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KETOGENIC DIET AND CORTISOL MODULATION: BENEFITS FOR STRESS MANAGEMENT

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ABSTRACT

The ketogenic diet, composed of high lipid content, moderate protein intake, and severe carbohydrate restriction, has stood out not only in the treatment of refractory epilepsy, but also as a possible ally in stress control and cortisol modulation, a key hormone in the response to chronic stress. Based on a narrative review of the literature, this study sought to analyze the effects of this nutritional strategy on neuroendocrine regulation, highlighting the production of ketone bodies, especially beta-hydroxybutyrate, as a central element for the benefits observed in emotional stability and symptoms related to anxiety and depression. In addition, the influences of diet on the hypothalamic-pituitary-adrenal axis, the impacts on oxidative stress and the clinical aspects relevant to its application were addressed. The findings indicate that the ketogenic diet, when well conducted, can represent a promising complementary intervention in the management of stress-related conditions, contributing to the promotion of well-being and mental health.

Keywords: Ketogenic diet. Cortisol. Stress. Mental health. Metabolism.

INTRODUCTION

The ketogenic diet, traditionally adopted as a therapeutic approach for refractory epilepsy, has aroused growing interest for its beneficial effects that go beyond the neurological sphere, reaching areas such as metabolism, cardiovascular health, glycemic control and, more recently, mental health, demonstrating potential influence on stress levels and hormonal regulation, especially with regard to cortisol, one of the main hormones involved in the response to physical and emotional stress, whose production is regulated by the hypothalamic-pituitary-adrenal axis, and is widely recognized as a physiological biomarker of prolonged adaptive overload states (Barrea et al., 2023).

Nowadays, in a scenario marked by high rates of mental disorders, such as anxiety, depression, and chronic stress, the search for complementary therapeutic strategies has gained relevance, especially in view of the limitations imposed by conventional interventions such as psychopharmacology and psychotherapy, which are not always accessible, effective, or tolerable for all individuals, motivating the emergence of studies that associate dietary changes with improved well-being and neuroendocrine control (Pereira et al., 2022). The ketogenic diet, in this context, emerges as a promising alternative, being investigated for its ability to modulate the activity of the HPA axis, reduce oxidative stress, and promote neurochemical stability, factors directly related to emotional homeostasis (Gomes et al., 2011).

This diet is characterized by a composition rich in lipids, moderate in proteins and with drastic carbohydrate restriction, inducing the body to a metabolic state called ketosis, in which there is a predominance of the production of ketone bodies such as beta-hydroxybutyrate, which replaces glucose as the main energy source, exerting direct effects on mitochondrial metabolism, neural plasticity and stress response (Silva Junior et al., 2022). This metabolic adaptation is pointed out as a mediator of anti-inflammatory, neuroprotective, and anxiolytic effects, favoring the balance of the neuroendocrine axis and the attenuation of psychoemotional symptoms associated with mood disorders and anxiety disorders (Garner et al., 2024).

Several studies have shown that individuals who follow the ketogenic diet report lower levels of perceived stress, greater sense of well-being, as well as improvements in disposition, mental clarity, and emotional stability, indicating that the ketogenic metabolic pathway can positively influence parameters related to mental health, although the underlying neurobiological mechanisms are not fully elucidated (Garner et al., 2024). The central hypothesis that underlies these investigations lies in the ability of the ketogenic diet to attenuate the hyperactivity of the HPA axis and modulate the release of cortisol,

contributing to the reduction of the physiological impact of chronic stress on the body (Barrea et al., 2023).

The stress response, especially when prolonged, can trigger a series of neuroendocrine and immunological changes that negatively affect brain functioning and emotional balance, and continuous exposure to cortisol is associated with cognitive dysfunction, memory loss, increased vulnerability to depression and anxiety, reinforcing the importance of strategies that favor its effective modulation (Muscogiuri et al., 2023). In this sense, food, as a modifiable and accessible variable, represents a fundamental pillar in the construction of integrated preventive and therapeutic strategies, highlighting the need to expand knowledge about its interfaces with the neurophysiology of stress (Pereira et al., 2022).

