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Psilocybin in the treatment of generalized anxiety disorder (GAD), alcoholism and smoking: a literature review

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Abstract Psilocybin in the treatment of generalized anxiety disorder has become a strong point since it can have important benefits in the treatment. The general objective of the present study is to review the literature on the use of psilocybin in the treatment of generalized anxiety disorder (GAD), alcoholism and smoking, in order to compile and analyze the available evidence on its efficacy, safety and therapeutic potential. While the specific objectives are, they investigated the effects of psilocybin in the treatment of GAD, alcoholism and smoking, to evaluate the safety of psilocybin as a therapeutic option and to address the potential risks and side effects associated with its use. The present work is a graphic bibliographic review searched in online databases. In conclusion, the present academic study reviewed the existing literature on the use of psilocybin in the treatment of generalized anxiety disorder (GAD), alcoholism and smoking. The painful results that psilocybin has potential as an effective therapeutic option in these conditions. Psilocybin has demonstrated positive effects in reducing anxiety symptoms, including excessive worry and muscle tension associated with GAD. In addition, studies indicate that psilocybin may aid in the treatment of alcoholism, leading to reduced alcohol consumption and the promotion of abstinence. In the case of smoking, psilocybin has shown promise in helping smokers quit, with long-lasting beneficial effects.

Keywords: Treatment. Psilocybin. Alcoholism. Smoking. GAD

1. Introduction

Psilocybin has emerged as a promising substance in the field of mental health and addiction treatment. This paper proposes a review of the literature on the use of psilocybin in the treatment of generalized anxiety disorder (GAD), alcoholism and smoking. These conditions pose public health challenges and have a negative impact on the quality of life of millions of people across the world (JOHNSON; GRIFFITHS, 2017).

Generalized anxiety disorder is characterized by an excessive and persistent worry about various areas of life, causing distress and interfering with activities. Alcoholism and smoking are forms of chemical dependence, with serious consequences for the physical and mental health of dependent individuals. Despite the treatments available, there is an ongoing need for more effective and innovative approaches (DAVID; GOURION, 2016).

Psilocybin, a psychedelic compound found in certain mushrooms, has shown promising effects in treating these conditions. Preliminary studies indicate that psilocybin may have influenced therapeutic effects, including reduced anxiety, increased introspection and facilitation of personal insights, these effects may be especially relevant to the treatment of

GAD, alcoholism and smoking, offering new perspectives for addressing these complex problems (BOGENSCHUTZ *et al*., 2015).

However, it is important to note that research in this area is gaining insights, and more are needed to evaluate the efficacy, safety, and maneuver action of psilocybin. In addition, ethical and legal issues involving the use of psychedelic substances must be carefully thought out and addressed (LORA *et al*. 2020).

This literature review aims to compile and analyze scientific studies, articles and other relevant academic sources on the use of psilocybin in the treatment of GAD, alcoholism and smoking. It is expected that the synthesis of this information will contribute to a better understanding of the potential benefits and constraints of this therapeutic approach, as well as to the identification of research gaps and future directions (LINARTEVICHI, 2021).

Through the post, the following guiding question was raised: what is the importance of psilocybin in the treatment of GAD?

To answer the problem, the general objective of the present study was to review the literature on the use of psilocybin in the treatment of GAD, alcoholism and smoking, in order to compile and analyze the available evidence on its efficacy, safety and therapeutic potential. While the specific objectives were to investigate the effects of psilocybin in the treatment of GAD, alcoholism and smoking, to evaluate the safety of psilocybin as a therapeutic option and to address the potential risks and side effects associated with its use.

2. Development

2.1 Generalized anxiety disorder (GAD)

Generalized Anxiety Disorder (GAD) is a mental disorder characterized by excessive and persistent anxiety about various situations or events. People with GAD often have intense and disproportionate concerns about different aspects of life, such as work, health, relationships, or finances, even when there are no concrete reasons for such concern. These concerns are often difficult to control and significantly interfere with external activities, causing emotional distress and impacting quality of life (LORA *et al*. 2020).

