0.5% of the population, depending on different countries, CH does not arouse much interest for medical science, and this makes there is no medication specifically designed for its treatment.

This leads doctors to use inappropriate medication to treat the disease, usually medication with poor effectiveness and serious side effects. Faced with this situation of lack of protection, patients increasingly seek alternative solutions to conventional medicine to avoid the great suffering and devastating effects that this disease entails on a personal, family, work, and social level.

Over time, it is demonstrating a notable increase in the use of alternative treatments by patients. This study aims to show this reality.

Cluster Headache.

Cluster headache (CH) is a neurological disease of which the origin is unknown and has no cure. It is the most disabling type of headache that exists, because it generates the strongest pain that a human being can endure before losing consciousness.

Cluster headache is an excruciating form of primary headache, characterized by recurrent unilateral, relatively short attacks of very severe pain accompanied by autonomic symptoms/signs (i.e., rhinorrhea/nasal congestion, lacrimation, conjunctival injection) and restlessness.

A group of headaches that, although they are not the most common type of headache, are the most common within trigeminal-autonomic headaches and represent one of the most disabling headaches that exist given the high intensity of pain. In fact, of a penetrating, drilling, or expansive nature, it is a pain that many patients describe as excruciating or unbearable.

Likewise, this type of headache is also characterized by the fact that crises, lasting 30 minutes to 4 hours, usually occur with surprising punctuality, almost always at the

same time and with a predominance in the evening and/or at night in up to 70% of the cases. In addition, the vast majority of those affected, usually have pain-free periods of more than three months (episodic cluster headache), although there may also be cases in which the crises appear daily without pain-free periods (chronic cluster headache).
Specifically, it is estimated that cluster headache can become chronic in 30% of cases, which leads to greater disability and less response to preventive medications, to the point that more than 20% of chronic forms are refractory to drugs.
Many CH patients endure repeated attacks, every single day. The severity of pain has earned it the nickname "suicide headache" and a suicidal risk exists in this condition (55% of CH patients reported suicidal thoughts). In fact, many CH patients have committed suicide.

Due to the extraordinary severity of pain, the personal burden related to CH comprising unemployment, more than 1/3 of the chronic patients has lost their job, psychiatric complaints, sleep disorders, poor quality of life, socio-relational and familial restrictions is enormous, about 60% of the patients report an impact on their family life, the rate of divorce is higher among CH men than in the general population and CH women have less children than non-affected women.

Living with CH for the sufferers is a dramatic experience with pain as a "never-ending torture" stealing their life. For CH patients "days are made of fear for pain" immersed in feelings of loneliness, impotence and frustration.

Despite the diagnosis of CH being very simple, and rapid and effective treatments for alleviating CH pain available, CH is largely under-recognized and under-treated. Only 20% of CH patients receive an accurate diagnosis at the initial presentation of symptoms and less than 2/5 of the patients are correctly diagnosed. Average diagnostic delay is of 5.3 years and this delay, prevents the access to appropriate therapies. It has been estimated that 2/3 of patients never receive the correct treatment.

Mismanagement of CH extends beyond missing the diagnosis and the prescription of the right treatments.
Cluster headache patients experience a double drama; firstly, the disease with its attacks of unbearable pain, secondly the difficulty in finding access to high quality medical care, emotional support, respect, acceptance or simply someone that understands how devastating this disease can be. The life journey of CH patients is paved with a tragic feeling of loneliness, misunderstanding and mistrust.

Barriers to adequate care for CH are strictly connected to its low prevalence and to the historical inattention of the medical system toward pain disorders. Like other rare or infrequent disorders, CH is not widely known, apart from the few specialists working in this area, it does not receive attention in the curricula of the physician and has a very low priority in the agenda of health authorities and of researchers.

Survey population demographics.

The study was carried out online through two surveys published in different patient organizations and had a large participation.
1,147 responses from 553 participants, from U.S.A., Europe, Canada, Australia and South America, plus other countries.

Survey 1:
443 participants. 205 Women: 46%. 238 Men: 54%. ***Table 1**
Survey 2:
110 participants. 54 Women: 49%. 56 Men: 51%. ***Table 2**

Tables.

Conventional Medical Treatments	Patients	%	Alternative Psychedelic Treatments	Patients	%	Other Alternative Treatments	Patients	%	Other treatments.	Patients	%
Verapamil	103	23,3%	Psilocybin	124	28,0%	Melatonin	53	12,0%	Neuro Stimulator	20	4,5%
Anti epileptic	33	7,4%	LSD	39	8,8%	D3 Regimen	51	11,5%	GammaCore	2	0,5%
Antidepressants	32	7,2%	DMT	10	2,3%	Magnesium	38	8,6%			
Corticosteroids	24	5,4%	LSA	3	0,7%	Cannabis	30	6,8%			
Botox	24	5,4%				Ketamine	7	1,6%			
GONB	18	4,1%				Liquorice Root T.	1	0,2%			
Opioids	16	3,6%									
Lithium	15	3,4%									
Anxiolytics	15	3,4%									
CGRP	11	2,5%									
NSAID	11	2,5%									
Ergotamine	6	1,4%									
Sphenopalatine G. B.	2	0,5%									
ABORTIVES											
Oxygen	198	44,7%									
Triptans	145	32,7%									
DMT	6	1,4%									
1,037 responses from 443 participants from U.S.A., Europe, Canada, Australia and South America & other countries.											

