

# Ethical and technical aspects of Nutrition teleconsultation in COVID-19 days

## *Aspectos éticos e técnicos da teleconsulta de Nutrição em tempos da COVID-19*

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### ABSTRACT

#### Objective

The aim of the present work was to identify, summarize and review the main scientific articles, guiding documents, and legal aspects of Nutrition teleconsultation.

#### Methods

The study consisted of a narrative review and documental analyses. The narrative review was performed between March and April, 2021, in the PubMed, Scopus and Lilacs databases. The websites of the Federal Council of Nutritionists, the Regional Councils of Nutritionists and the Brazilian Association of Food and Nutrition were browsed for the documental analysis.

#### Results

This article presents the main aspects of Nutrition teleconsultation in Brazil and in the world, both technical (practice, request for laboratory exams, prescription of dietary supplements, service disclosure, fees, service platforms and general conditions) and ethical norms (confidentiality and data protection). Some advantages of the Nutrition teleconsultation were also compiled, such as: cost reduction, improved access to services, increased adherence, reduced geographic barriers, increased involvement of patients and their families and improved self-care; limitations included lack of access to the necessary infrastructure, feeling uncomfortable with the technology, concerns about safety or desire to be assisted in person, among others.

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## Conclusion

It is concluded that the Nutritional teleconsultation has promising potential in the pandemic, and may be able to overcome the social isolation challenge, that could impose data collection restrictions. Future studies may elucidate, through professional experiences, nutritional teleconsultation's advantages and limitations, thus allowing more assertive recommendations and quality adjustments to the nutritional teleconsultation.

**Keywords:** COVID-19. Nutritionist. Teleconsultation.

## RESUMO

### Objetivo

*O objetivo do presente trabalho foi sintetizar e analisar os principais artigos científicos, documentos norteadores e aspectos legais da teleconsulta de Nutrição.*

### Métodos

*O estudo consistiu em uma revisão narrativa e análise documental. A revisão narrativa foi feita entre março e abril de 2021, nas bases de dados PubMed, Scopus e Lilacs. Para a análise documental, foram consultados os sítios eletrônicos do Sistema Conselho Federal de Nutricionistas/Conselhos Regionais de Nutricionistas e da Associação Brasileira de Alimentação e Nutrição.*

### Resultados

*Neste artigo, são apresentados os principais aspectos da teleconsulta de Nutrição no Brasil e no mundo, tanto técnicos (prática, solicitação de exames laboratoriais, prescrição de suplementos alimentares, divulgação do atendimento, honorários, plataformas de atendimento e condições gerais), quanto éticos (sigilo e proteção de dados). Também foram compiladas algumas vantagens da teleconsulta de Nutrição, como: redução dos custos, melhoria do acesso aos serviços, aumento da adesão, diminuição de barreiras geográficas, aumento no envolvimento do paciente e seus familiares e melhora no autocuidado e em limitações, como a falta de acesso à infraestrutura necessária, sensação de desconforto com a tecnologia, preocupações com a segurança ou desejo de ser atendido pessoalmente, entre outras.*

### Conclusão

*Conclui-se que a teleconsulta de Nutrição possui potencial promissor durante um período de pandemia e deve ser capaz de superar os desafios do isolamento social, no sentido das possíveis limitações na coleta de informação e de dados. Estudos futuros poderão elucidar, por meio das experiências dos profissionais, as vantagens e as limitações, para que sejam possíveis recomendações mais assertivas e ajustes para qualificar a teleconsulta de Nutrição.*

**Palavras-chave:** COVID-19. Nutricionista. Consulta Remota.

## INTRODUCTION

At the end of 2019, the Severe Acute Respiratory Syndrome Coronavirus 2 (SARS-CoV-2), responsible for the disease named Corona Virus Disease (COVID-19), was identified as the causative agent of a series of pneumonia cases in the city of Wuhan, China [1]. The Brazilian Ministry of Health declared, through Ordinance No. 188, dated February 2020, *Emergência de Saúde Pública de Importância Nacional* (ESPIN, Public Health Emergency of National Importance) on account of SARS-CoV-2 infection; the first documented case of SARS-CoV-2 in this country occurred on February 25 of the same year [2].

