

## DOSSIER

85 years of professional  
nutritionist practice in Brazil

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# The dietitian's role in Mental Health and eating Disorders

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## ABSTRACT

### Objective

The aim of this historical, bibliographical and experience report is to provide an overview of the work of dietitians in Brazil with eating disorders and mental health – two areas that communicate, but have many particularities.

### Methods

The first treatment centers for eating disorders and the work of dietitians in clinical practice and research are revisited, highlighting reference centers and pioneering publications. The possibilities for action and study in multi-professional mental health centers and residencies are reviewed, highlighting potential and care.

### Results

In view of the new resolution by the Federal Council of Nutrition and the Brazilian Nutrition Association, which now recognizes eating disorders and mental health as specialties for dietitians, a critical discussion is held on the needs and concerns, which include adequate and ethical training.

### Conclusion

The history of the dietitian's work with eating disorders and mental health should be considered, as well as the challenges and potential of working in these two proposed new specialties.

**Keywords:** Eating disorders. Mental health. Nutritional counseling.

## INTRODUCTION

Eating Disorders (ED) are psychiatric conditions with diagnostic criteria established by the American Psychiatric Association (APA) in its Diagnostic and Statistical Manual of Mental Disorders (DSM) [1], currently in its revised version DSM-5-TR [2], and within the classification system of the World Health Organization's International Classification of Diseases (ICD) [3].

Mental health can be defined as "a state of well-being in which the individual realizes his or her abilities, can cope with the normal stresses of life, can work productively and fruitfully, and is able to contribute to his or her community" [4] This definition, provided by the World Health Organization (WHO) in 1946, remains widely recognized and utilized as a foundational reference in the field of mental health [4].

In accordance with the Federal Council of Nutrition (CFN) Resolution No. 689, dated May 4, 2021 [5], Nutrition in Mental Health and Nutrition in Eating Disorders are now officially recognized as specialties by the CFN and Regional Council of Nutrition Systems for academic and professional purposes.

In this context, the present article aims to provide a historical, bibliographical and experience report overview of the work of dietitians in Brazil with eating disorders and mental health – two areas that communicate, but have many particularities. This examination will include a critical discussion on the necessity of these fields and the associated ethical considerations. As this special section commemorates 85 years of the work of dietitians in Brazil, the authors have conducted a comprehensive bibliographic review using databases such as PubMed, Scientific Electronic Library Online (SciELO), and Google Scholar. This review focused on articles published by dietitians concerning eating disorders. Additionally, the authors actively sought out documents and reports from dietitians working in reference centers for treatment and research, as well as articles related to dietitians in mental health and information on mental health residency programs in Brazil. The review of articles and documents carried out showed that studies on the subject are still scarce, justifying the relevance, timeliness and pertinence of the present study.

This article is composed of two main sections that address two emerging specialties – Nutrition in Eating Disorders and Nutrition in Mental Health – by presenting historical accounts of professional practices, experiences, and publications. It ends with theoretical reflections on the future prospects in these fields.

## **The dietitian's professional role in eating disorders**

The historical development of the classification of ED within the field of psychiatry reflects significant changes over time. The DSM was first proposed by the APA in 1952 to systematize various classifications that had existed in the United States since 1840. The initial DSM aimed to address the limitations of the existing mental disorder classifications included in the International Classification of Diseases (ICD-6), which were deemed unsatisfactory by American psychiatry. Following the publication of the DSM, the WHO revised the ICD-6 classification, but it still did not meet the expectations of American psychiatrists [6].

In 1968, both the APA and WHO released updated versions of their classifications: the ICD-8 and the DSM-II, respectively. At this time, both publications encompassed similar general categories [6]. Anorexia nervosa and bulimia nervosa were first included in the DSM-III, published in 1980, as well as in the ICD-9. Binge eating disorder was introduced for the first time in the DSM-IV in 1994, initially as a provisional category, and it was only included as a distinct clinical condition in the ICD-11 [7,8]. Over the years, both classification systems have undergone numerous updates and additions concerning eating disorders. Today, the DSM-5 and ICD-11 present similar representations of these disorders, a notable shift from the discrepancies found in earlier editions [9].

With this historical context of the emergence of diagnostic criteria, it becomes evident that interprofessional treatment for ED was not a recognized concept in the American context prior to the 1990s. The first treatment guideline addressing ED was published in 2000 by the APA [10], followed by a second edition in 2002 [11]. The fourth edition of this guideline, which includes aspects of nutritional rehabilitation, was released in 2023 [12].

In the context of American nutrition, the American Dietetic Association (ADA) has systematically published positions on nutritional treatment for ED, with the most recent publication

dating from 2011 [13]. Since its initial release, the ADA has emphasized that “nutritional intervention, including nutrition counseling by a registered dietitian, is an essential component of team-based treatment for patients with anorexia nervosa, bulimia nervosa, and other eating disorders, throughout assessment and treatment across the continuum of care” (p. 1236). The publication outlines fundamental responsibilities for dietitians in the treatment of ED, which include conducting nutritional assessments and interventions, monitoring nutritional status, coordinating care, and acquiring advanced training in behavioral techniques [13].

In the Brazilian context, records indicate that ED were first addressed at the Eating and Weight Disorders Outpatient Clinic at the Hospital das Clínicas of the University of São Paulo Medical School on the Ribeirão Preto Campus (HCFM-USPRP) in 1982 [14]. Publications by Ribeiro et al. document the treatment of 68 patients at this facility between 1982 and 1997 [15]. Rosane Pilot Pessa Ribeiro, a dietitian with a PhD from the Postgraduate Program in Mental Health at HCFM-USPRP, defended her doctoral thesis titled “Indicators of Dietary Habits and Cognitive and Behavioral Aspects Related to Eating Disorders in Young Females” in 1999. In collaboration with other researchers, she had previously published articles on the psychopathological, demographic, diagnostic, and clinical aspects of anorexia nervosa in 1988, as well as on the diagnosis and treatment of anorexia nervosa and bulimia in 1990 [16,17].

At the University of São Paulo, within the Institute of Psychiatry (IPq) at the Hospital das Clínicas of the Faculty of Medicine, the Eating Disorders Program, known as AMBULIM, was established in 1992. Initially named the Bulimia and Eating Disorders Outpatient Clinic – hence the abbreviation [18] – AMBULIM was developed following Prof. Dr. Táki Athanássios Cordás’s internship at the Institute of Psychiatry in London under the supervision of Prof. Gerald Russell in 1991. Dr. Cordás’s doctoral work in Brazil, supervised by Prof. Dr. Valentim Gentil Filho, involved adapting the London-based eating disorders care program to create a Brazilian model. This adaptation facilitated the integration of the program into the Unified Health System (SUS) and supported the advancement of research in this field [19,20].