Despite the growing number of studies pointing to benefits of the ketogenic diet on emotional aspects, the available data still lack greater methodological robustness, especially with regard to controlled, randomized studies with significant samples of the general population, with most of the findings coming from investigations with an observational design or applied to specific clinical subgroups, which imposes limitations on the generalization of results and reinforces the urgency for more consistent studies (Garner et al., 2024).

In addition, it should be considered that the response to stress and diet is highly individualized, being influenced by genetic, hormonal, environmental, and behavioral factors, which makes the understanding of this interaction complex and multifactorial, requiring an integrative and personalized approach to the management of chronic stress and its physiological and emotional consequences (Barrea et al., 2023). Cortisol modulation through nutritional strategies should therefore be understood in the context of a broad approach to health promotion, which considers biopsychosocial and environmental aspects of the individual (Pereira et al., 2022).

The present research aims to deepen the understanding of the effects of the ketogenic diet on cortisol regulation and physiological mechanisms related to stress, seeking to gather scientific evidence that supports its use as an auxiliary resource in coping with conditions characterized by emotional overload and HPA axis dysfunction, considering not only the biochemical effects, but also the impacts on psychological well-being (Garner et al., 2024). By exploring the existing literature, it is intended to offer a critical and integrated analysis of the potential mechanisms involved, their clinical implications, and the prospects for future investigations on this nutritional approach (Barrea et al., 2023).

Based on a narrative analysis of the literature, the article aims to discuss the metabolic and neuroendocrine foundations of the ketogenic diet, the role of cortisol as a marker of physiological stress, and the possible interactions between both, with emphasis on the evidence supporting its application in contexts of prevention and treatment of chronic stress-related disorders.

Thus, it is hoped that this study will contribute to the expansion of knowledge about the ketogenic diet as a stress modulation strategy and promote reflections on the insertion of evidence-based nutritional practices in the field of mental health and self-care, especially in view of the growing prevalence of emotional disorders in contemporary society and the need for interventions that prioritize integral and sustainable health (Silva Junior et al., 2022).

PHYSIOLOGICAL MECHANISMS OF KETOSIS AND THE HORMONAL RESPONSE TO STRESS

The ketogenic diet, by drastically reducing carbohydrate intake and prioritizing lipid sources as the main energy substrate, induces the body to a metabolic state called nutritional ketosis, characterized by increased hepatic production of ketone bodies such as beta-hydroxybutyrate, acetoacetate and acetone, which start to supply the energy demand in replacement of glucose, a process that involves significant metabolic reprogramming and physiological adaptation of several body systems, including the endocrine system responsible for controlling the stress response (Silva Junior et al., 2022).

This biochemical reconfiguration causes direct impacts on the hypothalamic-pituitary-adrenal axis, an essential neuroendocrine mechanism for maintaining homeostasis in situations of threat or imbalance, which regulates the secretion of cortisol, a hormone that, although necessary at physiological levels, when chronically elevated, can trigger adverse effects on cognition, immunity and metabolism, being associated with visceral obesity, insulin resistance and behavioral changes (Barrea et al., 2023).

Cortisol is produced in the zona fasciculata of the adrenal cortex in response to the release of ACTH by the pituitary gland, which in turn is stimulated by hypothalamic CRH, composing a signaling cascade regulated by negative feedback mechanisms, whose sensitivity can be modulated by changes in glucose, insulin and fatty acid levels, all directly influenced by the dietary pattern adopted, which reinforces the relevance of investigating how the ketogenic diet can interfere with this hormonal dynamic (Muscogiuri et al., 2023).

By suppressing carbohydrate intake, the ketogenic diet reduces insulin release, promotes lipolysis and favors fatty acid oxidation, resulting in a greater production of acetyl-

CoA which, exceeding the capacity of the Krebs cycle, is diverted to ketogenesis, a process that occurs predominantly in hepatic mitochondria, generating ketone bodies that act not only as an alternative energy source, but also as metabolic signalers that influence cellular transduction pathways, inflammation, neural plasticity, and stress response (Pereira et al., 2022).