Social isolation was one of the main measures to contain the pandemic, with the objective of keeping people inside their homes to reduce the circulation and consequent spreading of the virus. Home confinement for long periods, including for work and study, can increase individuals' stress level, reduce physical activity, increase alcohol and tobacco use and the exposure time to screens, and directly affect eating habits. All of these are behaviors that can have negative impacts on individuals with chronic Non-Communicable Diseases (NCDs), such as diabetes, hypertension, malignancies, malnutrition, obesity, which, in turn, are associated with COVID-19 worse outcome and higher mortality [3].

In this connection, health teleconsultation can be an option in the treatment of different diseases and in the care of the individual and the population, including nutritional care. In addition to Nutrition, other health professions have adopted teleconsultation practices in Brazil: Medicine (CFM Resolution No. 1643/2002), Speech Therapy (CFFa Resolution No. 580/2020), Nursing (COFEM Resolution No. 634/2020), Dentistry (CFO Resolution No. 226/2020), Physiotherapy and Occupational Therapy (COFFITO Resolution No. 516/2020) [4-8].

Nutritional assistance through teleconsultation has been authorized by the *Conselho Federal de Nutricionistas* (CFN, Federal Council of Nutritionists) initially by Resolution No. 646, dated March 3, 2020 which suspended until August 31, 2020, the provisions of article 36 of the *Código de Ética e Conduta do Nutricionista* (CECN, Code of Nutritionist Ethics and Conduct). Article 36 of CFN Resolution No. 599, dated February 25, 2018 [10], states: "It is the duty of the nutritionist to carry out in-person consultation, nutritional assessment and diagnosis of individuals who are under the nutritionist's responsibility". Considering the consequences of social isolation required as a preventive measure for COVID-19 and the need for nutritionists to continue providing nutritional assistance, the CFN decided, exceptionally, to suspend the provisions of the same Article until February 2, 2021, through Resolution No. 660, dated August 21, 2020 [11]. It is noteworthy that nutritional guidance and monitoring could already be carried out electronically, and the rest of the CECN was maintained [10]. Thus, on October 2, 2020, the CFN issued Resolution No. 666, in order to define and set rules on teleconsultation as a way to carry out the Nutrition consultation through Information and Communication Technologies (ICTs) during the Covid-19 pandemic and established the National Register of Nutritionists for Teleconsultation (e-Nutritionist) [12]. On February 11, 2021, the CFN published Resolution No. 684, which allowed nutritionists to provide e-nutritional assistance until declaration of the end of the pandemic by the World Health Organization (WHO) [13].

The Greek prefix "tele" or "telo" means "at a distance"; thus, Nutrition teleconsultation can be understood as "Nutrition consultation at a distance". The practice of teleconsultation in Nutrition requires the same compliance with regard to the profession standards of conduct, as requires in the execution of services in the face-to-face modality. Nutritionists must complete the National Register of Nutritionists for Teleconsultation (e-Nutritionist), on the CFN website, before starting their appointments. Within the scope of professional practice, teleconsultation is defined as the nutrition consultation performed remotely, mediated by ICTs, with synchronous communication between nutritionist and patient/client/user located in different geographic spaces, always maintaining a private and confidential contact. The e-Nutritionist consists of an online system directory of the National Registry of Nutritionists for Teleconsultation, which purpose is to allow citizens to verify if the nutrition professional is properly registered [12].

Adequate nutritional status for patients affected by COVID-19 is important for helping them to fight the virus and also to control pre-existing diseases [14,15]. Early nutritional care can improve the prognosis for many diseases. During this period, several outpatient health services were closed down and elective procedures postponed [14]. Thus, to allow for the continued provision of health services, many nutritionists started to use teleconsultation [14]. However, studies reporting the ethical aspects and Nutrition teleconsultation techniques adopted during COVID-19 in Brazil are not yet available. They are important both to guide the nutritionists' performance and for patients receiving the treatment. Given this context, the objective of this study was to identify, summarize and review the main scientific articles and legal aspects of Nutrition teleconsultation.