GAD occurs chronically, with anxious symptoms persisting for at least six months. In addition to excessive worrying, individuals may experience physical symptoms such as muscle tension, restlessness, fatigue, difficulty concentrating, irritability, and sleep disturbances. The constant and intense anxiety experienced by GAD sufferers can be debilitating and affect different areas of life, including academic, professional and interpersonal relationship performance (LYONS; CARHART-HARRIS, 2018).

The exact etiology of GAD is not fully understood, but it is believed to be a result of the complex interaction between genetic, neurochemical, and environmental factors. Changes in neurotransmitters, such as serotonin, noradrenaline and GABA, have been linked to the development of the disorder. In addition, traumatic experiences, emotional stress, and stressful life events may play a role in triggering and maintaining anxiety symptoms (LINARTEVICHI, 20 21).

The diagnosis of GAD is based on specific criteria by the Diagnostic and Statistical Manual of Mental Disorders (DSM-5), and it is essential that anxiety symptoms are present most of the time for at least six months and cause significant damage to the individual's life. In addition, it is important to rule out other medical or psychiatric conditions that may be confident for anxious symptoms (TIGUMAN, 2017).

Treatment of GAD usually involves a multimodal approach, including pharmacological interventions and psychosocial therapies. The most commonly prescribed medications include antidepressants such as selective serotonin reuptake inhibitors (SSRIs) and serotonin and noradrenaline reuptake inhibitors (SNRIs). These medications help regulate neurotransmitters in the brain and reduce anxiety symptoms (BARRETT *et al*., 2020).

In addition to drug therapy, psychotherapy plays a key role in the treatment of GAD. Approaches such as Cognitive Behavioral Therapy (CBT) have been shown to be effective in reducing anxiety and developing coping skills. Anxiety-focused therapy, stretching training, and exposure therapy may also be helpful in treating GAD (BARNBY; MEHTA, 2018).

2.2 Effects of psilocybin in the treatment of GAD

Psilocybin has been the subject of scientific studies to evaluate its effects in the treatment of GAD, alcoholism and smoking. In the context of GAD, early studies indicate that psilocibina may have a role in reducing anxiety and relieving associated symptoms. It has the potential to act as a therapeutic tool, allowing patients to face and process their concerns more effectively (BOGENSCHUTZ *et al*., 2015).

In alcoholism, psilocybin has shown promising results as a complementary intervention. Studies have reported a reduced desire for alcohol consumption, as well as a greater awareness of patterns of use and the underlying causes of alcoholism. Psilocybin can facilitate introspective experiences and personal insights, allowing individuals to address the psychological roots of addiction and promoting motivation for change (DANIEL; HABERMAN, 2016).

In the context of smoking, studies have explored psilocybin's potential as a tool to help smokers quit. Through controlled psychedelic experiences, participants reported a reduction in the urge to smoke and a new perspective on tabagism. Psilocybin may aid in the process of emotional disengagement from addiction, helping smokers break down behavioral patterns and associations related to the act of smoking (DAVID; GOURION, 2016).

While preliminary studies are encouraging, it is important to note that psilocybin is not considered a definitive solution for the treatment of GAD, alcoholism, and smoking. More research is needed to fully understand its action controls, determine the best forms of administration and dosage, and

evaluate possible adverse effects and long-term safety (ERRITZOE *et al*., 2018).

In addition, ethical and regulatory issues should be carefully considered, since psilocybin is a controlled company in many countries. The implementation of elevated therapies in psilocybin requires an approach supervised by compensated health professionals and the creation of clear guidelines for its clinical use (FRANCO *et al*., 2015).

However, growing evidence suggests that psilocybin may play a valuable role in the field of mental health and addiction treatment. Its therapeutic potential in the treatment of GAD, alcoholism and smoking offers new perspectives and conventional challenges, providing are mewed outlook for those struggling with these conditions. With additional research and a careful approach, psilocybin may become a significant complementary therapeutic option to improve quality of life and promote recovery in patients affected by these disorders. Research on the use of psilocybin in the treatment of GAD, alcoholism, and smoking revealed important results and insights (JOHANSEN; KREBS, 2015).