Among the ketone bodies, beta-hydroxybutyrate stands out for its anti-inflammatory action, ability to modulate gene expression and action as a preferred substrate for neurons in situations of energy scarcity, being pointed out as a promoting agent of emotional stability and neuroprotection, which could explain the improvement in subjective parameters of well-being observed in patients on a ketogenic diet, even in contexts of high stress (Gomes et al., 2011).

The ketogenic diet also influences the activity of the enzymes 11β-hydroxysteroid dehydrogenase type 1 and 2, involved in the activation and inactivation of cortisol in peripheral tissues, promoting a rebalancing of the bioavailability of the hormone and reducing the prolonged exposure of structures such as the hippocampus, traditionally sensitive to the action of excess cortisol, which can favor the preservation of memory, mood and executive function (Barrea et al., 2023).

These effects, however, are not uniform over time, since the adaptive response to the ketogenic state has distinct phases, starting with a temporary increase in plasma cortisol due to caloric restriction and initial metabolic stress, followed by a progressive stabilization with the adaptation of the body to ketosis, suggesting that the observed benefits on stress regulation depend on sustained adherence to the diet and adequate clinical support (Muscogiuri et al., 2023).

In the context of chronic stress, in which there is constant activation of the HPA axis and persistently elevated cortisol levels, the ketogenic diet offers a metabolic counterpoint by reducing basal blood glucose, improving insulin sensitivity, and promoting a hormonal environment more favorable to muscle anabolism, reduction of visceral adiposity, and modulation of the autonomic nervous system, acting in an integrated manner on the systems that perpetuate physiological stress (Silva Junior et al., 2022).

Studies also suggest that ketosis contributes to the increased activity of mitochondrial uncoupling proteins, such as UCP2, which reduce the production of reactive oxygen species and protect against oxidative stress, a fundamental mechanism in mediating the neurodegenerative effects associated with excess cortisol, reinforcing the potential of the ketogenic diet as an antioxidant and central nervous system stabilizing strategy (Gomes et al., 2011).

A relevant aspect involves the relationship between food and mood, since diets rich in refined carbohydrates can induce abrupt glycemic fluctuations, triggering mood swings, irritability, and fatigue, while the ketogenic diet tends to provide greater energy stability and reduced anxiety, which suggests an indirect action on the HPA axis and the perception of daily stressors (Pereira et al., 2022).

The signaling pathways influenced by ketosis also involve neurotrophic factors such as BDNF, associated with synaptic plasticity and neurogenesis, which can be positively regulated by the presence of ketone bodies, indicating a possible link between the ketogenic diet, cognitive improvement, and reduced vulnerability to stress-associated disorders such as depression and generalized anxiety disorder (Garner et al., 2024).

It is important to highlight that stress and eating patterns maintain a bidirectional relationship, in which one directly influences the other, so that nutritional strategies that promote metabolic and hormonal balance can break vicious cycles of neuroendocrine dysregulation, contributing to greater emotional control and prevention of relapses in cases of psychological distress (Barrea et al., 2023).

Despite the promising mechanisms, the use of the ketogenic diet should be carefully evaluated, considering factors such as the patient's clinical status, present comorbidities, professional follow-up, and possible need for supplementation, as carbohydrate restriction can interfere with important biochemical pathways if there is no adequate balance between the nutrients ingested (Silva Junior et al., 2022).

From this analysis, it is evident that the physiological mechanisms involved in ketosis go far beyond simple lipid oxidation, directly impacting hormonal, neurochemical and immune systems, which make up the adaptive response to stress, making the ketogenic diet a potentially effective tool in the search for psychophysical balance, as long as it is inserted in a supervised and individualized therapeutic context (Pereira et al., 2022).