Since its inception, AMBULIM has included the participation of dietitians in patient care, including during hospitalization. Notably, Maria Aparecida Larino, a professional contracted from the IPq Food and Nutrition Service, has been instrumental in contributing her expertise to the multidisciplinary team. She continues to coordinate nutritional care within the Eating Disorders Ward, which remains the only specialized unit for the hospitalization of severe eating disorders within the public sector in Brazil [21,22]. AMBULIM has progressively expanded its outpatient care services beyond its initial focus on women with bulimia and anorexia nervosa. In 2001, it established Programme for Care, Teaching and Research into Eating Disorders in Childhood and Adolescence, a group dedicated to assisting children and adolescents with anorexia and bulimia nervosa. This was followed by the creation of Study, Care and Research Group into Binge Eating and Obesity in 2004 to address the needs of women with binge eating disorder and obesity, and Care Group for Men with Eating Disorders to support men with eating disorders. More recently, in 2021, a new group was formed to assist children with restrictive and avoidant eating disorders. Over the years, AMBULIM has provided care to more than 3,000 patients. Initially coordinated by dietitian Marle Alvarenga with a small team of professionals, the program has grown significantly. AMBULIM’s course in Eating Disorders is pivotal in the training and qualification of professionals working with these patients. Initially launched in 2006 as a training program exclusively for dietitians, the course was expanded in 2017 to include interdisciplinary components, merging with psychiatry and psychology courses to become the Interdisciplinary Training Course in Eating Disorders. The nutrition counseling since 2008, has been managed by Fernanda Pisciolaro and now includes approximately 45 volunteer

dietitians. AMBULIM has offered practical training combined with technical and scientific knowledge to over 150 dietitians who have worked in its outpatient clinics and wards throughout its 28 years of operation [23]. By the first half of 2024, the Interdisciplinary Training Course in Eating Disorders has trained over 800 professionals. Many of these individuals are employed in referral centers and offer specialized private care. The training program comprises 400 hours of coursework, including theoretical classes, live discussions, case studies, and an internship that involves participation in AMBULIM's care activities [23].

In this research context, Marle Alvarenga completed her Master's and Doctoral studies by evaluating patients within the specialized service, with her degrees conferred in 1997 and 2001, respectively. Her work resulted in several publications detailing her findings [24,25]. Additionally, Karin Dunker joined AMBULIM as a volunteer dietitian in 1995. In 1996, she began her Master's research focusing on identifying the risk of ED in adolescents, which led to the publication of the first study on ED in the *Revista de Nutrição* [26]. Dunker further advanced her academic career with a doctoral dissertation on the development of a program to prevent eating disorders [27] and a post-doctoral research project on the adaptation and implementation of an integrated prevention program for obesity and eating disorders [28].

The Eating Disorders Care Center (PROATA), located in São Paulo, is another prominent treatment service established in 1994. Ana Maria Roma, the first nutritionist to join this group, began her involvement in 2001. Since then, approximately 31 nutritionists have participated in its training programs. These include the Multiprofessional Improvement Course in Eating Disorders, which was offered from 2003 to 2014; the Multiprofessional ED Training, available from 2018 to 2021; and, since 2022, the Multiprofessional Specialization in Eating Disorders [29]. Other pioneering services in Brazil for the treatment and study of ED include the Grupo de Obesidade e Transtornos Alimentares (GOTA, Obesity and Eating Disorders Group) in Rio de Janeiro. Founded in 1991, GOTA initially focused on obesity and later expanded to encompass ED, evolving into the Obesity and Eating Disorders Service in 2016. Notably, the service did not have a pioneering nutritionist at its inception [30]. Similarly, the TA Study and Assistance Group in Rio Grande do Sul, which began its activities in 1989, also started without a nutritionist on its team [31]. Given this context, it is evident that relatively few nutritionists began working in the field of eating disorders in Brazil around the 1990s. In recent years, however, there has been significant progress. The Obesity and Eating Disorders Service has since offered specialized training for nutritionists and has produced important publications, particularly concerning binge eating disorder [32,33].

Over time, there has been increasing interest in the training and professional involvement in the study and treatment of ED. This trend is supported by data from the Brazilian Association of Eating Disorders (AstralBr) [34]. Since 2020, AstralBr has been cataloging treatment, research, and study groups, making information about ED centers in Brazil both visible and accessible on its website.

As of now, Brazil hosts 53 specialized groups in eating disorders, of which 17 are public. Among these centers, 41 provide treatment services, with nutritionists involved in 27 of them. The presence of nutritionists is significant, with approximately 110 professionals contributing to multidisciplinary teams) [34]. Many of these nutritionists have received training through AMBULIM and PROATA. Additionally, since 2015, the University of Fortaleza (UNIFOR) has offered a *lato sensu* specialization course in eating disorders and obesity [35]. This course is associated with the Interdisciplinary Nutrition Program for Eating Disorders and Obesity (Pronutra), a specialized multidisciplinary service that has been operational since 2005.

This brief historical overview, which is not intended as a comprehensive review of all services and nutritionists in the field, illustrates that numerous professionals have pursued extension, specialization, and training courses in ED and have conducted research at various academic levels on the subject. Notable early works include publications on ED available in SciELO since 2002, such as the special edition of the *\*Brazilian Journal of Psychiatry\** on ED and the article “Nutritional Therapy in Anorexia and Bulimia Nervosa” [36]. Among the earliest articles on ED treatment is one authored by Karin Dunker, published in *\*Arquivos de Psiquiatria\** [37].

Further research by nutritionist scholars includes studies such as Bosi et al.’s [38] investigation of risk behaviors for ED among nutrition students. Additionally, the *\*Revista de Nutrição\** has published articles on various aspects of ED, including the practice of diets and the development of ED [39], ED among female nutrition students [40], and the treatment of bulimia nervosa [41].

Most studies on risk behaviors in the national literature emerged in the late 2000s and early 2010s [42]. Over the past decade, research has increasingly focused on identifying risk factors associated with ED [43-47], examining the eating attitudes of ED patients [48,49], and exploring prevention strategies [50].