With regard to GAD, several physiological studies on psilocybin can significantly reduce anxiety levels in patients. Participants reported a decrease in the intensity and frequency of anxiety symptoms, as well as an improvement in quality of life. In addition, there was a greater ability to deal with stressful situations and a reduction in fear and worry excessively characteristic of GAD (JOHNSON; GRIFFITHS, 2017).

In the treatment of alcoholism, studies indicate that psilocybin may have positive effects in reducing alcohol consumption and increasing abstinence. Patients who received psilocybin as part of a treatment program reported a decreased desire for alcohol, a change in perspective toward addiction, and a greater motivation to react. In addition, psilocybin has been linked to a decrease in withdrawal symptoms and a reduction in compulsive substance seeking behaviors (LORA *et al*. 2020).

In the context of smoking, studies have shown encouraging results, psilocybin has been used as a therapeutic intervention to help smokers quit. Participants who underwent controlled psilocybin sessions reported a reduced desire to smoke and a new perspective on smoking. In addition, there was a greater awareness of the behavioral and emotional patterns associated with smoking, allowing a more effective approach to smoking cessation (LYONS; CARHART-HARRIS, 2018).

It is noteworthy that these promising results are based on initial studies and that psilocybin should not be considered as a basic solution for the treatment of these conditions. The therapeutic approach with psilocybin requires specialized professional supervision, in addition to an adequate and safe environment for the sessions. In addition, more research is needed to better understand the control of psilocybin action and identify possible adverse effects or contraindications (LINARTEVICHI, 2021).

2.3 Whether psilocybin is a therapeutic option

The safety of psilocybin as a therapeutic option is an extremely important issue to consider. Although preliminary studies have shown promising results regarding the therapeutic effects of psilocybin in the treatment of GAD, alcoholism and smoking, it is essential to carefully evaluate its safety (TIGUMAN, 2017).

In general, psilocybin is well tolerated when controlled in controlled environments, with adequate supervision and specific protocols, however, it is important to note that psilocybin is a potent psychedelic substance and can present intense experiences and perceptual changes. For this reason, its treated use should be cared for by experienced health professionals, in a safe environment and with continuous monitoring (BARRETT *et al*., 2020).

It is critical to take into account the physical and mental health status of patients before administering psilocybin, as certain pre-existing medical conditions may pose additional risks. In addition, psilocybin should not be used in combination with certain medications or substances, due to possible adversaries (BARNBY; MEHTA, 2018).

Another important aspect is the potential psychological impact of the psychedelic experience with psilocybin. The experience can be deeply introspective and emotionally intense, and some individuals may face moments of anxiety, fear, or distress during the process. Therefore, it is crucial to provide adequate psychological support before, during and after psilocybin administration in order to ensure a safe therapeutic environment and minimize the risk of lasting negative effects (BOGENSCHUTZ *et al*., 2015).

By consonant, psilocybin also has ethical and legal principles, is a controlled company in many countries, and its administration is only allowed in clinical research contexts or in specific treatments under strict supervision. Proper regulation and adherence to ethical guidelines are crucial to ensure the responsible and safe use of psilocybin as a therapeutic option (DANIEL; HABERMAN, 2016).

2.4 Potential risks and side effects

When considering the use of psilocybin as a therapeutic option in the treatment of generalized anxiety disorder and smoking, it is important to be aware of the potential risks and side effects associated with this psychedelic substance (DAVID; GOURION, 2016).

One of the main risks is related to the psychological impact of psilocybin, because it is a substance that alters perception and consciousness, the psychedelic experience can be intense and deep emotional responses. Some individuals may experience anxiety, fear, confusion, or even temporary psychotic seizures during the administration of psilocybin. These effects can be aggravated in people with a predisposition to psychological problems or in lived situations of environment and follow-up (ERRITZOE *et al*., 2018).

In addition, psilocybin can have both physical and physical effects. During the experience, users may experience changes in blood pressure, heart rate, body temperature, and pupillary responses. Although these changes are usually transient, it is important to closely monitor the signs maintained during the administration of psilocybin, especially in people with heart problems or other pre-existing health conditions (FRANCO *et al*., 2015).