## METHODS

Narrative review and document analysis were performed. The search period was between March and April 2021, in the PubMed, Scopus and Lilacs databases with the following descriptors used alone or

combined: COVID-19; SARS-CoV-2; COVID-19 pandemic; nutrition; dietitians; telenutrition; virtual nutrition consultation; telehealth; telemedicine; teleconsultation; remote consultation; virtual online consultation, in English and Portuguese, without the use of any filters. The inclusion criteria were constituted by articles that dealt with the ethical and technical aspects of Nutrition teleconsultation, in all age groups, and articles that pointed out potential advantages and limitations of this type of care. Articles that did not address the topic of interest were excluded.

Initial screening of article titles and abstracts was performed to identify eligibility criteria. When the information available in the titles and abstracts was insufficient, the articles' full text was reviewed; and data on the ethical and technical aspects involved in the nutritionist activity through teleconsultation, was extracted from the selected articles. An instrument developed by the authors was used to simplify, summarize and organize the findings, so that each study's relevant information would be contained in one page informing: author's name, year of publication, type of study, objectives, main results and conclusions. Data were then organized in a Microsoft Excel 2010® document (Microsoft Corporation, Washington, USA). After compiling the data from the articles, this material served as a support for the writing of the text. All steps were performed independently by the two authors and compared to verify agreement.

A documentary analysis was carried out on the teleconsultation on the Nutrition theme on the websites of the *System Conselho Federal de Nutricionistas* (CFN, Federal Council of Nutritionists), *Conselho Regional de Nutricionistas* (CRN, Regional Council of Nutritionists) (<https://www.cfn.org.br/>), CRN1 (<http://www.crn1.org.br>), CRN2 (<http://www.crn2.org.br>), CRN3 (<http://www.crn3.org.br>), CRN4 (<http://www.crn4.org.br>), CRN5 (<http://www.crn5.org.br>), CRN6 (<http://www.crn6.org.br>), CRN7 (<http://www.crn7.org.br>), CRN8 (<http://www.crn8.org.br>), CRN9 (<http://www.crn9.org.br>), CRN10 (<http://www.crn10.org.br>) and the *Associação Brasileira de Alimentação e Nutrição* (ASBRAN, Brazilian Association of Food and Nutrition) (<https://www.asbran.org.br/>) in order to capture resolutions, ordinances, scientific articles, notes, booklets and guides.