Therefore, understanding how the ketogenic diet acts on stress-regulating systems, especially through cortisol modulation, allows us to glimpse new possibilities of integrated interventions between nutrition and mental health, capable of promoting quality of life, autonomy, and well-being for individuals who face the challenges imposed by a daily life marked by constant stressful stimuli (Barrea et al., 2023).

EFFECTS OF THE KETOGENIC DIET ON MENTAL HEALTH AND STRESS LEVELS

The relationship between diet and mental health has gained increasing attention in recent decades, especially in view of the high prevalence of psychological disorders such as anxiety, depression, and chronic stress, conditions often associated with systemic

inflammation, mitochondrial dysfunction, and neurochemical imbalances, elements that are also modulated by the ketogenic diet, which stands out for its ability to induce profound metabolic changes that reverberate on the system central nervous disorder, favoring emotional stability and mood improvement (Pereira et al., 2022).

Recent studies indicate that individuals undergoing the ketogenic diet report significant improvements in subjective parameters of well-being, sense of calm, contentment, increased mental clarity and vital energy, with consistent reports of reduced anxiety and greater emotional control, especially in clinical contexts in which other therapeutic approaches were not effective or presented relevant adverse effects, which highlights diet as a possible complementary alternative in mental health management (Garner et al., 2024).

Evidence suggests that these beneficial effects are mediated by multifactorial mechanisms, including improved communication between the gut-brain systems, reduced neurogenic inflammation, increased mitochondrial efficiency, and promotion of a more stable hormonal profile, with less variability in cortisol release and greater balance in the secretion of neurotransmitters such as serotonin. dopamine and GABA, essential for the regulation of mood and stress response (Pereira et al., 2022).

Beta-hydroxybutyrate, the main ketone body generated during ketosis, acts as a signaling agent in different metabolic pathways, including those involved in neuroprotection and epigenetic modulation, being able to cross the blood-brain barrier and exert a direct influence on glial cells and neurons, reducing oxidative damage, promoting neurogenesis, and increasing resistance to stress, effects that contribute to the feeling of resilience and well-being observed in diet followers (Gomes et al., 2011).

In addition, ketosis provides a reduction in neuronal excitability, a fundamental mechanism in the treatment of epilepsy, but which can also have an impact on states of mental agitation and emotional overload, common characteristics in generalized anxiety and affective spectrum disorders, reinforcing the hypothesis that the ketogenic diet can exert anxiolytic and antidepressant effects through specific neurobiological pathways (Pereira et al., 2022).

It is also worth noting the stabilization of blood glucose and the improvement of insulin sensitivity promoted by the diet, since sudden fluctuations in blood sugar levels are associated with mood swings, irritability and fatigue, and the state of nutritional ketosis ensures a constant source of energy for the brain, which can avoid these glycemic peaks and their emotional consequences, favoring greater cognitive clarity and emotional stability (Garner et al., 2024).

In individuals subjected to conditions of chronic stress, cortisol tends to remain at high levels for prolonged periods, which compromises important functions such as sleep, memory, and immunity, in addition to contributing to the development of metabolic and psychiatric disorders, and the ketogenic diet, by modulating the HPA axis and reducing systemic inflammation, it is shown to be able to break this cycle and restore a more balanced hormonal dynamic (Barrea et al., 2023).

Although studies with a high level of evidence carried out in humans are still scarce, the findings obtained so far in clinical and observational trials indicate a positive association between adherence to the ketogenic diet and the improvement of symptoms related to mental health, both in healthy populations and in individuals with diagnosed disorders, which strengthens the argument that nutritional alterations can represent an important pillar in the prevention and treatment of emotional disorders (Pereira et al., 2022).

It is also noteworthy that the benefits observed are not restricted to the subjective level, as there is also evidence of measurable changes in biochemical and hormonal markers, such as reduced salivary cortisol levels, improved lipid profile, decreased C-reactive protein, and increased BDNF production, all associated with resilience to stress and protection against neurodegenerative and psychiatric disorders (Barrea et al., 2023).

