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Investigation of the use of Phytotherapy by Nutritionists in the State of Tocantins

Investigação do uso da Fitoterapia por Nutricionistas no Estado do Tocantins

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ABSTRACT

Brazil has vast potential in the field of phytotherapy due to its diversity of medicinal plants, which drives research on the therapeutic use of these natural resources. Phytotherapy is regulated by the Federal Council of Nutrition (CFN) for the practice of nutritionists, allowing the prescription of medicinal teas without requiring specialization and of herbal medicines only for those with specific training. The study, conducted in the state of Tocantins, aimed to evaluate the use of phytotherapy by nutritionists, their education, and the most prescribed herbal medicines. The sample consisted of 79 professionals registered with CRN-1, who responded to an electronic form. The results indicated that 72% did not have a phytotherapy course during their undergraduate studies, 90% did not have specialization in the field, and 61% did not prescribe medicinal teas. Chamomile was the most recommended tea for its anxiolytic effect, and passionflower was the most cited herbal medicine for insomnia. The absence of phytotherapy in academic training limits its application in professional practice, highlighting the need for specialization to ensure the safe and effective prescription of these therapeutic resources.

Keywords: Phytotherapy. Medicinal plants. Nutritionists. Phytotherapeutic prescription.

RESUMO

O Brasil possui um vasto potencial na área da fitoterapia devido à sua diversidade de plantas medicinais, o que impulsiona pesquisas sobre o uso terapêutico desses recursos naturais. A fitoterapia é regulamentada pelo Conselho Federal de Nutrição (CFN) para atuação dos nutricionistas, permitindo a prescrição de chás medicinais sem exigência de especialização e de medicamentos fitoterápicos apenas para aqueles com formação específica. O estudo, realizado no estado do Tocantins, teve como objetivo avaliar o uso da fitoterapia por nutricionistas, sua formação e os fitoterápicos mais prescritos. A amostra foi composta por 79 profissionais registrados no CRN-1, que responderam a um formulário eletrônico. Os resultados indicaram que 72% não tiveram disciplina sobre fitoterapia na graduação, 90% não possuíam especialização na área e 61% não prescreviam chás medicinais. A camomila foi o chá mais indicado por sua ação ansiolítica, e a passiflora foi o fitoterápico mais citado para insônia. A ausência da fitoterapia na formação acadêmica limita sua aplicação na prática profissional, evidenciando a necessidade de especialização para garantir segurança e eficácia na prescrição desses recursos terapêuticos.

Palavras-chave: Fitoterapia. Plantas medicinais. Nutricionistas. Prescrição fitoterápicas.

1. INTRODUCTION

Brazil has a vast reserve of natural products with therapeutic properties, which positions research and the development of herbal medicines as a prominent area in the global scientific landscape (SILVA, 2020; FRANÇA; VASCONCELLOS, 2019; BRASIL, 2015). The pharmacology of plant-based products allows for an understanding of the effects attributed to the active compounds of plants used in the treatment and/or prevention of various diseases, as well as their potential side effects (MIRANDA; UHLMANN, 2021; ABRANCHES, 2015).

Among the healthcare professionals who utilise the resources provided by phytotherapy is the nutritionist. According to Resolution No. 680 of 19 January 2021, issued by the Federal Nutrition Council, which regulates the practice of phytotherapy by nutritionists in nutritional and dietetic care, this resolution ensures a range of approaches and therapies that can be employed by professionals according to patient needs and as a complement to dietary prescriptions (CFN, 2021).

The aforementioned resolution regulates the practice of phytotherapy by nutritionists, granting them the authority to prescribe medicinal plants and herbal teas in the form of infusions, decoctions, and macerations in water, without the requirement of a postgraduate certificate in phytotherapy or a specialist title in the field. However, for the prescription of plant-based drugs in pharmaceutical forms, herbal medicines, traditional herbal products, and magistral preparations of herbal medicines, nutritionists must hold a postgraduate lato sensu specialisation certificate in phytotherapy. This certificate must be issued by a higher education institution accredited by the Ministry of Education and include at least 200 hours of specific coursework in phytotherapy, or an equivalent specialist qualification in the field (CFN, 2021).