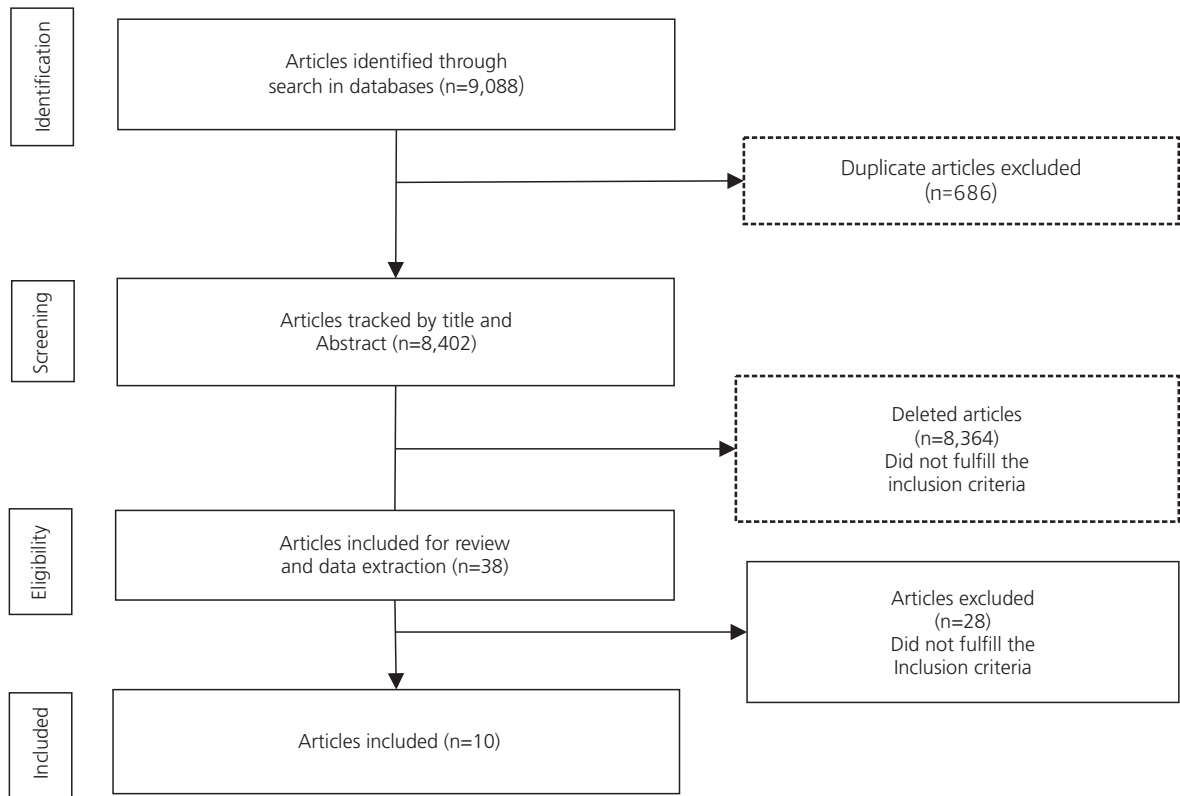
It is noteworthy that the main difference between documentary and bibliographic research concerns the nature of the documents sources that may denote different meanings, even according to the reader's knowledge [16]. For example, in the field of education, documentary sources are the class diary, teaching plan, political pedagogical project, etc. In the health area, the patient's records, ordinances, resolutions, action plans, municipal health plans, etc. are mentioned.

In the results and discussion section, we will present the results of the narrative review search and document analysis and the main topics covered in the selected articles, resolutions and ordinances about the ethical and technical aspects of Nutrition teleconsultation.

## RESULTS AND DISCUSSION

A total of 9,088 articles were found in the investigated databases. However, after applying the eligibility criteria, 10 articles were selected/included as a basis for writing the narrative review. This high number of articles obtained in the initial search was due to the use of the terms telemedicine, COVID-19; SARS-CoV-2 and COVID-19 pandemic. The selection flowchart of the articles used in the narrative review is shown in Figure 1. It is important to note that, to date, no scientific article reporting results on Nutrition teleconsultation in Brazil has been found; therefore studies from other countries were used.

Fifteen documents were found in the sites consulted for document analysis, of which: eight resolutions, one orientation booklet, a guide for the performance of nutritionists, a note containing good practices for the performance of the Nutritionist and of the Nutrition and Dietetics Technician during the pandemic, a guidance manual, two laws and a decree, as presented in Chart 1.