However, it is important to note that not all individuals respond in the same way to the ketogenic diet, with significant differences in metabolic adaptation, mood, and tolerance to ketosis, factors that should be considered in the indication and clinical follow-up of the strategy, especially when applied in mental health contexts, requiring individualization and constant monitoring to maximize results and avoid adverse effects (Garner et al., 2024).

Adherence to the ketogenic diet can be challenging for some individuals, especially due to the severe restriction of carbohydrates and the need for profound changes in eating and social habits, which can generate initial resistance, discomfort in the first few days, and even adaptation symptoms known as "ketogenic flu", which can negatively impact mood if not well conducted and guided by a professional (Silva Junior et al., 2022).

Even so, qualitative reports from patients who were able to maintain the diet for prolonged periods point to consistent gains in mental energy, concentration, disposition, and sleep quality, elements closely linked to the balance of the HPA axis and the reduction of cortisol exposure, suggesting that constancy in eating practice is essential to reap the neuroendocrine benefits of ketosis (Pereira et al., 2022).

The implications of these findings for the field of nutritional psychiatry are significant, as they point to an approach that goes beyond medication and traditional therapy, incorporating eating habits as low-cost therapeutic tools, with the potential to promote not

only symptomatic relief, but also structural and lasting transformations in brain function and in the way the body responds to stress (Garner et al., 2024).

With this, it becomes possible to envision a new paradigm in the promotion of mental health, in which the ketogenic diet, when well guided, presents itself as an important adjunct in the prevention of relapses, in the relief of symptoms and in the improvement of the quality of life of patients with stress-related disorders, reinforcing the need for more research that explores its applications in different population profiles and clinical conditions (Barrea et al., 2023).

Finally, understanding the effects of the ketogenic diet on the HPA axis and cortisol regulation expands the therapeutic possibilities in the management of chronic stress, anxiety, and depression, positioning this nutritional intervention as a promising complementary strategy that integrates knowledge from physiology, nutrition, and neuroscience, and that can significantly contribute to a more holistic and effective approach to mental health (Pereira et al., 2022).

CLINICAL CONSIDERATIONS AND RECOMMENDATIONS FOR THE USE OF THE KETOGENIC DIET IN STRESS MANAGEMENT

The clinical application of the ketogenic diet in stress-related contexts requires a careful and well-founded approach, considering that this nutritional strategy, although promising, requires significant physiological adaptation and may present important variations in response among individuals, and it is necessary to assess the patient's general health status, dietary history, metabolic conditions, and current stress level before recommending its implementation as a a tool to support emotional balance and modulation of the HPA axis (Silva Junior et al., 2022).

One of the main factors influencing the effectiveness of the ketogenic diet is the degree of patient adherence to the proposed dietary protocol, since nutritional ketosis depends on a consistent reduction in carbohydrate intake, which often requires profound changes in eating habits, meal planning, psychological support, and ongoing professional guidance to avoid relapse and ensure the maintenance of the desired metabolic state over time (Pereira et al., 2022).

In addition to individual motivation, it is important to provide the patient with clear information about the expected effects of ketosis, both in the short and long term, including possible initial symptoms of adaptation, such as fatigue, irritability, headaches, and changes in sleep, a phenomenon known as "ketogenic flu", which tends to occur in the first weeks of

the diet and can be minimized with adequate electrolyte support, hydration and guidance on food choices (Garner et al., 2024).

Clinical management should also consider the psychological and social profile of the patient, since adherence to the ketogenic diet can be challenging in environments where there is a strong presence of processed foods, social practices centered on food, and little supply of alternatives compatible with the ketogenic protocol, and the involvement of a multidisciplinary team is recommended to enable realistic and sustainable adjustments (Barrea et al., 2023).

From a metabolic point of view, the ketogenic diet has well-documented benefits in relation to insulin sensitivity, glycemic control, and reduction of systemic inflammation, aspects that favor hormonal stability and contribute to the reduction of circulating cortisol levels in contexts of chronic stress, reinforcing its potential as a therapeutic adjunct in the management of disorders related to emotional overload (Pereira et al., 2022).