Despite recommendations from international organisations and the regulation of phytotherapy by the Ministry of Health, its application within the nutritionist's practice represents a new phase in professional qualification. It enables the achievement of the safety and efficacy objectives outlined in the National Policy on Medicinal Plants and Herbal Medicines (DAVID; BELLO, 2017).

Although nutritionists, as healthcare professionals, play a significant role in the utilisation of phytotherapy resources, knowledge and skills related to this field are either absent or superficially addressed in the undergraduate nutrition curriculum (SANTOS et al.,

2019; CAMARGO; PEREIRA, 2013). Therefore, in-depth knowledge of the applicability and safety of medicinal plants and herbal medicines is necessary for professional training aimed at clinical practice, which can be achieved through specialised postgraduate courses.

This study primarily aims to gather data on nutritionists in the state of Tocantins who work with phytotherapy. Specifically, it seeks to assess the number of professionals who prescribe herbal medicines, as well as to understand their academic background. Additionally, it intends to investigate the most commonly prescribed herbal medicines by these professionals and the therapeutic purposes associated with their use.

2. MATERIALS AND METHODS

The study was conducted in the state of Tocantins. According to the Brazilian Institute of Geography and Statistics (IBGE, 2010), it is the 24th largest state in Brazil, with an approximate population of 1,383,445 people. Tocantins shares borders with the states of Goiás, Mato Grosso, Pará, Maranhão, Piauí, and Bahia.

The study sample consisted of nutrition professionals registered with the Regional Council of Nutritionists of the 1st Region (CRN 1) who were practising in the state of Tocantins. Volunteers were selected through an electronic form sent to all registered nutritionists. The distribution of the email was carried out by CRN 1 itself following the approval of the research project by the ethics committee.

All nutritionists with active registrations practising in the state of Tocantins were included in the study. Exclusion criteria—none applicable.

Data collection was conducted using an electronic form sent via email to nutritionists and also disseminated through social media networks of nutritionists in the state of Tocantins. The data collection period spanned from March to July 2021. The questionnaire included the following questions: i)Institution of Graduation, ii)Active registration with CRN, iii)Field of practice, iv) Number of years since graduation, v) Attendance of a Phytotherapy course during undergraduate studies, vi) Possession of a specialisation, vii) Specialisation in Phytotherapy, viii) Use of Phytotherapy in prescriptions, ix) Most frequently prescribed herbal medicines and their indications.

The research project and the informed consent form (attached in Annex I) were submitted to and approved by the Human Research Ethics Committee of the Federal University of Tocantins, under the approval number CAAE 40166220.0.0000.5519.

Sample size calculation was based on data provided by CRN 1, indicating that the number of nutritionists with active registration in the state of Tocantins was 543. A total of 81 responses were obtained from the electronic form, with a confidence level of 90% and a margin of error of 8%. Data were stored in spreadsheets and presented in tables to facilitate interpretation.

3. RESULTS AND DISCUSSION

The electronic form was disseminated via social media and sent by CRN 1 to the email addresses of nutrition professionals in Tocantins. The sample consisted of a total of 81 nutritionists, of whom two respondents reported not having an active registration. Therefore, only the responses from the 79 professionals with active registrations were considered. A confidence level of 90% was achieved, with a margin of error of 8%.

Regarding academic characteristics (Table 1), among the 79 survey respondents, 65% completed their undergraduate degree in Tocantins, while 35% studied in other states. The majority of professionals (68%) had graduated within the past five years. Concerning the availability of coursework on phytotherapy, 72% reported that they had not taken a phytotherapy course during their undergraduate studies, whereas 28% had.

Phytotherapy is a tool that can be utilised by nutritionists; however, the lack of relevant coursework during undergraduate studies negatively impacts their knowledge in this area. Nutritionists who did not have the opportunity to study phytotherapy during their degree experience a reduced scope of practice and limited ability to guide patients interested in using phytotherapy resources. A study conducted by Souza (2018), which aimed to analyse the Nutrition course at a campus of a federal institution in the interior of Paraíba from the perspective of its graduates, found that 57.7% of participants believed that the course lacked certain essential subjects. Among these, phytotherapy was cited by 14.29% of respondents.