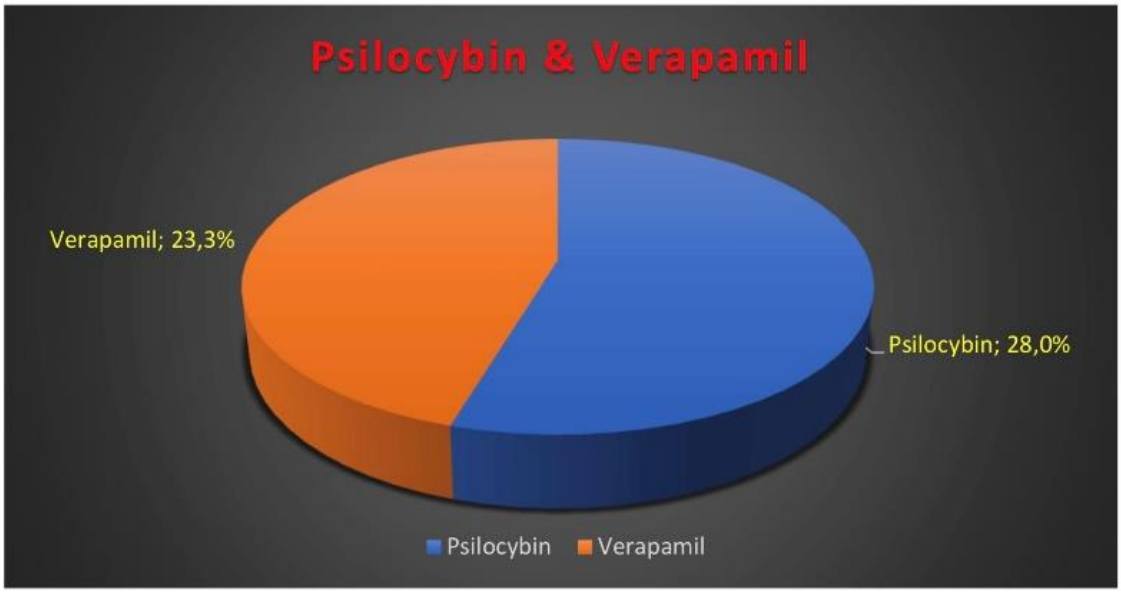
Table 1

Dosage	Patients	%
Micro dosing	61	55%
Medium dose	24	22%
Full dose	25	23%
110 participants.		

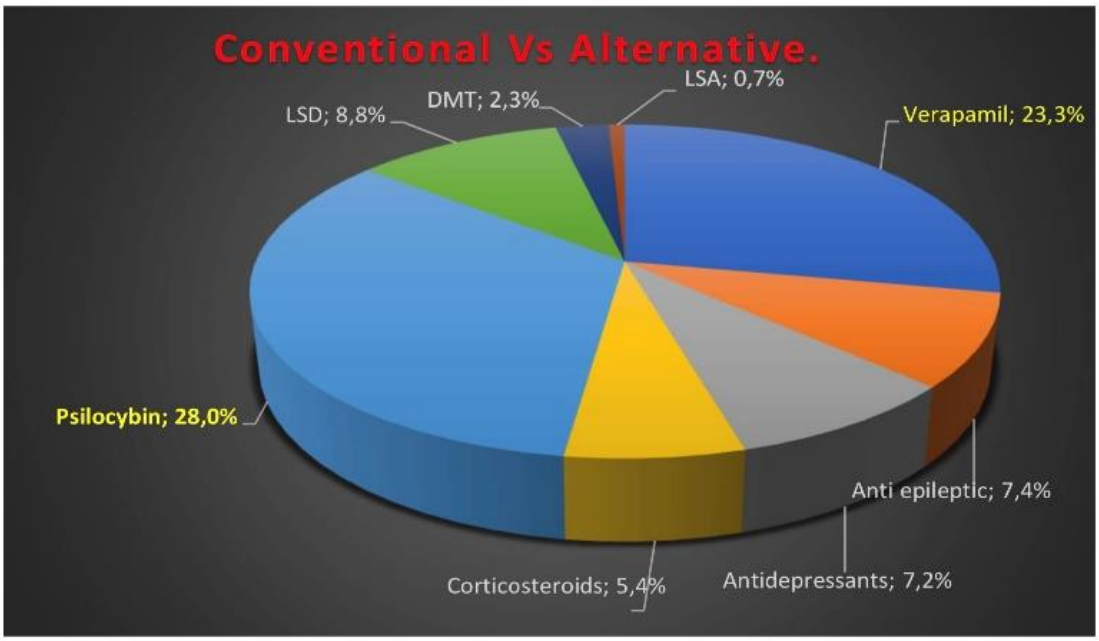
Table 2

***Results*.**

In survey 1, calcium channel blockers, like verapamil, appear as the conventional medicine most used by CH patients, being one of the first options for prescription by doctors. However, psilocybin is the medication most used by patients due to its high effectiveness and lack of side effects. ***Chart 4.**