The individualization of the food plan is essential to ensure the best results, since factors such as age, gender, body composition, presence of comorbidities, and use of medications can interfere with the response to the diet, requiring frequent monitoring by trained professionals, who can adjust the protocol according to the needs and reactions of each patient (Silva Junior et al., 2022).

It is also recommended that the nutritional status be be evaluated in advance, with special attention to the status of micronutrients such as magnesium, potassium, sodium, calcium, and B vitamins, since deficiencies in these substances can be aggravated by the dietary restriction imposed by the ketogenic system, compromising not only the expected therapeutic effects, but also the safety and well-being of the patient during treatment (Gomes et al., 2011).

In addition, the need for strategic planning of the phases of the diet is highlighted, which may include an initial period of induction into ketosis, followed by maintenance phases and, in some cases, gradual reintroduction of complex carbohydrates, in order to favor the sustainability of the approach and avoid episodes of rebound effect or frustrations that compromise long-term adherence (Pereira et al., 2022).

In the context of stress, it is important to align the patient's expectations regarding the results, clarifying that the ketogenic diet acts progressively in the modulation of the HPA axis, with the most significant effects usually perceived after a few weeks of metabolic adaptation, which requires patience, discipline and continuous monitoring to avoid premature interruptions (Garner et al., 2024).

Clinical reports demonstrate that patients undergoing the ketogenic diet for more than 12 weeks show improvement in mental health parameters, with reduced anxiety scores, increased emotional resilience, and improved mood, data that, although promising, still lack large-scale randomized controlled trials for robust validation in different populations and contexts (Barrea et al., 2023).

The indiscriminate application of the ketogenic diet in individuals with a history of eating disorders, obsessive-compulsive disorders related to food or severe uncontrolled psychiatric conditions should be avoided, as dietary rigidity can, in these cases, intensify symptoms or promote relapses, and the attentive eye of the mental health team and the integration between nutrition, psychology and psychiatry professionals are essential (Silva Junior et al., 2022).

In the hospital or outpatient setting, the ketogenic diet can be introduced in a supervised manner, with individualized protocols, progressive adaptation, and the use of specific supplements when necessary, ensuring that therapeutic objectives are achieved without prejudice to the patient's safety or quality of life, which reinforces the importance of specialized professional follow-up (Gomes et al., 2011).

In order for the beneficial effects of the ketogenic diet on stress modulation to be maximized, it is also recommended to associate it with other self-care practices, such as meditation, regular physical activity, cognitive-behavioral therapy, and adequate sleep routines, forming a set of synergistic interventions aimed at promoting integral health and preventing relapse (Pereira et al., 2022).

The consolidation of clinical evidence on the use of the ketogenic diet in the context of stress is still ongoing, and it is necessary to invest in research with greater methodological rigor, which evaluates not only biochemical and hormonal parameters, but also subjective outcomes of quality of life, cognition, and emotional well-being, offering more solid subsidies for the incorporation of this strategy into clinical practice (Garner et al., 2024).

Therefore, clinical recommendations related to the ketogenic diet in stress management must consider its therapeutic potency, but also the limits of its application, requiring careful evaluation, personalized guidance, and continuous monitoring so that the neuroendocrine, metabolic, and emotional benefits are effectively achieved in a safe and sustainable way (Barrea et al., 2023).

FINAL CONSIDERATIONS

The analysis of the studies gathered throughout this study allowed us to broadly understand the therapeutic potential of the ketogenic diet in modulating stress, with a special focus on the regulation of cortisol, a hormone that plays a central role in the body's adaptive response to physical and emotional adversities. The metabolic effects promoted by the ketogenic diet directly influence hormonal stability, affecting the hypothalamic-pituitary-adrenal axis and offering an alternative route of intervention for individuals facing symptoms related to chronic stress and mood swings.