Regarding treatment, the earliest national publications on the subject were chapters in books. Notable examples include “Nutritional Therapy for Eating Disorders,” featured in the first book dedicated to the nutritional aspects of ED, published in 2004 [51], and “Nutritional Assessment and Guidance”, included in a medical guide to ED published in 2005 [52]. Over time, additional books on ED have been released, serving as key references for research related to nutrition. These works include descriptions of research in the field, nutritional care protocols from AMBULIM, and guidelines for research and prevention [53,54].

This brief overview, while not an exhaustive review of all services and nutritionists involved in the field, highlights that numerous professionals have engaged in extension, specialization, and training courses in ED. Many have also pursued coursework, master’s degrees, and doctoral studies focusing on ED. Although specific data are lacking, it is evident that the prevalence of ED in Brazil is higher than currently estimated [55].

Specialized public centers are overwhelmed by demand, as indicated by extensive waiting lists, and these centers are predominantly located in the southeast and south of the country. At AMBULIM alone, there is currently a request for evaluation and treatment for 4,000 patients. A systematic review published in 2022 revealed specific prevalence rates for ED in Brazil. For individuals aged 6 to 14 years, the point prevalence of general ED was 0.4%. Furthermore, the point prevalence was 0.7% for bulimia nervosa, 1.4% for binge eating disorder, and 6.2% for recurrent binge eating episodes [55]. Given the particularities and severity of ED, which necessitate specialized interprofessional treatment, there is a critical need for more nutritionists trained in this area. Recognizing pioneering and well-established professionals is crucial, given that some individuals inaccurately label themselves as “specialists” after completing only brief courses or specialized visits. The CFN/Asbran [56] resolution stipulates that “It is forbidden for a nutritionist who does not hold the appropriate title duly registered with the respective CRN to advertise, announce, or present themselves as a specialist, and such a professional may be subject to penalties as outlined in CFN regulations”.

Currently, the criteria for awarding the title of specialist in eating disorders by the CFN/Asbran system remain undefined. However, based on our historical experience with reference centers, clinical practice, research, and teaching in the field, we recommend that only professionals trained

in established centers linked to care services – where they can also complete supervised internships – should be considered eligible for the specialist title. It must be acknowledged that, despite the presence of numerous ED centers in Brazil, the field of ED treatment cannot yet be considered a fully established professional domain for nutritionists. The majority of nutritionists at these centers serve as volunteers or unpaid researchers. Furthermore, the necessity for an integrated and highly trained multidisciplinary team means that current training programs are costly, and as a result, treatment remains prohibitively expensive and inaccessible to most Brazilians [57].

The literature indicates that individuals exhibiting disordered eating behaviors, even at lower intensities and severities – such as engaging in dieting practices, skipping meals, using food substitutes like supplements or shakes, taking weight loss medications, exercising excessively, binge eating, or smoking to lose weight – may be at risk of developing a full-blown ED [58]. A recent systematic review and meta-analysis encompassing children and adolescents from 16 countries found a 22.36% prevalence rate of disordered eating. According to Wu et al. [59], these behaviors are linked to poorer psychosocial health and reduced quality of life among young individuals. These statistics are concerning from a public health perspective and underscore the urgent need for professionals trained to identify such symptoms and prevent the progression to more severe eating disorders.

Specialist care is essential in all clinical scenarios, but it is particularly critical in the context of ED to ensure that no harm is done. The literature indicates that actions by professionals who lack knowledge or experience with ED can be detrimental [60.] For example, Loth et al. [61] highlight that professionals working with children should be cautious about emphasizing weight loss for those who are overweight or obese. Comments focused on weight can diminish self-esteem, increase weight stigma, and subsequently elevate the risk of developing an ED. Additionally, research suggests that the promotion of restrictive diets by professionals for individuals seeking weight loss can be harmful, particularly for those at risk. Such dietary recommendations can precipitate the onset of a full-blown ED in predisposed individuals, and for those already with ED, restrictive prescriptions can exacerbate or sustain symptoms [13,62].

In this context, it is crucial for dietitians to understand their role as influencers regarding health, food, and body weight. In Brazil, national curriculum guidelines for Nutrition courses have been established by the Ministry of Education since 2001 (the guidelines have been updated and approved but have not yet been published by the National Council of Education) [63]. Although progress has been made and discussions occur regularly to update these guidelines, the content primarily focuses on mandatory subjects, duration, and workload, along with some of the required competencies and skills. However, a significant percentage of the curriculum still emphasizes mostly the biological aspects of nutrition, revealing a gap in the human and social training of nutritionists in health care. Subjects such as Psychology, Anthropology, and Sociology of Nutrition should be included but are often limited to a brief period and are perceived as less engaging [64-66]. Unfortunately, undergraduate nutrition programs often provide inadequate coverage of ED, with no standardized guidelines mandating the inclusion of this topic. When ED-related content is included, it frequently lacks depth and specialization. As a result, specialized training beyond graduation is essential for those who wish to work in this field.

Nevertheless, all dietitians should adopt a preventative approach to ED, challenge prevailing beauty standards, and position themselves as experts in nutrition rather than merely focusing on weight loss [67].

## The professional role of dietitians in mental health

Recognizing the critical role of nutrition in mental health, the American Dietetic Association (ADA) highlighted in 1989 the necessity for dietitians to deepen their understanding of how various psychiatric disorders can impact food intake and nutritional status. The ADA also emphasized the importance of comprehending the effects of psychiatric medications on gastrointestinal function, nutritional balance, and weight regulation. The publication aimed to provide a preliminary overview for dietitians, as most nutritional therapy texts at that time offered limited information on psychiatric conditions and their treatment [68].

This study underscores that various psychiatric disorders – such as schizophrenia, mood disorders, eating disorders (ED), and substance abuse – can significantly impact food intake and nutritional status. It is also important to recognize that medications used to treat these conditions affect appetite and gastrointestinal function and interact with food and nutrients. For instance, antipsychotics, antidepressants, and Monoamine Oxidase Inhibitors may cause dry mouth, constipation, and weight gain. Lithium can lead to nausea, vomiting, diarrhea, polydipsia, and weight gain. Monoamine Oxidase Inhibitors are known to interact with foods containing tyramine, while lithium interacts with sodium and caffeine; decreased dietary intake of these substances can result in lithium toxicity, among other issues [68].