**Figure 1** – Narrative review studies selection flowchart.

**Chart 1** – Documents, subjects and websites of materials used in document analysis.

Document	Subject	Website
Law No. 6,583, dated October 20, 1978	Creates the Federal and Regional Councils of Nutritionists, regulates their functioning, and sets other provisions	<a href="https://www.cfn.org.br/index.php/legislacao/leis/">https://www.cfn.org.br/index.php/legislacao/leis/</a>
Decree No. 84,444, dated January 30, 1980	Regulates Law No. 6583, dated October 20, 1978, which creates the Federal and Regional Councils of Nutritionists, regulates their operation and sets other provisions	<a href="https://www.cfn.org.br/index.php/legislacao/leis/">https://www.cfn.org.br/index.php/legislacao/leis/</a>
Law No. 8,234, dated September 17, 1991	Regulates the profession of nutritionist and determines other measures	<a href="https://www.cfn.org.br/index.php/legislacao/leis/">https://www.cfn.org.br/index.php/legislacao/leis/</a>
ASBRAN Guidebook, 2014	Systematization of Nutrition Care. Brazilian Nutrition Association	<a href="https://www.asbran.org.br/storage/arquivos/PRONUTRI-SICNUT-VD.pdf">https://www.asbran.org.br/storage/arquivos/PRONUTRI-SICNUT-VD.pdf</a>
CFN Resolution No. 594, dated December 17, 2017	Provides rules for the registration of clinical and administrative information of the patient, under the responsibility of the nutritionist, related to nutritional assistance, in the patient's physical (paper) or electronic medical record	<a href="https://www.cfn.org.br/wp-content/uploads/resolucoes/Res_594_2017.htm">https://www.cfn.org.br/wp-content/uploads/resolucoes/Res_594_2017.htm</a>
CFN Resolution No. 600, dated February 25, 2018	Provides rules for the definition of the nutritionists' areas of activity and their attributions, indicates minimum numerical reference parameters, by area of activity, for the effectiveness of the services provided to society and determines other measures	<a href="https://www.cfn.org.br/wp-content/uploads/resolucoes/Res_600_2018.htm">https://www.cfn.org.br/wp-content/uploads/resolucoes/Res_600_2018.htm</a>
CFN Resolution No. 599/18, dated February 25, 2018	Provides rules for the Nutritionist Code of Ethics and Conduct and determines other measures	<a href="http://www.crn3.org.br/uploads/repositorio/2018_10_23/01.pdf">http://www.crn3.org.br/uploads/repositorio/2018_10_23/01.pdf</a>

**Chart 1** – Documents, subjects and websites of materials used in document analysis.

2 of 2

Document	Subject	Website
CFN Resolution No. 646, dated March 18, 2020	It suspends until August 31, 2020 the provisions of article 36 of CFN Resolution No. 599, of February 25, 2018, which approves the Code of Ethics and Conduct for Nutritionists	<a href="https://www.cfn.org.br/wp-content/uploads/resolucoes/Res_646_2020.html">https://www.cfn.org.br/wp-content/uploads/resolucoes/Res_646_2020.html</a>
CFN Note, March 20, 2020	Good Practices for the performance of the Nutritionist and the Technician in Nutrition and Dietetics during the New Coronavirus Pandemic (COVID19)	<a href="https://www.cfn.org.br/wpcontent/uploads/2020/03/nota_coronavirus_31.pdf?fbclid=IwAR1uFr_nluNIRDQlpmlViesbma31c_gFhu0PiSUY2BT530IP5HECv4eJ8">https://www.cfn.org.br/wpcontent/uploads/2020/03/nota_coronavirus_31.pdf?fbclid=IwAR1uFr_nluNIRDQlpmlViesbma31c_gFhu0PiSUY2BT530IP5HECv4eJ8</a>
CRN3 Booklet, 2020	CRN3 Guidance booklet for nutritional assistance without attendance - Nutritional assistance, assessment and off-site diagnosis during the new coronavirus pandemic	<a href="http://www.crn3.org.br/uploads/BaseArquivos/2020_05_07/Cartilha-Digital_Etica20_final.pdf">http://www.crn3.org.br/uploads/BaseArquivos/2020_05_07/Cartilha-Digital_Etica20_final.pdf</a>
CRN-4 Guide RJ/ES, 2020	Guide for the role of nutritionists and TND in the COVID-19 pandemic	<a href="http://crn4.org.br/noticia/500/CRN-4+lanca+guia+para+orientacao+profissional+durante+a+pandemia+">http://crn4.org.br/noticia/500/CRN-4+lanca+guia+para+orientacao+profissional+durante+a+pandemia+</a>
CFN Resolution No. 656, dated June 15, 2020	Provides rules for the dietary prescription, by the nutritionist, of food supplements and determines other measures	<a href="https://www.in.gov.br/en/web/dou/-/resolucao-n-656-de-15-de-junho-de-2020-262145306">https://www.in.gov.br/en/web/dou/-/resolucao-n-656-de-15-de-junho-de-2020-262145306</a>
CFN Resolution No. 660, dated August 21, 2020	It suspends until February 28, 2021 the provisions of article 36 of CFN Resolution No. 599, of February 25, 2018, which approves the Code of Ethics and Conduct for Nutritionists	<a href="https://www.cfn.org.br/wp-content/uploads/resolucoes/Res_660_2020.html">https://www.cfn.org.br/wp-content/uploads/resolucoes/Res_660_2020.html</a>
CFN Resolution No. 666, dated September 30, 2020	It defines and rules teleconsultation as a way to carry out the Nutrition Consultation through information and communication technologies (ICTs) during the Covid	<a href="https://www.in.gov.br/en/web/dou/-/resolucao-n-666-de-30-de-setembro-de-2020-280886179">https://www.in.gov.br/en/web/dou/-/resolucao-n-666-de-30-de-setembro-de-2020-280886179</a>
CFN Resolution No. 684, dated February 11, 2021	Professionals may provide on-line nutritional assistance until the end of the pandemic declared by the World Health Organization	<a href="https://www.cfn.org.br/wp-content/uploads/resolucoes/Res_684_2021.html">https://www.cfn.org.br/wp-content/uploads/resolucoes/Res_684_2021.html</a>