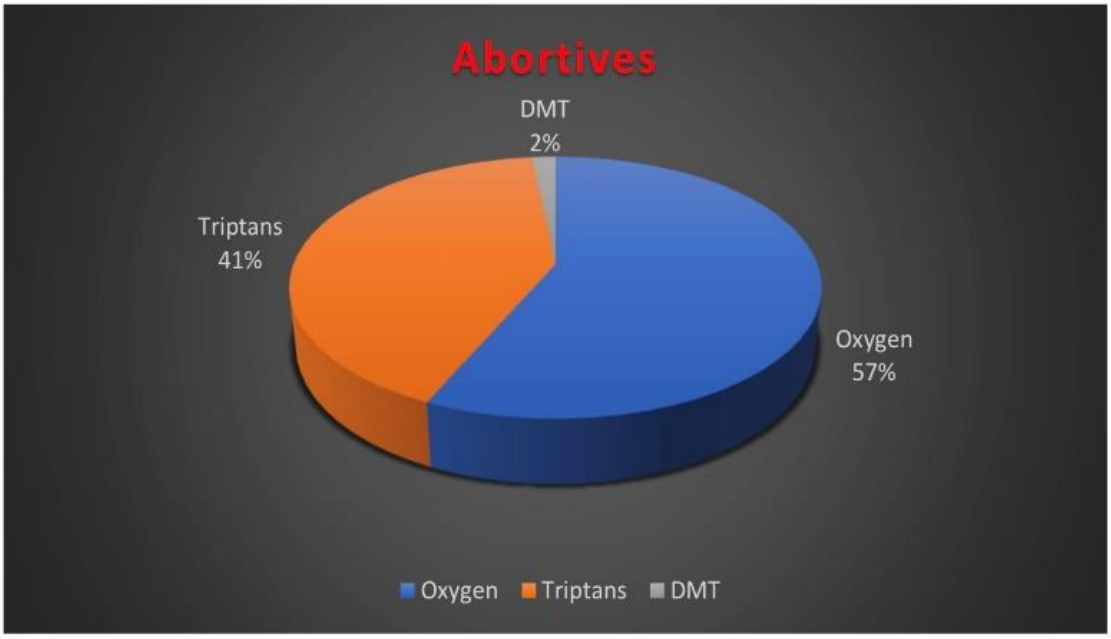
The four most used conventional treatments compared to the four most used alternative treatments, show practically the same percentages of use (conventional 43%, alternative 40%). ***Chart 2.**



Using CGRP monoclonal antibody, initially designed to treat migraine and later, approved for the treatment of episodic CH, has practically no acceptance among CH patients (2.5%). ***Table 1.**

Electronic devices option has a very low relevance in this survey (5%).

Regarding abortive treatments, the use of oxygen therapy stands out, followed by triptans, which appear as a second option. Dimethyl tryptamine is also used, although to a lesser extent. ***Chart 6.**



Survey 2 shows the preference of patients for the different psychedelic dosing options, with Micro Dosing being the most popular (55%), far surpassing Medium Dose and Full Dose (22% and 23%) ***Table 2**

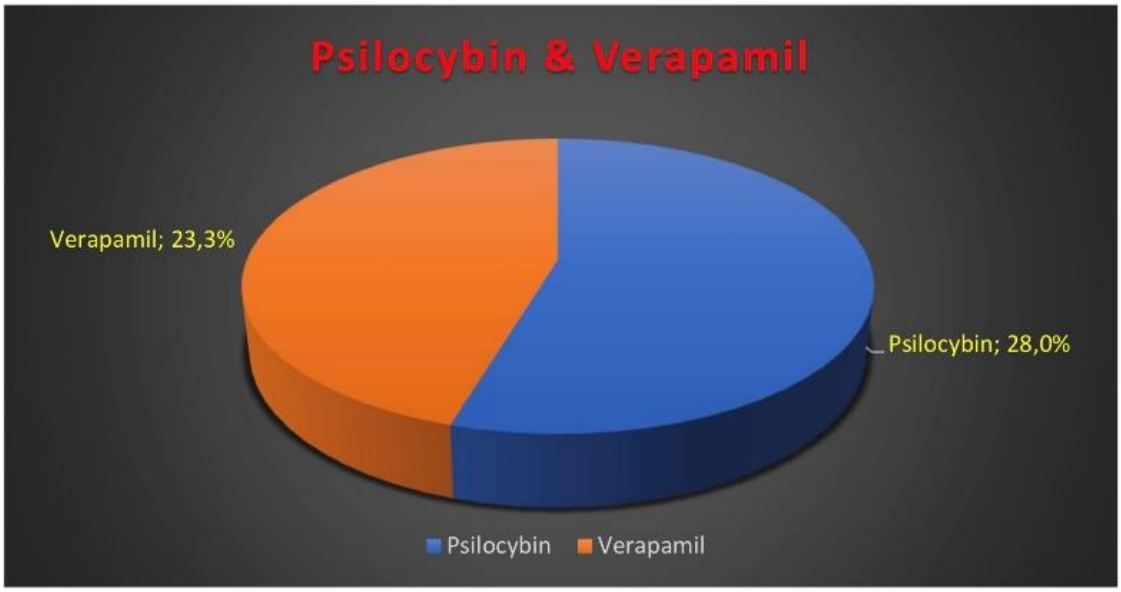
Dosage	Patients	%
Micro dosing	61	55%
Medium dose	24	22%
Full dose	25	23%
110 participants.		