The prescription of medicinal teas and herbal medicines requires extensive knowledge in this field, as aspects such as therapeutic effects, dosage, side effects, interactions with other medications, and changes in absorption, metabolism, and excretion must be carefully considered (SANTOS et al., 2019). This highlights the importance of incorporating phytotherapy-related topics into the training of nutrition professionals to ensure the safe and effective treatment of patients.

Nascimento et al. (2016) conducted a study analysing the importance attributed to the use of medicinal plants and herbal medicines by healthcare professionals in Petrolina, Pernambuco. Among the 96 participants, 99% stated that healthcare professionals should have knowledge of the use and indications of herbal medicines. However, the literature frequently highlights difficulties in incorporating phytotherapy into professional practice due to the absence of dedicated coursework in health-related undergraduate programmes.

When asked about their participation in postgraduate courses, 46% of respondents reported having completed a specialisation, 32% stated that they were currently enrolled in one, and 22% reported having no specialisation. Regarding a specific specialisation in phytotherapy, only 10% of nutritionists had completed such a course. Postgraduate studies are a means for nutritionists to deepen their expertise in areas of interest, guiding their professional practice based on the knowledge acquired. The use of phytotherapy by nutritionists is duly regulated by Resolution No. 680 of 19 January 2021, issued by the Federal Nutrition Council. Therefore, it is the responsibility of professionals to comply with the resolution and pursue the required specialisation.

With regard to professional practice, it was found that 56% of nutritionists work in Clinical Nutrition, while 44% are engaged in Collective Food Service (Table 1). This finding is similar to that of Soar and Silva (2017), who conducted a study investigating the professional characteristics of Nutrition graduates from the University of Vale do Paraíba. In their study, of the 31 professionals surveyed, the majority (39%) specialised in Clinical Nutrition, followed by 32% in Collective Food Service.

Table 1. Academic and professional characteristics of nutritionists in the state of Tocantins.

Questions	Answers (%)	N
Training location		
Tocantins	65	51
Other states	35	28
Course completion time		
Up to 5 years	68	54
5 to 10 years	22	17
More than 10 years	10	8
Phytotherapy discipline at graduation		
Yes	28	22
No	72	57
Has a specialization course		
Complete	46	36
In progress	32	25

No	23	18
Has a specialization course in Phytotherapy		
Complete	10	8
In progress	6	5
No	84	66
Occupation area		
Nutrition in Collective Feeding	44	35
Clinical Nutrition	56	44
Nutrition in Sports and Physical Exercise	14	11
Nutrition in Public Health	20	16
Nutrition in the Production Chain, Industry and Food Commerce	6	5
Nutrition in Teaching, Research and Extension	13	10

The two areas of practice mentioned are traditional within the field of Nutrition and account for nearly 80% of employment opportunities (CFN, 2017). The findings of this study are consistent with those of the CFN (2017) survey, which identified Clinical Nutrition and Collective Food Service as the most prevalent areas of professional practice.

Based on these findings, it can be observed that despite the broad range of career opportunities available to nutritionists, most professionals still primarily work within the traditional areas of Nutrition. The predominance of these fields may be linked to the early development of the profession when career options were largely restricted to Clinical Nutrition and Collective Food Service.

Regarding the use of phytotherapy resources, participants were asked whether they prescribed medicinal teas and herbal medicines in their practice. As shown in Table 2, the majority of nutritionists (61%) reported that they do not prescribe medicinal teas. Among the most commonly prescribed teas, chamomile tea stood out, accounting for 69% of the 26 responses referring to medicinal teas. The main indications for chamomile tea reported by nutritionists were its anxiolytic effects, which contribute to reducing anxiety symptoms, improving sleep quality, among other benefits.

Tabela 2. Medicinal teas most prescribed by nutritionists in Tocantins.