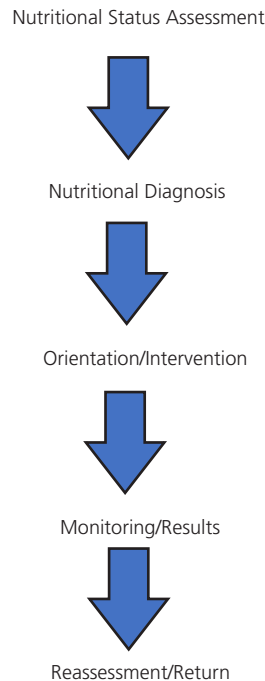
Note: Prepared by the authors, based on document analysis, 2021 [9-13, 17, 19, 23, 26-29].

## NUTRITION TELECONSULTATION IN TIMES OF COVID-19

According to documents from the CFN/CRN System, in the Nutrition teleconsultation, the professional must inform the patient/client/user of the possibilities, limitations and risks of its performance by referred data which fragility has been accepted, exceptionally, given the circumstances of social isolation imposed [12,17].

In the teleconsultation, the nutritionist must value the quality of nutritional care, which includes assessment, diagnosis, intervention, monitoring of results and reassessments (Figure 2). In addition to meeting other applicable legal and regulatory standards and other provisions of the CECN, among which Articles 21, 37, 38 and 56 stand out [10].

Appropriate planning and the use of adequate tools are essential to minimize the delay in starting nutritional therapy for current and new patients in times of pandemic. In this connection, a Canadian publication proposed four steps for the success of a nutrition teleservice: Step 1: dissemination of online services – maintaining dissemination in social media is indicated as being necessary for the nutritionist and other health professionals in order to be able to connect with new and existing customers, as well as to promote accurate information about health and healthy behaviors; Step 2: preparation – preparation for the virtual consultation should involve the following: (a) verification of technical and ergonomic needs; (b)



**Figure 2** – Stages of nutritional care in Nutrition teleconsultation [17, 21, 22, 23].

consultation of medical records; (c) assurance of data confidentiality; (d) establishment of a suitable setting; (e) pre-consultation preparation and (f) presentation of prices and billing; Step 3: connection – when talking to customers, it is important to be in a quiet and private area; Step 4: follow-up – it is important to build a relationship with the patient during and after the teleconsultation. Active listening and empathy are essential for building a healthy interaction for long-term follow-up [18].