In Brazil, training for dietitians in the context of mental health has traditionally occurred through practical experience within psychiatric services, often under the guidance of psychiatrists and other healthcare professionals. Undergraduate nutrition programs generally focus on diseases related to cardiovascular, gastrointestinal, and renal systems, with limited coverage of mental illnesses – including ED. Historically, there has been scant information on dietary therapy for psychiatric conditions within classical training. Even extension and postgraduate courses specifically addressing this subject were largely nonexistent until recently [68-70].

The IPq at the Hospital das Clínicas of the University of São Paulo (USP) School of Medicine has been a leading institution in Psychiatry and Mental Health for over 60 years, both in Brazil and South America. Dietitians have been integral to mental health care since the institute's early years. The first director of IPq's Nutrition and Dietetics Service was Dr. Arlete Guimarães Gonçalves, who served from January 1965 to July 1981. Dr. Gonçalves was a pivotal figure in the field, pioneering the implementation of food and nutrition programs for psychiatric patients. She conducted significant research and developed clinical practices that underscored the critical role of adequate and balanced nutrition in the treatment of psychiatric disorders [71].

The role of dietitians in mental health has evolved from an initial focus on the influence of food on emotional states to a more integrative and specialized approach that recognizes nutrition as a crucial component of treatment and the promotion of mental wellbeing. Since 2019, the IPq has been offering the "Multidisciplinary Update in Mental Health" course [72], designed for healthcare professionals seeking to enhance their understanding of mental health and psychiatry. To date, nine dietitians have completed this training. The course provides a comprehensive overview of relevant topics in clinical practice and research, including psychiatric disorders, psychopathology, psychopharmacology, psychotherapy, therapeutic approaches, and mental health policies, among others.

In Brazil, some of the leading programs in multiprofessional residencies in mental health include those offered by: the Federal University of São Paulo; the Federal University of Rio de Janeiro; the State University of Campinas; the Federal University of Paraná; the Federal University of Minas

Gerais; the Federal University of Santa Catarina; the Federal University of Rio Grande do Sul; and the University of Brasília [73]. Not all multiprofessional residency programs in mental health in Brazil include dietitians. The composition of these residency programs can vary depending on the institution, its policies, and specific objectives. The Multiprofessional Residency in Mental Health at the University of São Paulo is scheduled to commence in 2025, with two vacancies allocated for dietitians [73].

Nevertheless, the role of nutrition in psychiatry has gained increasing recognition in recent years. The 2015 article “Nutritional Medicine as a Focus in Psychiatry” [74] discusses the limitations of the pharmacological model and the rising prevalence of mental health issues. Marx et al. [75] provide evidence of the relationship between nutrition and the prevalence and incidence of mental disorders, emphasizing the role of specific nutrients such as omega-3 fatty acids, S-adenosyl methionine, N-acetyl cysteine, zinc, B vitamins, and vitamin D.

Beyond the field of psychiatry and the broader medical domain, other specialists and researchers have also explored the subject. Logan and Jacka [76], in their article on physiological anthropology, examine how physical and cultural factors related to environments influence adaptive capacities. They highlight that nutrition was long overlooked in discussions about mental health and only recently gained prominence with the emergence of nutritional psychiatry. The authors note potential socio-economic and environmental challenges to maintaining a diet that supports mental health, including urban sprawl, climate change, cultural and technological shifts, industrialization, and the global ultra-processing of food.

“Nutritional psychiatry” is defined as the field of research and practice that focuses on the role of diet in mental and brain health, aiming to treat and prevent mental health disorders. This field examines the impact of nutrients and dietary patterns on mental health [77]. A search of PubMed for “nutritional psychiatry” in titles and abstracts reveals a relatively small number of studies, with publications beginning in 2014 and increasing in frequency after 2019.

The emergence of nutritional psychiatry has occurred within the domain of Psychiatry rather than Nutrition. Although its significance is acknowledged within the international nutrition literature, it has not been specifically labeled as a distinct area of practice by dietitians concerning mental health care. With the increasing prevalence of mental health disorders, there has been a corresponding rise in the demand for and likelihood of encountering patients with psychiatric conditions in settings that provide nutritional care. In Brazil, the prevalence of general mental disorders is estimated to range from 17% to 35%, placing it among the countries with the highest rates of anxiety and depression [78].

Given this context, it is imperative for dietitians to remain updated on mental health conditions, their effects, medications, and related factors. The role of dietitians in mental health has evolved from an initial focus on the impact of diet on emotional states to a more integrated and specialized approach. This contemporary perspective recognizes nutrition as a crucial component of both treatment and the promotion of mental well-being. Mental health professionals, as dietitians specialized in the topic, could operate in various settings and locations. These include psychiatric hospitals; Psychosocial Care Centers – which provide community-based mental health services with outpatient treatment for individuals with severe and moderate mental disorders; clinics and private practices; psychosocial rehabilitation centers – that offer rehabilitation and support programs for individuals with mental disorders; basic health units, which deliver primary care mental health services such as assessment and referral for specialized treatment in cases of mild to moderate mental disorders; and teaching and research institutions, among others.

The ADA article [68] underscores the significant role of dietitians within multidisciplinary teams, particularly in providing supportive and behavioral therapies. It emphasizes that, within a multi- and interdisciplinary framework, specialized dietitians could be integral members of mental health teams, thereby reinforcing the need for and acknowledgment of this specialty area. However, the CFN/Asbran resolution [56] has yet to define the criteria for awarding the title of specialist to mental health dietitians. It is essential to recognize the contributions of professionals who have extensive experience in this field, including those who have completed multi-professional residencies and are equipped to work in specialized services.

Returning to the concept of “nutritional psychiatry”, the literature indicates that its emergence occurred around the same time as lifestyle medicine, which, in the United States, is a certified specialty recognized by the American Board of Lifestyle Medicine. In recent years, this field has expanded to other continents. In the USA, the origins of lifestyle medicine are associated with the Lifestyle Department at Harvard Medical School, which also offers a course in “culinary medicine”. The treatment approach in lifestyle medicine centers on six pillars: healthy eating, physical activity, stress management, restful sleep, interpersonal relationships, and substance abuse control. The primary focus of lifestyle medicine is to employ motivational techniques to systematically address these pillars. In Brazil, lifestyle medicine has not been officially recognized as a medical specialty by the Federal Council of Medicine or the Brazilian Medical Association. It remains an informal movement that promotes health and well-being. Notably, there is a book in Brazil titled *Lifestyle Psychiatry* that explores topics related to physical activity, sleep, healthy relationships, stress management, and nutrition [79].