***Conclusions*.**

Data collected in survey 1 show the lack of appropriate CH medication, the medical inability to correctly treat CH patients and the great ignorance of this pathology on the part of health professionals. As this is the most painful and incapacitating type of headache that exists, it continues to be ignored by doctors, researchers and national health systems.

The great shortage of certified neurologists for headaches and specialized headache centers together with the great ignorance on the part of general practitioners, leave patients in a situation of total helplessness.

Data from this survey show that there is no conventional medication that exceeds the use of psilocybin, despite being a controlled substance included in Schedule 1. (Verapamil: 23.3%. Psilocybin: 28%) ***Chart 4.**

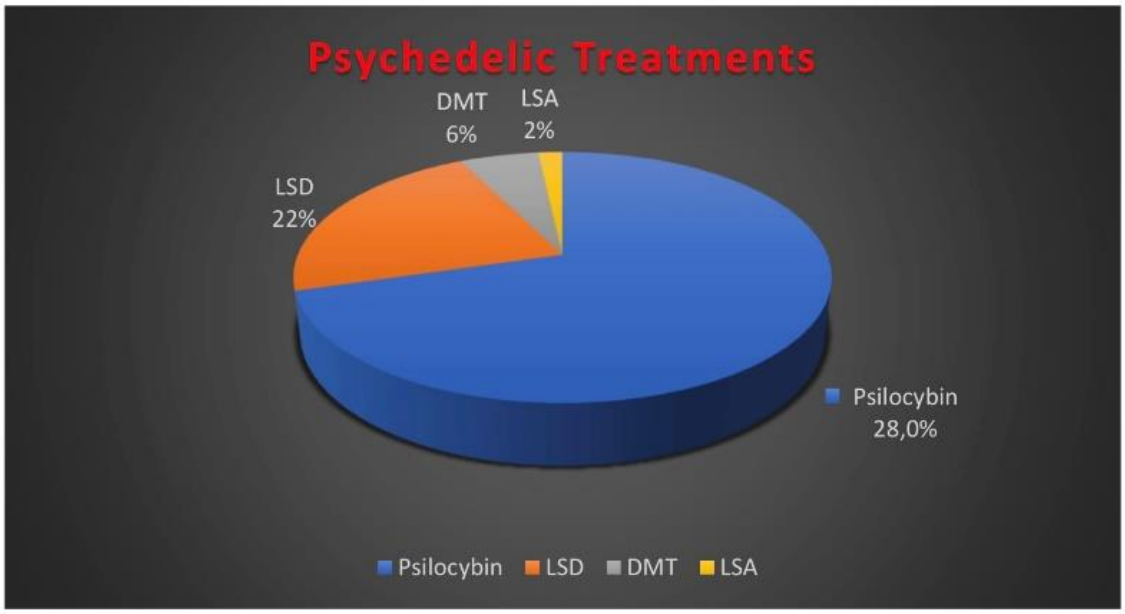


CH patients, faced with the ineffectiveness of the vast majority of conventional medication, out of desperation to solve the serious problem that suffer this highly disabling disease causes them, choose this option and other psychedelics like LSD, DMT and LSA, despite the legal risks that this could cause them.

Currently, Switzerland is the great example of progress in this field where certified doctors can treat CH patients with psychedelics.

Testimonies of thousands of patients during the last decades, demonstrate the great inefficiency of conventional medical treatments, where self-administered psychedelics

stand as the great promise of effective and safe treatment, which has been used for many years by tens of thousands of patients with high success. ***Chart 3**



DEA, keeping psychedelics on Schedule I (drugs with no currently accepted medical use and a high potential for abuse) has no scientific foundation and is a political aberration, making research extremely difficult and preventing the development of a very valuable new medication to treat different diseases such as CH.
FDA fails in what should be its main task, the effectiveness of providing and promoting safe and effective treatments for all patients, based on science and not in politics or commercial interests, harming the interests of patients.