Another aspect to consider is the side effects, psilocybin can cause nausea, vomiting, diarrhea and gastrointestinal discomfort in some individuals. These effects are usually temporary and disappear after the end of the effects of the substance. However, it is important to assess individual tolerance and predisposition to these side effects, taking into account the overall health of the patient (JOHANSEN; KREBS, 2015).

In addition to the physical and psychological risks, it is also necessary to consider the legal and ethical aspects associated with the use of psilocybin. In many countries, psilocybin is a controlled substance and its use is regulated, the administration of psilocybin must take place in compliance with local laws and regulations, and follow clear ethical guidelines to ensure the safety and well-being of patients. Therefore, research on the use of psilocybin in the treatment of GAD, alcoholism and smoking has opened new perspectives and raised important questions that may guide future research directions (JOHNSON; GRIFFITHS, 2017).

In the field of GAD, although early studies have provided promising evidence on the effectiveness of psilocybin in reducing anxiety, there is a need to deepen understanding of the underlying disorders. Investigating how psilocybin fashions, anxiety-related air circuits, and the long-term impact of its use are areas that can provide valuable insights. In addition, it is critical to explore different treatment protocols, such as the number of sessions required, optimal dosage, and post-experience integration, in order to optimize therapeutic outcomes (LORA *et al*. 2020).

In the context of alcoholism, additional research may focus on identifying the factors that initiated for successful psilocybin treatment. Understanding the psychological, emotional, and behavioral aspects that lead to reduced alcohol consumption and maintenance of abstinence can help develop more effective therapeutic approaches. In addition, investigating the impact of psilocybin on changing patterns of thought and behavior associated with addiction may open avenues for innovative strategies in the treatment of alcoholism (LYONS; CARHART-HARRIS, 2018).

As far as smoking is concerned, future research may explore the control by which psilocybin helps smokers quit. Investigating the cognitive, emotional, and motivational changes that occur during the psychedelic experience can provide insights into how psilocybin influences decision-making processes and behaviors related to smoking. In addition, exploring combined combinations, such as the combination of psilocybin with cognitive-behavioral therapies, may offer new strategies to improve the effectiveness of treatment (LINARTEVICHI, 2021).

In addition to these specific targets, there are challenges and opportunities regarding the safety and social acceptance of psilocybin as a therapeutic option. Investigating the long-term adverse effects and potential for persistence of effects after psilocybin administration, as well as how to mitigate these risks, is essential for safe and responsible clinical practice. In addition, educating health professionals, policymakers, and the general public about psilocybin and its therapeutic benefits can contribute to its acceptance and adoption (TIGUMAN, 2017).

3. Methodology

This work is a bibliographic and qualitative review, where scientific articles searched in the online databases Scielo, PubMed, Google Scholar and Lilacs were used. The scientific articles used were in the Portuguese language and were published between 2013 and 2023, indicating a cut-off time of 10 years.

The inclusion criteria were scientific articles published in English or Portuguese, which obtained the theme proposed in the abstract and in the objectives and which were published between 2013 and 2023. The exclusion criteria were duplicate, incomplete, paid articles that at the time of full reading did not have the right points for the development of the present study. The articles were chosen according to the following phases: first, duplicates were excluded. Then, the remaining articles were sorted by title, abstract, and full text.

The articles were selected based on the eligibility criteria mentioned above. If the eligibility of age could not be determined during the initial screening of the title and abstract, the full text of the articles was obtained by undergoing a careful first reading to determine inclusion.

4. Results and Discussion

Psilocybin, a psyches compound found in certain species of mushrooms, has sparked interest as a potential therapeutic option for the treatment of generalized anxiety disorder, alcoholism, and smoking. Clinical studies have explored the effects of psilocybin on these conditions, providing promising insights (TIGUMAN, 2017).