An International Society dedicated to advancing research in nutritional psychiatry was established in 2013. This organization published a position statement in 2015 with the objective of promoting research and communication in nutritional medicine within the field of psychiatry. The society advocates for the consideration of evidence-based nutritional changes as both an effective and cost-efficient approach to improving mental health, and as a fundamental component of an integrative psychiatric model that includes nutrition as a key element [80]. Although this represents a relatively new demand within psychiatry, an expanded focus on the patient is both logical and necessary, given the complexity of human beings. Psychiatric patients, like all individuals, require evaluation and treatment that extend beyond mere pharmacological interventions. As health professionals committed to comprehensive care, we must consider aspects such as physical activity, diet, sleep, and mental, spiritual, and social health in our approach to global health.

While attention has increasingly been directed towards the study of nutritional psychiatry, it is essential to acknowledge the cautionary note highlighted by the ADA [68]: that despite claims to the contrary, major psychiatric illnesses cannot be cured by nutritional therapies alone. This underscores the need to avoid the over-medicalization of food. Much of the current research and literature in nutritional psychiatry often discuss the role of nutrients in biochemical systems and metabolic pathways as if they could achieve miraculous healing. This includes some marketing practices, such as books with titles like “Food That Solves Alzheimer’s in 30 Days” which promise to enhance cognitive function, happiness, and productivity by “protecting the brain”, or instruct on “turbo-charging the brain with the diet of the mind” [81]. Such claims are not unique to this field but are part of a broader trend in various health-related publications. It is crucial to exercise caution, particularly in determining which dietitians are qualified to specialize in mental health. While there are multi-professional courses available in “nutritional psychiatry”, there is currently a lack of

standardized parameters for these programs. Additionally, it is concerning that some dietitians on social media are promoting diets purported to treat conditions like depression and anxiety, which may not be supported by robust scientific evidence.

Researchers in psychiatry assert that the role of food in mental health extends beyond the scope of nutrients and diet alone. It is crucial to consider affective cognitions related to food and reward mechanisms, which may be dysregulated in conditions such as depression. Although a nutritionally poor diet can contribute to various health issues, there is currently insufficient evidence to conclusively determine that specific diets or supplements will have a definitive impact on mental health. There is a significant concern regarding the extrapolation of evidence in nutritional psychiatry, emphasizing the need for careful interpretation and presentation of findings. Health, including mental health, is determined by multiple factors, and current epidemiological data highlight an association between nutrition and mental health. However, it is crucial to recognize that these studies do not establish a causal relationship or elucidate an underlying mechanism that links specific mental conditions exclusively to the intake of particular nutrients. There is a degree of alarmism surrounding correlational studies that discuss the consumption of ultra-processed foods and mental illness. Articles on “nutritional psychiatry” underscore the necessity for rigorously designed prospective and experimental studies to elucidate causal pathways. The existing body of research is predominantly epidemiological and observational, and the associations identified do not substantiate claims of causality [70,80].

When discussing and guiding food choices, it is essential to consider the entire context and all potential determinants, particularly for individuals with psychiatric and mental health conditions. In various clinical situations, it is no longer sufficient to simply advise, “eat this because it’s beneficial for that”. This is especially true for patients experiencing mental illness. Many individuals are affected by severe depression, anxiety, and other cognitive, mood, social, and emotional disturbances. These conditions significantly impact their motivation, readiness for change, and eating behavior. Often, individuals struggling with these issues may be reluctant to seek nutrition counseling due to their overwhelming personal challenges. Advancing the science of nutritional psychiatry requires progress through rigorous experimental studies and clinical trials. This involves employing robust methodologies and incorporating multiple biological measurements to achieve a more comprehensive and precise understanding of the mechanisms involved. It is crucial to elucidate research findings to determine which approaches are effective for different individuals in varying circumstances.

Translating the relationship between diet and mental health into clinical practice presents numerous challenges [82]. It is essential to consider individual, social, and clinical factors. Socially, food must be understood as a complex object influenced by cultural and economic factors, and all determinants related to food choice must be carefully considered. Clinically, one must account for the potential impact of diet on immune function, the involvement of epigenetics, and the role of the microbiome-gut-brain axis. Despite significant progress, many aspects of these relationships remain to be explored [83]. Systemic aspects involved in psychiatric illnesses, as with all health conditions, necessitate systemic interventions. It is unrealistic to suggest that a diet or specific food alone can cure or resolve a comprehensive array of symptoms. The tools currently available for research often fall short of capturing the complexity of food systems and eating behaviors. These tools typically do not address the multifaceted causes or antecedents related to eating behaviors, thus cautioning against sensationalism, reductionism, and bias.

Even if the impact of a nutrient or dietary pattern on mental health is demonstrated, it is crucial to recognize that the availability of such nutrients in an individual's routine depends on their behavioral repertoire, which includes the regular consumption of these nutrients. Articles on nutritional psychiatry highlight the importance of addressing governmental barriers and the need for relevant policies regarding food production and access. Such policies are crucial to facilitate adherence to healthier diets and improve overall quality of life. This is particularly significant given the high rate of comorbidity between mental illness and chronic non-communicable diseases, with poor physical health being a strong predictor of poorer mental health outcomes [82,83].

Dietitians must evaluate, discuss, and integrate factors such as medication, sleep, physical activity, and overall quality of life into their care alongside diet. This holistic approach to patient care extends beyond what is typically covered in specialized training. Therefore, dietitians with advanced and comprehensive training in nutritional psychiatry may provide more effective and individualized care for patients with mental health conditions.

## CONCLUSION

Dietitians have been involved in the field of eating disorders for no more than 30 years, a period that coincides with the establishment of eating disorder care and research services in Brazil. In the realm of mental health, while the importance of nutrition has long been acknowledged, the role of dietitians has emerged more recently, with the expansion of multi-professional residencies in mental health representing a recent development. Understanding the historical involvement of dietitians in these areas is crucial for identifying the needs of the field and ensuring more comprehensive and qualified training, especially in light of the recent recognition of these two areas as potential specialties for nutritionists by the CFN/ASBRAN system.