CGRP monoclonal antibody therapy has a very low impact among CH patients (2.5%). Scarce efficacy, many side effects and doubts about its safety, are the reason why this therapy is not considered by the majority of patients, despite being the fashionable drug for many doctors. ***Table 1**

Conventional Medical Treatments	Patients	%	Alternative Psychedelic Treatments	Patients	%	Other Alternative Treatments	Patients	%	Other treatments.	Patients	%
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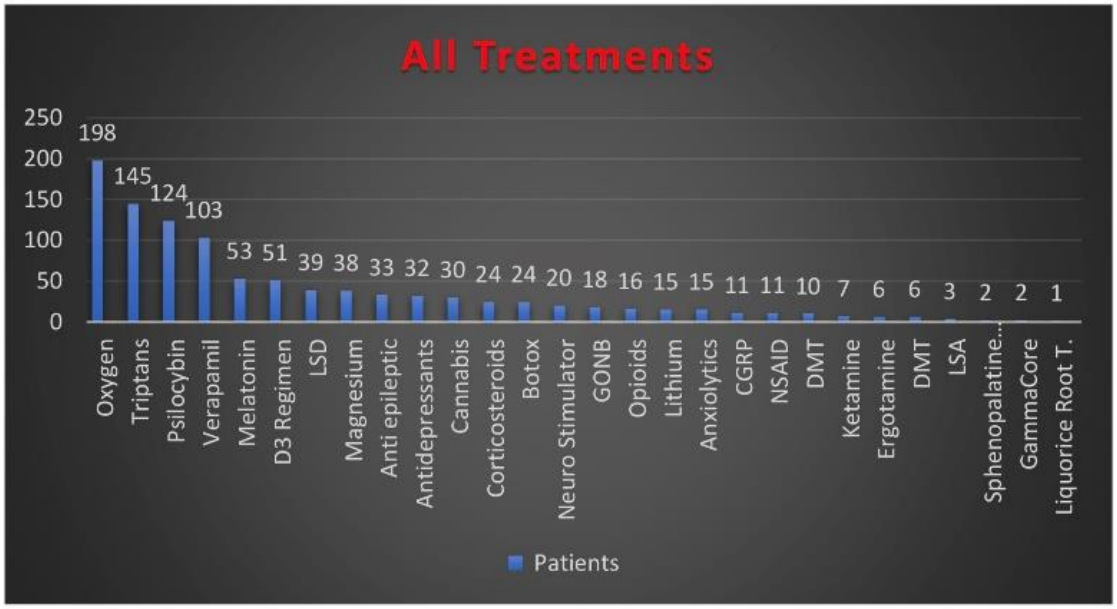
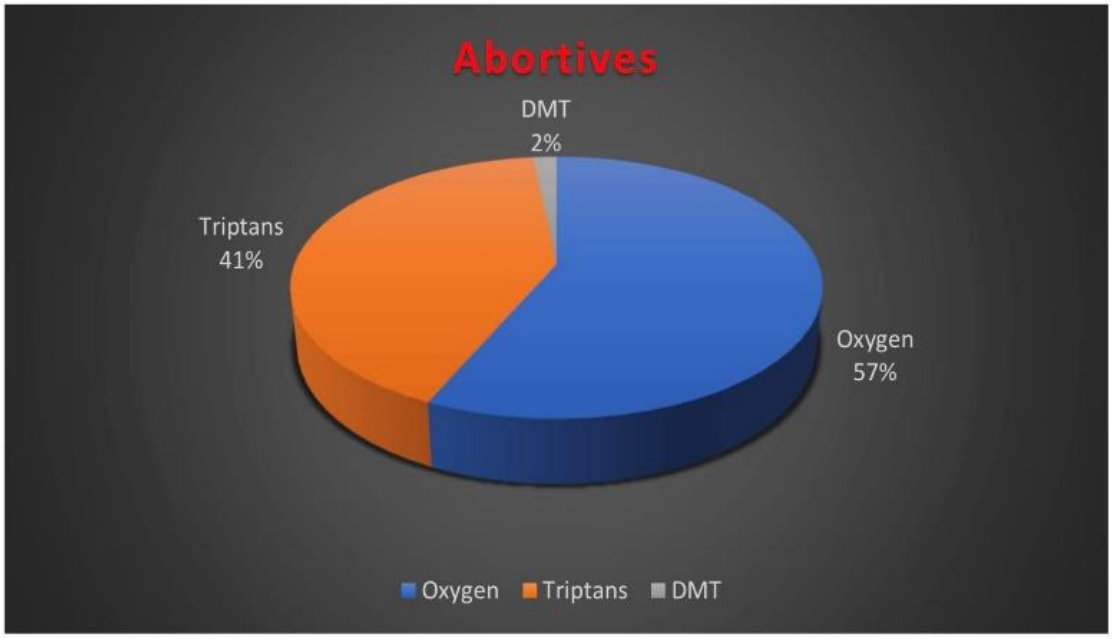
CH patients rarely resort to invasive surgical interventions as in the case of neurostimulators given their low effectiveness. External electronic devices are of very little help.
Electronic devices are very ineffective and are minimally used by CH patients. ***Chart 1**