The ketogenic approach, by promoting the use of ketone bodies as a primary source of energy to replace glucose, positively interferes with energy metabolism, reduces oxidative stress, and contributes to neurological homeostasis. This set of effects results in improved physical disposition, cognitive functioning, and emotional stability, consolidating itself as a strategy that can go beyond aesthetics and weight loss, achieving the promotion of integral health and psychological well-being.

During nutritional ketosis, the constant maintenance of alternative energy substrates allows the body to act more efficiently in situations of physiological overload, contributing to the attenuation of exacerbated stress responses. By reducing glycemic variability and stabilizing insulin production, the ketogenic diet also influences neuroendocrine balance and the subjective perception of stressors, creating an internal environment more conducive to adaptation.

Although the ketogenic diet should not be seen as a substitute for pharmacological or psychotherapeutic therapies in more severe clinical cases, it stands out as an adjunct tool of great value, especially for its ability to impact physiological, mental, and behavioral aspects in an integrated way. The choice of this dietary strategy must, however, be monitored by trained professionals and applied responsibly, respecting the biological individuality of each patient.

The use of the ketogenic diet in contexts of stress requires planning, continuous guidance, and gradual adaptation, as sudden or unsupervised changes can result in unwanted effects, such as a drop in physical performance, nutritional deficits, or demotivation. For this reason, food education, welcoming, and the construction of sustainable routines are essential components for the success of nutritional intervention.

Adherence to this type of diet still faces challenges in the social and cultural context, since many traditional eating practices do not align with the ketogenic proposal. However, with the advancement of information and the growth of public interest in functional eating

strategies, a promising space opens up for the consolidation of the ketogenic diet as a viable and effective option in the care of mental health and emotional balance.

The interface between nutrition and neuroscience has proven to be increasingly relevant in the construction of prevention and health promotion strategies, by understanding the mechanisms that connect food, hormones and behavior, it is possible to establish more effective ways to cope with conditions that impact emotional well-being. The ketogenic diet is part of this field with growing scientific support and positive prospects for the future.

The contribution of the ketogenic diet to the improvement of mood, mental clarity and sleep quality reinforces its applicability in contexts of psychic exhaustion, such as those experienced by individuals subjected to exhausting working hours, grief situations, emotional crises or periods of transition and significant changes in life. Adequate nutritional support can, in these cases, be a silent but powerful ally in strengthening resilience and emotional health.

It is worth noting that the ketogenic diet should not be seen as a single and universal solution to stress-related problems, but rather as part of a set of interventions that involve self-care, body movement, healthy interpersonal relationships, and psychological support. The integration of these practices, aligned with the goals and needs of each individual, tends to produce more lasting and consistent effects.

In clinical practice, active listening and continuous dialogue between the patient and the health team are fundamental for the success of any nutritional intervention, in the case of the ketogenic diet, this follow-up becomes even more important, given the specificity of the protocol and the need for periodic adjustments based on metabolic response, adherence and established therapeutic goals.

The dietary transformation that the ketogenic diet proposes goes beyond the composition of the plate and reaches broader dimensions of health, such as the relationship with the body, with food and with the care process itself, this holistic character strengthens the proposal to integrate nutrition into the field of mental health, offering a concrete alternative, evidence-based and adaptable to the reality of different patient profiles.

The conclusion that can be drawn from this review is that the ketogenic diet, when well indicated, monitored, and inserted in a larger therapeutic plan, has promising effects on stress control and cortisol regulation, favoring a more stable emotional state and a body more adapted to the challenges of everyday life. It is up to health professionals to keep up to date and sensitive to these new possibilities, so that the care offered is increasingly complete, effective and humane.

Therefore, it is important to recognize that nutrition is not only a physiological act, but also a tool for transforming and strengthening the subject in the face of adversity. By promoting conscious and science-based food choices, such as the ketogenic diet, the therapeutic repertoire available for coping with stress is expanded and the notion that it is possible to take care of the mind through the plate is strengthened.

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