## REFERENCES

1. American Psychiatric Association. Feeding and Eating Disorders. In American Psychiatric Association, editor. *Diagnostic and Statistical Manual of Mental Disorders (DSM-5)*. 5th ed. Arlington: American Psychiatric Publishing; 2013. p. 338-354.
2. American Psychiatric Association. *Diagnostic and Statistical Manual of Mental Disorders*. 5th ed. Arlington: American Psychiatric Publishing; 2023.
3. Organização Mundial da Saúde. CID-11: Classificação Estatística Internacional de Doenças [Internet]. 11th ed. Brasília: Ministério da Saúde; 2018 [cited 2024 Apr 17]. Available from: <https://fabianalisboa.com.br/wp-content/uploads/2022/01/cid-11.pdf>.
4. Organização Mundial da Saúde. Constituição da Organização Mundial da Saúde (OMS/WHO) [Internet]. São Paulo: Comissão de Direitos Humanos da USP; 1946 [cited 2024 Apr 17]. Available from: <http://www.direitoshumanos.usp.br/index.php/OMSOrganiza%C3%A7%C3%A3o-Mundial-da-Sa%C3%BAde/constituicao-da-organizacaomundial-da-saude-omswho.html>. Acesso em: 17 abr. 2024.
5. Conselho Federal de Nutricionistas. Resolução CFN nº 689, de 4 maio 2021. Alterada pela Resolução CFN nº 778, de 2024. Brasília: CFN; 2021 [cited 2024 Aug. 13]. Available from: [https://www.cfn.org.br/wpcontent/uploads/2024/09/RESOLU%C3%87%C3%83O-CFN-N%C2%BA-778\\_2024.pdf](https://www.cfn.org.br/wpcontent/uploads/2024/09/RESOLU%C3%87%C3%83O-CFN-N%C2%BA-778_2024.pdf).
6. Derbli M. Uma breve história das revisões do DSM. *ComCiência*. 2011;(126):0-0.
7. Alckmin-Carvalho F, Santos DR, El Rafihi-Ferreira R, Soares MRZ. Análise da evolução dos critérios diagnósticos da anorexia nervosa. *Av Psic*. 2016;15(2):265-74.
8. Gomes SB, Santos Nogueira R, Souza Júnior SA, Rodrigues CHS. Evolução histórica dos conceitos e critérios diagnósticos da bulimia nervosa e do transtorno da compulsão alimentar: uma revisão de literatura. *Diálogos Interdiscip. Psiquiatr. Saúde Ment*. 2021;1(1):60-9.

9. Hiluy J, Nunes FT, Pedrosa MAA, Appolinário JCB. Os transtornos alimentares nos sistemas classificatórios atuais: DSM-5 e CID-11. *Debates Psiquiatr.* 2019;9(3):6-13.
10. American Psychiatric Assn, Work Group on Eating Disorders. Practice guideline for the treatment of patients with eating disorders (Revision). *Am J Psychiatry.* 2000;157(Suppl 1):1-39.
11. Yager J, Andersen A, Devlin M, Egger H, Herzog D, Mitchell J, et al. Practice guideline for the treatment of patients with eating disorders, second edition. In Muñoz RA, editor. *American Psychiatric Association practice guidelines for the treatment of psychiatric disorders: compendium 2002.* Washington: APA; 2002. p. 697-66.
12. Crone C, Fochtmann LJ, Attia E, Boland R, Escobar J, Fornari V, et al. The American Psychiatric Association practice guideline for the treatment of patients with eating disorders. *Am J Psychiatry.* 2023;180(2):167-71.
13. Ozier AD, Henry BW. Position of the American Dietetic Association: nutrition intervention in the treatment of eating disorders. *J Am Diet Assoc.* 2011;111(8):1236-41.
14. Santos JE. GRATA: nossa história, trabalho e desafios. *Med (Ribeirão Preto).* 2006;39(3):323-6.
15. Ribeiro RPP, Santos PCM, Santos JE. Distúrbios da conduta alimentar: anorexia e bulimia nervosas. *Med (Ribeirão Preto).* 1998;31(1):45-53.
16. Santos PCM, Lucif Júnior N, Ribeiro RPP, Santos JE. Anorexia nervosa: aspectos psicopatológicos, demográficos, diagnósticos e clínicos. *Rev Assoc Bras Psiquiatr.* 1988;10(2):35-41.
17. Santos PCM, Ribeiro RPP, Santos JE. Como diagnosticar e tratar anorexia nervosa e bulimia. *Rev Bras Med.* 1990;47:155-69.
18. Cordás TA. Transtornos alimentares em discussão. *Rev Bras Psi.* 2001;23(4):178-9.
19. Negrão AB, Cordás TA. Clinical characteristics and course of anorexia nervosa in Latin America, a Brazilian sample. *Psychiatry Res.* 1996;62(1):17-21.
20. Scivoletto S, Segal A, Castilho SM, Cordás TA. Anorexia nervosa e bulimia. *Rev Bras Med.* 1995;52:132-42.
21. Abrahão IES, Ribeiro CR, Ferreira EM, Grassi ITC, Cavalcante MC, Oliveira M, et al. Modelo de atendimento a grupos familiares de pacientes com transtornos alimentares. *Rev Bras Ter Fam.* 2023;10(1).
22. Cobelo AW, Saikali MO, Schomer EZ. A abordagem familiar no tratamento da anorexia e bulimia nervosa. *Arch Clin Psychiatry.* 2004;31(4):184-7.
23. Programa de Transtornos Alimentares. Nossa história [Internet]. São Paulo: USP; c2025.. [cited 2024 Aug 9]. Available from: <https://ambulim.org.br/sobre/>.
24. Alvarenga MS, Negrão AB, Philippi ST. Nutritional aspects of eating episodes followed by vomiting in Brazilian patients with bulimia nervosa. *Eat Weight Disord.* 2003;8(2):150-6.
25. Alvarenga MS, Scagliusi FB, Philippi ST. Changing attitudes, beliefs, and feelings towards food in bulimic patients. *Arch Latinoam Nutr.* 2008;58(3):274-9.
26. Dunker KLL, Philippi ST. Hábitos e comportamentos alimentares de adolescentes com sintomas de anorexia nervosa. *Rev Nutr.* 2003;16(1):51-60.
27. Dunker KLL, Philippi ST, Ikeda JP. Interactive Brazilian program to prevent eating disorders behaviors: a pilot study. *Eat Weight Disord.* 2010;15:e270-e4.
28. Dunker KLL, Claudino AM. Preventing weight-related problems among adolescent girls: a cluster randomized trial comparing the Brazilian 'New Moves' program versus observation. *Obes Res Clin Pract.* 2018;12:102-15.
29. Núcleo de Atenção aos Transtornos Alimentares [Internet]. São Paulo: Proata; [cited 2024 Aug 9]. Available from: <https://www.proata.com.br/sobre/>.
30. Grupo de Obesidade e Transtornos Alimentares [Internet]. Rio de Janeiro: GOTA; c2021 cited 2024 Aug 9]. Available from: <https://gota.org.br/#gota>.
31. Grupo de Estudos e Assistência em Transtornos Alimentares [Facebook]. [cited 2024 Aug 9]. Available from: <https://www.facebook.com/geata.med/>.
32. Moraes CE, Antunes MML, Mourilhe C, Sichieri R, Hay P, Appolinario JC. Food Consumption during Binge Eating Episodes in Binge Eating Spectrum Conditions from a Representative Sample of a Brazilian Metropolitan City. *Nutrients.* 2023;15(7):1573.