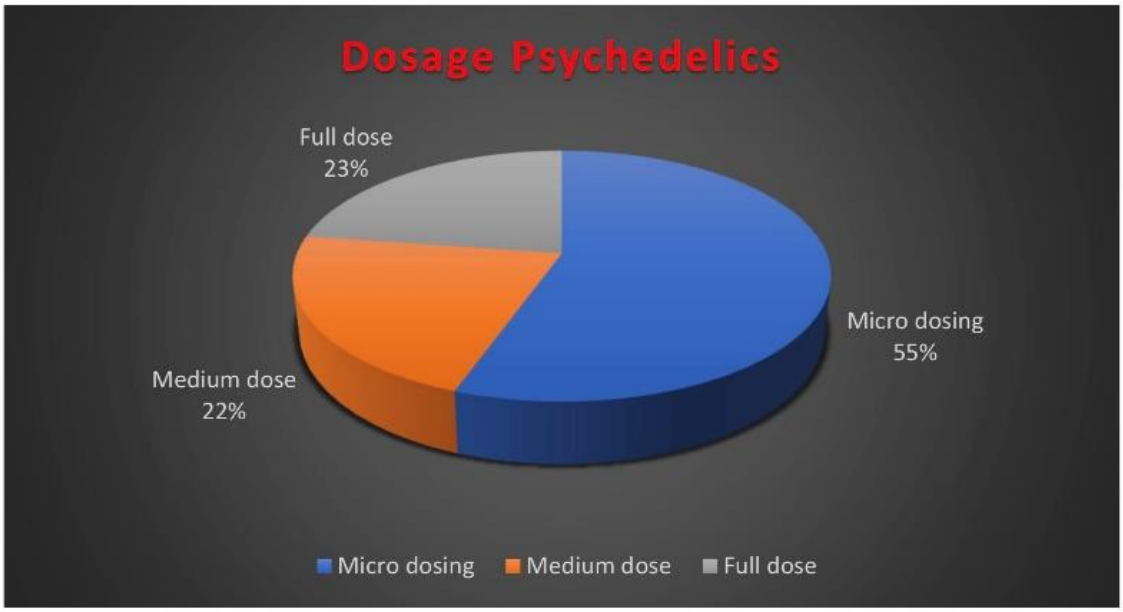


Oxygen therapy, despite the many difficulties that patients have to face to get their prescription and being the least harmful abortive method and much cheaper than other medications, it is the abortive method most used by CH patients. ***Chart 6.**



Survey 2 shows micro dosing psychedelics (between 1 and 10% of a recreational dose) as the option chosen by patients. ***Table 2.** A few years ago, micro dosing was not considered an effective method to control CH, however, currently, it is becoming

one of the most used methods. It stands to reason because, being a subperceptual dose, does not prevent them from doing their daily routine without alterations and, depending on the technique applied, it is the same or even more effective than the rest of the options.
Medium dose and full dose stay in second place, both with practically the same incidence. ***Chart 5**.



Being the medical system unable to provide relief or a cure for this disease, leaves patients without any protection putting their lives at risk, making them have to act as their own doctors, get educated and find the best solution for them, whether legal or illegal.

When the medical system fails, patients have a right to protect their health and life by any means. Treating the worst pain known to medical science, all options should be on the table.

Charts.