Research results suggest that psilocybin may have beneficial effects in the treatment of GAD, some controlled studies have demonstrated significant reductions in anxiety symptoms in individuals undergoing supervised psilocybin sessions, compared to control groups. The psychedelic effects of the substance seem to be associated with changes in perception, self-awareness and emotional processing, enabling a deeper and more meaningful therapeutic approach (LINARTEVICHI, 2021).

With regard to alcoholism, early studies suggest that psilocybin may play a role in reducing alcohol consumption and promoting abstinence. Research has shown that individuals undergoing psilocybin interventions reported a decrease in the desire to drink, a greater awareness of drinking patterns, and a modification of their alcohol-related behaviors.

However, it is important to note that more research is needed to confirm these results and better understand the underlying mechanisms (LYONS; CARHART-HARRIS, 2018).

In the case of smoking, studies have also explored psilocybin's potential as a tool in the treatment of nicotine addiction. Some pilot studies have indicated that psilocybin sessions, combined with behavioral therapy, may result in higher rates of smoking cessation compared to traditional methods. These preliminary results suggest that psilocybin may play a role in disrupting automatic patterns of tobacco consumption and increasing motivation to quit smoking (LORA *et al*., 2020).

However, it is important to note that the use of psilocybin as a therapeutic option is still in the early stages of research. More randomized controlled trials are needed to determine the efficacy, safety, and appropriateness of this approach in different populations. In addition, it is crucial to develop carefully supervised administration protocols and ensure the proper integration of psychedelic experiences into the therapeutic setting (JOHNSON; GRIFFITHS, 2017).

In addition to the promising results, it is important to address some considerations and challenges related to the use of psilocybin as a therapeutic option. One of the main challenges is the need for an adequate regulatory framework for the controlled use of the substance. As psilocybin is classified as a controlled substance in many countries, there are legal and regulatory requirements that must be met for its use in therapeutic settings (JOHANSEN; KREBS, 2015).

Another aspect to be considered is the importance of psychological and therapeutic integration after the experience with psilocybin. Psyche sessions can trigger profound and transformative experiences, and the integration of these experiences in the context of therapy is crucial to maximize therapeutic benefits and promote the emotional and psychological stability of patients (FRANCO *et al*., 2015).

In addition, it is critical to keep in mind that psilocybin is not an appropriate therapeutic option for all individuals. There are specific contraindications and precautions, such as a history of psychotic illness, use of certain medications, and pre-existing health conditions, that should be carefully evaluated before initiating any intervention with psilocybin (ERRITZOE *et al*., 2018).

In the field of safety, studies have shown that supervised administration of psilocybin, in a controlled environment and with trained professionals, is generally well tolerated and has a low risk of serious adverse events. However, acute psychedelic effects, such as anxiety, dysphoria, and confusion, may occur during the experience, underscoring the importance of a careful approach and adequate support during the therapeutic process (DAVID; GOURION, 2016).

Although preliminary studies suggest promising potential for psilocybin in the treatment of generalized anxiety disorder, alcoholism, and smoking, there are regulatory challenges, therapeutic integration considerations, and precautions to be addressed (DANIEL; HABERMAN, 2016).

Research continues to advance in this area, and collaboration between scientists, health professionals, and regulators is essential to better understand the efficacy, safety, and clinical applicability of psilocybin as a therapeutic option. With more scientific evidence and an adequate structure, it is possible that psilocybin can play a valuable role in the treatment of these conditions, offering a new perspective for the field of mental health and chemical dependence (BOGENSCHUTZ *et al*., 2015).

5. Conclusion

In conclusion, the present academic study reviewed the existing literature on the use of psilocybin in the treatment of generalized anxiety disorder, alcoholism and smoking. The painful results that psilocybin has potential as an effective therapeutic option in these conditions.

Psilocybin has demonstrated positive effects in reducing symptoms of anxiety, including excessive worry and muscle tension associated with GAD. In addition, studies indicate that psilocybin may aid in the treatment of alcoholism, leading to reduced alcohol consumption and the promotion of abstinence. In the case of tabagism, psilocybin has shown promise in helping smokers quit, with long-lasting beneficial effects.

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