33. Mourilhe C, Moraes CE, Veiga GD, Q Luz F, Pompeu A, Nazar BP, et al. An evaluation of binge eating characteristics in individuals with eating disorders: a systematic review and meta-analysis. *Appetite*. 2021;162:105176.
34. Associação Brasileira de Transtornos Alimentares. Rio de Janeiro: ASTRALAR; c2025 [cited 2024 Aug 9]. Available from: <https://www.astralbr.org/>.
35. Universidade de Fortaleza. Curso de especialização em Transtornos Alimentares e Obesidade. Fortaleza: Unifor; [cited 2024 Aug 9]. Available from: <https://unifor.br/web/pos-graduacao/especializacao-em-transtornos-alimentares-eobesidade>.
36. Alvarenga M, Larino MA. Terapia nutricional na anorexia e bulimia nervosas. *Braz J Psychiatry*. 2002;24:39-43.
37. Latterza AR, Dunker KLL, Scagliusi FB, Kemen E. Tratamento nutricional dos transtornos alimentares. *Arch Clin Psychiatry*. 2004;31(4):173-6.
38. Bosi MLM, Luiz RR, Morgado CMC, Costa MLS, Carvalho RJ. Comportamentos de risco para transtornos do comportamento alimentar e fatores associados entre estudantes de nutrição do município do Rio de Janeiro. *J Bras Psiquiatr*. 2006;55(1):34-40.
39. Souto S, Ferro-Bucher JSN. Práticas indiscriminadas de dietas de emagrecimento e o desenvolvimento de transtornos alimentares. *Rev Nutr*. 2006;19(6):693-704.
40. Kirsten VR, Fratton F, Porta NBD. Transtornos alimentares em alunas de nutrição do Rio Grande do Sul. *Rev Nutr*. 2009;22(2):219-227.
41. Alvarenga MS, Scagliusi FB. Tratamento nutricional da bulimia nervosa. *Rev Nutr*. 2010;23(5):907-18.
42. Leal GVS, Philippi ST, Polacow VO, Cordas TA, Alvarenga MS. O que é comportamento de risco para transtornos alimentares em adolescentes? *J Bras Psiquiatr*. 2013;62(1):62-75.
43. Philippi ST, Cardoso MGL, Koritar P, Alvarenga MS. Risk behaviors for eating disorder in adolescents and adults with type 1 diabetes. *Rev Bras Psiquiatria*. 2013; 35(2):150-6.
44. Philippi ST, Leme AC. Weight-teasing: does body dissatisfaction mediate weight-control behaviors of Brazilian adolescent girls from low-income communities? *Cad Saude Publica*. 2018;34(6):e00029817.
45. Grigolon RB, Dunker KLL, Almeida MC, Achôa DC, Claudino AM. Dietary patterns as a red flag for higher risk of eating disorders among female teenagers with and without type I diabetes mellitus. *Eat Weight Disord*. 2019;24(1):151-61.
46. Leal GVS, Alvarenga MS, Philippi ST. Unhealthy weight control behaviors, disordered eating, and body image dissatisfaction in adolescents from São Paulo, Brazil. *Rev Bras Psiquiatr*. 2020;42(3):264-70.
47. Dunker KLL, Portella LL, Haddad LK, Nobrega FG, Latorre FAO, Pascoal M, et al. Prática e incentivo paterno a dietas podem prever comportamentos de risco relacionados a transtornos alimentares? Uma revisão sistemática. *J Bras Psiquiatr*. 2023;72(1):54-62.
48. Souza AC, Pisciolaro F, Polacow V, Cordás TA, Alvarenga MS. Atitudes em relação ao corpo e à alimentação de pacientes com anorexia e bulimia nervosa. *J Bras Psiquiatr*. 2014;63(1):1-7.
49. Alvarenga MS, Koritar P, Pisciolaro F, Mancini M, Cordás TA, Scagliusi FB. Eating attitudes of anorexia nervosa, bulimia nervosa, binge eating disorder and obesity without eating disorder female patients: differences and similarities. *Physiol Behav*. 2014;28(131):99-104.
50. Dunker KLL, Carvalho PHB, Amaral ACS. Eating disorders prevention programs in Latin American countries: a systematic review. *Int J Eat Disord*. 2023;56(4):691-707.
51. Philippi ST, Alvarenga MS. Transtornos alimentares: uma visão nutricional. São Paulo: Manole; 2004.
52. Roma AMF, Fagundes U. Avaliação e orientação nutricional. In: Schor N, editor. *Guias de Medicina Ambulatorial e Hospitalar UNIFESP/Escola Paulista de Medicina: Transtornos Alimentares e Obesidade*. São Paulo: Manole; 2005. p. 127-136.
53. Alvarenga MS, Scagliusi FB, Philippi ST. *Abordagens nutricionais nos transtornos alimentares: avaliação e tratamento*. São Paulo: Manole; 2010.
54. Alvarenga MS, Dunker KLL, Philippi ST. *Transtornos Alimentares e Nutrição – da prevenção ao tratamento*. São Paulo: Manole; 2020.
55. Kolar DR, Mebarak M. An update on the epidemiology of eating disorders in Latin America: current findings and future challenges. *Curr Opin Psychiatry*. 2022;35(6):385-9.