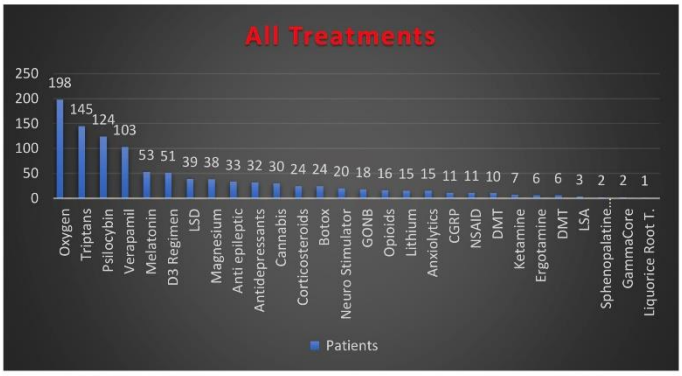


Chart 1

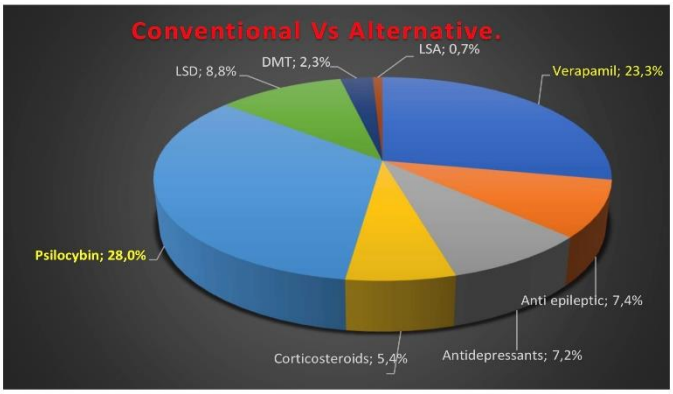


Chart 2

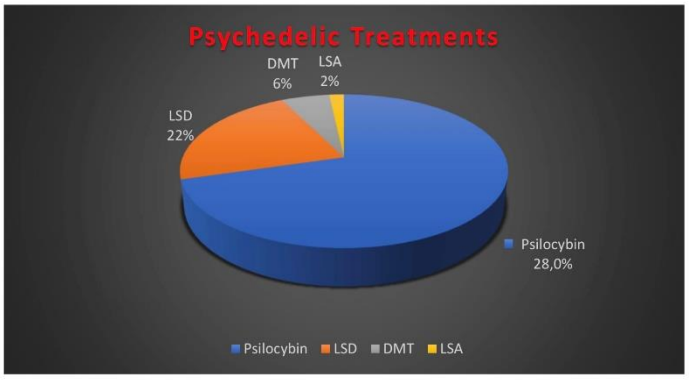


Chart 3

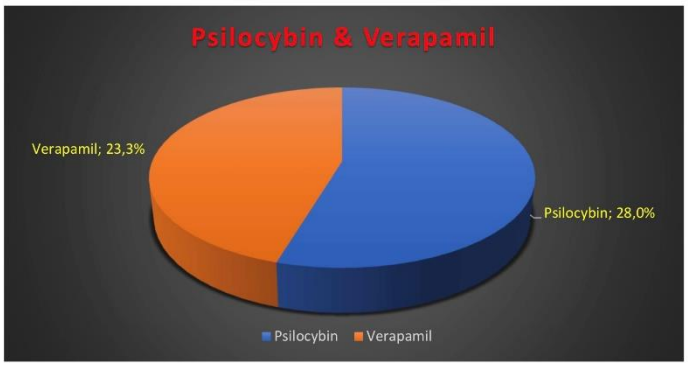


Chart 4

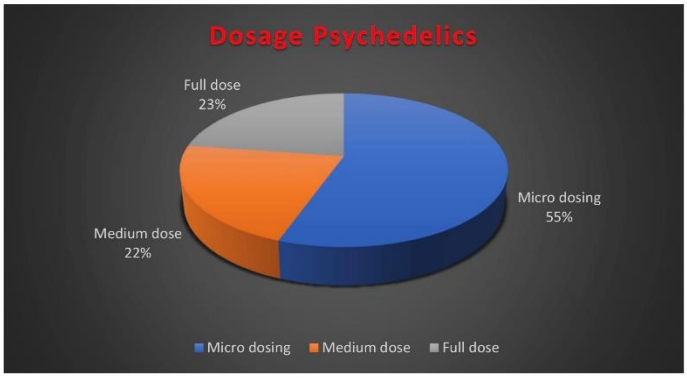


Chart 5

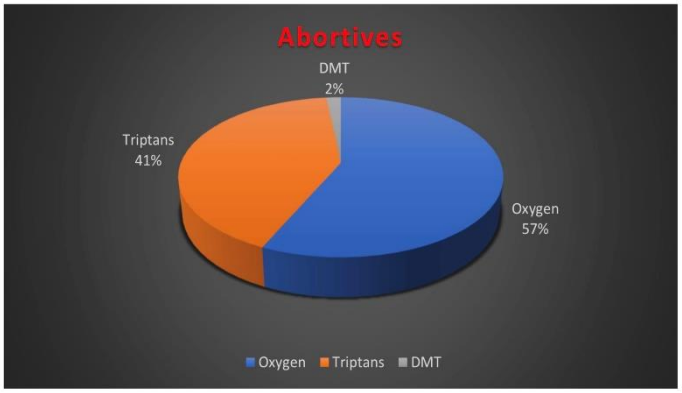


Chart 6

Recommendations.

Oxygen therapy as the first-line abortive treatment.

Inhalation of pure high flow oxygen ***Image 1** (minimum 12 lpm), or ultra-high flow oxygen (25 lpm) via a non-rebreathing mask with reservoir bag ***Image 2,** is the preferred first-line abortive treatment due to the lack of obvious contraindications to CH patients. 100% oxygen during CH attacks results in cerebral vasoconstriction. High flow oxygen, (12 lpm) has been found useful for complete resolution of pain in more than 80% of the cases, within 15 minutes. Ultra-high flow oxygen (25 lpm) may be of benefit when lower rates have been unsuccessful.

CH patients report great difficulty when it comes to obtaining a medical prescription for home oxygen as an abortive treatment, meeting with the refusal of many neurologists.
This refusal is due to the great ignorance of many neurologists who do not have adequate training to treat Cluster Headache and do not know the benefits of using home oxygen as an abortive, even many of the doctors who prescribe it do not know how it should be used and are not capable to give correct indications to patients, making oxygen therapy unhelpful. It is absolutely necessary doctors getting educated about oxygen therapy.