Prescribe medicinal teas	Answers (%)	N
Yes	39	31
No	61	48
Most prescribed teas	**Answers (%)**	**Recommendation**

Chamomile	69	Improvement of anxiety; improved sleep; mild insomnia; soothing; aid in digestion
Green Tea	38	There was no response
Lemongrass	35	Improvement of anxiety; improved sleep; abdominal cramps; mild insomnia; soothing; depression; stomach problems
Cinnamon	31	Lack of appetite; digestive problems; flatulence; gastric fullness; glycemic control; weight loss; insulin resistance
Mint	27	Stomach pain, heartburn, reflux, polycystic ovarian syndrome (hirsutism)
Ginger	23	Dyspepsia in general; nausea; nausea; vomiting; weight loss; inflammations; thermogenic
Hibiscus	23	Water retention; edema; blood pressure
Mulungu	23	Improvement of anxiety; improved sleep; mild insomnia; soothing
Horsetail	19	Liquid retention; Edema
Espinheira Santa	15	Gastritis; digestion disorders; heartburn; reflux; stimulate mucin
Anise	12	Cold

Sene	8	Cold
Rosemary	8	Indigestion
Passion fruit	8	Mild anxiety and insomnia; gentle soothing
Holy grass	8	Mild insomnia; soothing; diuretic; cholesterol control
Carqueja	8	Indigestion; heartburn; cholesterol control
Dandelion	8	Lack of appetite; anti-inflammatory
Black tea	8	Thermogenic; improved exercise performance
Macela	4	Indigestion; intestinal cramps; mild sedative; anti-inflammatory
Boldo	4	Stomach and liver pain
Valerian	4	Mild insomnia; soothing
Devil's Claw	4	Arthritis; arthrosis; arthralgia
Herb tea	4	There was no response

Regarding the prescription of herbal medicines, according to Table 3, 79% of nutritionists reported that they did not prescribe phytotherapeutic products. This finding is similar to that of Lucena et al. (2020), who analysed the prescription of herbal medicines by nutritionists in the municipality of Imperatriz, Maranhão, and observed that most of the nutritionists participating in the study did not prescribe phytotherapeutic products.

A total of 16 herbal medicines were mentioned, with *Passiflora*-indicated for insomnia-being the most frequently cited, appearing in 12 responses. The fact that the majority of nutritionists do not prescribe herbal medicines may be related to a lack of training

in phytotherapy through specialised courses, which are essential for enhancing professional practice.

Postgraduate studies provide a means for professionals to enhance their qualifications within the job market, as the experience and knowledge acquired during undergraduate studies do not necessarily ensure specific expertise or a competitive position in the field.

Table 3. Herbal medicines most prescribed by nutritionists in Tocantins.

Prescribe herbal medicines	**Answers (%)**	**N**
Yes	21	16
No	79	62
Most prescribed herbal medicines	**Answers (%)**	**Recommendation**
Passionflower	50	Insomnia
Rhodiola rosea	33	Improvement of stress factors, anxiety, depression, cognition
Cutie cambogia	25	Decreased appetite
Panax ginseng	17	Relaxation, concentration, person prone to depression
Morosil	17	There was no response
Turmeric	17	Antioxidant
Zingiber officinale Roscoe	8	Anti-inflammatory
Camellia	8	Obesity; dyslipidemia
Crocus sativus	8	Anxiety; stress; tpm
Griffonia simplicifolia	8	Serotonin stimulant; emotional disorders
Horsetail	8	There was no response
citrus aurantium	8	There was no response
Peruvian Maca	8	There was no response
Hibiscus	8	There was no response
Caffeine	8	Improved performance during training
Valerian	8	Insomnia

Contemporary scientific concepts regarding phytotherapy encompass the idea of the phytocomplex, in which active compounds formed by groups of similar substances interact

differently with receptors, thereby modulating the body's functions (BOTSARIS, 2009). These active compounds are substances derived from the primary and/or secondary metabolism of plants and are responsible for the biological effects of medicinal plants and their derivatives (BRASIL, 2010).

4. FINAL CONSIDERATIONS

From the findings of this study, it was observed that among the 79 nutritionists from Tocantins who responded to the online questionnaire, the majority completed their undergraduate studies in Tocantins and do not hold a specialisation in Phytotherapy. It is noteworthy that, despite most participants reporting that their undergraduate courses did not include subjects related to Phytotherapy, some professionals still incorporate its resources into their practice.

The investigation also revealed that the most commonly prescribed medicinal tea and herbal medicine by nutritionists in Tocantins were chamomile and *Passiflora*, respectively, both primarily for their anxiolytic effects.

Further studies on the relationship between nutritionists and phytotherapy are essential, as they will provide insights into the professional adaptation and perceptions regarding its use.

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