56. Conselho Federal de Nutricionistas. Resolução CFN nº 689, de 4 maio de 2021. Alterada pela Resolução CFN nº 778, de 2024. Capítulo II, Art. 7º, § 3º [Internet]. Brasília: CFN; 2021 [cited 2024 Aug 13]. Available from: [https://www.cfn.org.br/wpcontent/uploads/resolucoes/resolucoes\\_old/Res\\_689\\_2021.html](https://www.cfn.org.br/wpcontent/uploads/resolucoes/resolucoes_old/Res_689_2021.html).
57. Streatfeild J, Hickson J, Austin SB, Hutcheson R, Kandel JS, Lampert JG et al. Social and economic cost of eating disorders in the United States: evidence to inform policy auctioning. *Int J Eat Disord*. 2021; 54(5):851-68.
58. National Eating Disorders Collaboration. Disordered Eating and Dieting [Internet]. [cited 2022 May 28]. Available from: <https://nedc.com.au/eating-disorders/eating-disordersexplained/disordered-eating-and-dieting> (accessed on 28 May 2022)
59. Wu XY, Yin WQ, Sun HW, Yang SX, Li XY, Liu HQ. The association between disordered eating and health-related quality of life among children and adolescents: a systematic review of population-based studies. *Plos One*. 2019;14(10):1-17.
60. Seah XY, Tham XC, Kamaruzaman NR, Yobas PK. Knowledge, attitudes and challenges of healthcare professionals managing people with eating disorders: a literature review. *Asia-Pacific J Clin Nutr*. 2017;31(1):125-36.
61. Loth KA, Lebow J, Uy MJA, Ngaw SM, Neumark-Sztainer D, Berge JM. First, do no harm: understanding primary care providers' perception of risks associated with discussing weight with pediatric patients. *Glob Pediatr Health*. 2021;7(8):2333794X211040979.
62. Schaumberg K, Anderson DA, Anderson LM, Reilly EE, Gorrell S. Dietary restraint: what's the harm? A review of the relationship between dietary restraint, weight trajectory and the development of eating pathology. *Clin Obes*. 2016;6(2):89-100.
63. Conselho Federal de Nutrição. Texto das novas Diretrizes Curriculares Nacionais dos cursos de Nutrição é aprovado pelo CNE [Internet]. Brasília: Conselho; 2024 Jul 8 [cited 2024 Aug 9]. Available from: <https://www.cfn.org.br/index.php/noticias/texto-das-novasdiretrizes-curriculares-nacionais-dos-cursos-de-nutricao-e-aprovado-pelocne/#:~:text=Texto%20das%20novas%20Diretrizes%20Curriculares,%C3%A9%20aprovado%20pelo%20CNE%20%2D%20CFN>
64. Do Amaral MN. A formação do profissional nutricionista como contribuição nas práticas do cuidado em saúde: uma revisão integrativa de literatura. *Rev Contemp*. 2023;3(8):10976-93.
65. Soares NT, Aguiar AC. Diretrizes curriculares nacionais para os cursos de nutrição: avanços, lacunas, ambiguidades e perspectivas. *Rev Nutr*. 2010;23(5):895-905.
66. Fonseca AB, Frozi DS. Ciências sociais e Ciências Naturais na formação em Nutrição: discutindo a opinião de estudantes no Brasil e na Espanha. *RACA*. 2019;1(1):28-45.
67. Dunker KLL, Alvarenga MS, Philippi ST. Transtornos Alimentares e obesidade: evidências quanto a prevenção integrada. In: Alvarenga M, Dunker K, Philippi S, editors. *Transtornos alimentares e nutrição: da prevenção ao tratamento*. Barueri: Manole; 2019. p. 467-83.
68. Gray GE, Gray LK. Nutritional aspects of psychiatric disorders. *J Am Diet Assoc*. 1989;89(10):1492-98.
69. Sarris J, Logan AC, Akbaraly TN, Amminger GP, Balanzá-Martínez V, Freeman MP, et al. International Society for Nutritional Psychiatry Research consensus position statement: nutritional medicine in modern psychiatry. *World Psychiatry*. 2015;14(3):370.
70. Jacka FN. Nutritional psychiatry: where to next? *EBioMedicine*. 2017;17:24-9.
71. I Ciclo de Nutrição da área Hospitalar do HCFMUSP: Comemorativo ao Cinquentenário - 1993;1(1).
72. HCX Fmusp. Especialização Multiprofissional em Saúde Mental e Psiquiatria - Ao Vivo. [Internet]. 2024 [acedido em 30 ago. 2024]. Disponível em: <https://hcxfmusp.org.br/portal/online/curso/saude-mental-psiQUIATRIA/>
73. Ferreira TPS, Noro LRA. Residências Multiprofissionais em Saúde Mental no Brasil: projetos pedagógicos e diálogos com a práxis antimanicomial. *Cien Saude Colet*. 2022;30(4).
74. Sarris J, Logan AC, Akbaraly TN, Amminger GP, Balanzá-Martínez V, Freeman MP, et al. Nutritional medicine as mainstream in psychiatry. *Lancet Psychiatry*. 2015;2(3):271-274.
75. Marx W, Moseley G, Berk M, Jacka F. Nutritional psychiatry: the present state of the evidence. *Proc Nutr Soc*. 2017;76(4):427-36.
76. Logan AC, Jacka FN. Nutritional psychiatry research: an emerging discipline and its intersection with global urbanization, environmental challenges, and the evolutionary mismatch. *J Physiol Anthropol*. 2014;33(1):1-16.

77. Rocks T, Howland G, Ruusunen A, Moseley G, Jacka F. *Psiquiatria do estilo de vida – guia baseado em evidências*. São Paulo: Manole; 2021.
78. Santos GBV, Alves MCGP, Goldbaum M, Cesar CLG, Gianini RJ. Prevalência de transtornos mentais comuns e fatores associados em moradores da área urbana de São Paulo, Brasil. *Cad Saúde Publica*. 2019; 35(11):e00236318.
79. Carvalho APL, Lafer B, Schuch FB. *Psiquiatria do estilo de vida*. Santana do Parnaíba:Manole; 2021.
80. Adan RA, van der Beek EM, Buitelaar JK, Cryan JF, Hebebrand J, Higgs S. et al. Nutritional psychiatry: Towards improving mental health by what you eat. *Eur Neuropsychopharmacol*. 2019;29(12):1321-32.
81. Sherzai D, Sherzai A. *The 30-day Alzheimer’s solution: the definitive food and lifestyle guide to preventing cognitive decline*. Unabridged ed. HarperCollins B, Blackstone Publishing; 2021.
82. Sarris J. Nutritional psychiatry: from concept to the clinic. *Drugs*. 2019;79(9):929-34.
83. Loughman A, Staudacher HM, Rocks T, Ruusunen A, Marx W, O’Neil A, et al. Diet and mental health. *Microbes Mind*. 2021;32:100-12.

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