Not only some doctors are to blame for this untenable situation about home oxygen therapy, but also the national health systems, when they do not have it classified as a medication for CH, making accessibility impossible, when CH patients need is covered and reimbursed affordability. Cheaper for NHS and healthier for patients.

It is essential to acquire good techniques for the use of oxygen. Using a non-rebreathing mask with a reservoir bag is especially important in addition to flow regulation, breathing technique, etc... There are many tutorials on the internet.

Image 1

Image 2

CH diagnosis, epidemiology and treatment.

The ancestral tendency to put any type of headache in the “migraine trash bag” when doctors do not know how to diagnose correctly, distorts the approach to the correct treatments and the statistics about the incidence of the different types of headaches. CH diagnostic delay is only possible due to the high ignorance of this disease on the part of many neurologists.
Before being correctly diagnosed, many CH patients were diagnosed with migraine and put on migraine treatments, suffering the harmful side effects of inappropriate medication. For a neurologist it shouldn't be so difficult to differentiate both pathologies, for their symptoms and pattern are totally different.
Better headache training for general neurologists is needed and, because CH is a complicated and complex disease, more certified headache neurologists are absolutely necessary. Fortunately, the number of certified headache neurologists is increasing as well as the number of specialized headache centers. Hopefully this tendency to erroneous diagnosis will be corrected and appropriate treatments can be applied, avoiding unnecessary suffering for CH patients.

CH epidemiology. Cluster headache is supposed to affect just 0.1% of the population and the male-to-female ratio is approximately 3:1. Here old patterns continue to be maintained. It is not taken into account that, the lack of a correct diagnosis, reduces the CH incidence and that the archaic idea that women cannot have CH but migraine, delegitimizes these claims.
Studies on CH incidence are usually carried out in large urban areas, not taking into account the rural population with very little access to quality healthcare and, therefore, to CH specialists. Unfortunately, this population will hardly obtain a correct diagnosis and treatment.
Hence the serious doubts when talking about the true epidemiology of Cluster Headache, not being reliable at all but simple approximations.

Conventional medical treatments are not effective enough and current treatments were developed for different conditions and are not sufficiently appropriate to treat CH. Trial error strategy is used by doctors, putting patient on a certain medication and observing if it works or not. If it does not work, the already too high dose is increased or changed to another type of medication waiting for the expected result and so on continuously. In this process, patients suffer the great side effects of extreme doses of inappropriate medication without getting relief and worsening their health.
Hopefully, a reduction of symptoms is achieved but not a cure for CH. Medical science acknowledges there is no cure for CH. Neurologists are very limited in CH treatment, not having adequate tools to deal with it. CH specialists do what they can despite the few options they have.

Research and clinical trials.

Being Cluster Headache a semi-rare disease with relatively low incidence in the population, it is not of interest to researchers, or to health authorities and it is not profitable for the pharmaceutical industry. Historically, CH is largely under-recognized and the budget for research is practically non-existent, contrary to other diseases with practically the same incidence such as multiple sclerosis.
Finding what causes this pathology is key. Much more research is needed to discover its origin, and for this, more investment and much more involvement on the part of researchers is necessary, this should be carried out mainly by the NHS. Only by finding the cause, could a designed medication be developed and possibly a cure discovered.
First step should be to develop new medication to combat the main symptom, the excruciating pain. Oxygen therapy and triptans help but are not enough. Oxygen does not work in all cases and the use of triptans is not recommended for patients with heart problems or other conditions like high blood pressure etc. nor for children or people over 65. These patients should not use triptans. In addition, the use of triptans is too limited, it can only be used twice in 24 hours, which in many cases is totally insufficient and causing probable abuse when patients are desperate to stop the pain, exceeding the recommended dose.
As an abortive treatment the use of Ketamine and DMT is rapidly increasing. Ketamine offers good efficacy and although its use as an abortive does not offer too much risk of addiction, it must be taken into account that the risk exists. Inhaled DMT in very low doses, it is the fastest abortive, it takes only 5 seconds to stop an attack. These two options should be taken with caution, but should be studied clinically.

Lately, the use of psychedelics has been the subject of many clinical trials, especially for mental health and a few also for CH, offering evident good results and demonstrating its safety in medical science. CH patients have been using them for many decades and it has been proven to be the best CH treatment based on the testimony of thousands of patients through CH organizations.

Given the high potential of psychedelics for medical use, clinical trials should be encouraged by increasing investment for research and FDA removing psychedelics from Schedule I to facilitate access to these substances for researchers and making them more affordable.
One of the biggest problems with psychedelic research is the legal barriers and excessive red tape to their accessibility, which must be removed in order to achieve scientific breakthroughs that will benefit millions of patients. It is time for a long-awaited change.

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