From a legal standpoint, the recommendations of the Canadian authors on the planning and use of tools in Nutrition teleconsultation are in accordance with what is presented in the materials published by the CFN/CRN System and, therefore, consistent with the performance of the nutritionist in Brazil [12, 17, 18].

In the situation of Nutrition teleconsultation linked to clinics, hospitals, Long-Stay Institutions for the Elderly (LSIE), outpatient clinics, gyms, sports clubs, health plans, the *Sistema Unico de Saúde* (SUS, Unified Health System), among others, the internal criteria for operationalization must be complied with as well as the consultations registration for this modality, according to the institution's coronavirus contingency plan, and in agreement with the multidisciplinary team [17].

The nutritional professional must also keep records of physical or electronic medical records of the teleconsultations, in accordance with the clinical protocols and CFN Resolutions No. 594/2017 and No. 600/2018 [19,20]. Therefore, the medical records must be preserved as follows: (1) Paper records: for a minimum period of 20 years after the last entry, if they were not electronically filed in optical, microfilmed or digitized media; (2) Electronic medical records: permanent custody, which can be eliminated 20 years after the last entry, keeping the storage system up to date based on new technologies

According to the CRN3's Guidebook for remote nutritional assistance, dietary anamnesis is a valuable time-point in the nutritional consultation, as it is through this process that the relationship between the individual assisted and the nutritionist will be built, when the latter becomes aware of the aspects that influence the patient's dietary pattern. It is essential to emphasize to the client/patient/user that all the answers provided will directly impact the development of their food plan and nutritional guidelines [22].

The assessment of nutritional status is performed by analyzing direct data (physiological, clinical, biochemical, anthropometric, among others) and indirect data (food consumption, socioeconomic conditions and food availability, among others). Therefore, even in the impossibility of anthropometric assessment, this other information should be used in nutritional assessment. The nutritionist will be able to work with the direct and indirect data reported by the patients themselves, while biochemical and anthropometric exams (skinfolds, perimeters, diameters, among others) shall be optional, due to the restrictive measures adopted [21-23].

In case the self-reported anthropometric data method is selected, it is the nutritionist's duty to guide and instruct the patient, or legal guardian, to correctly obtain measurements such as: body weight, height, perimeters (optional and if a measuring tape is available) and photos (optional), which can be the patient's front, back and profile image) and the limitations of these assessments must be clarified to the patient; such as the possibility of overestimation or underestimation of the reported data. Such limitations may be related to the evaluator's skill level, access to equipment, patient cooperation to obtain measurements, in addition to the adequate request for data related to specific age groups, such as children and the elderly. Regarding the registration of images, it should be noted that these should only be used to assist the professional in the nutritional assessment and that under no circumstances they may be disclosed, as determined by Article 58 of the CECN [10,21,23].

When preparing the feeding plan, it is essential that the nutritionist observes the data collected in the anamnesis about eating habits. It is also necessary to consider the pandemic situation, when food purchase may be hampered due to social isolation and other contingencies of this critical period, such as higher food costs [22].

There is no restriction, so far, for the way Brazilian nutritionists will interact with their patient/client/user (phone service, videoconference, video call, individual or group care) [22]. Group teleconsultations can be carried out provided that the applicable legal and regulatory standards and other CECN provisions are complied with [10].

A survey conducted in Israel with nutritionists in 2020 [14] found that the majority (57.0%) of respondents indicated that they had had no experience in conducting telephone consultations before the COVID-19 pandemic. More than half (65.4%) indicated that the telephone consultation had a lower quality than the usual face-to-face consultation, while 25.2% found the two techniques as being similar. Only 3.3% found telephone counseling superior to face-to-face counseling. The most frequently reported difficulties in using telephone counseling included technical difficulties (56.2%), followed by lack of anthropometric measurements (25.2%), interpersonal or communication difficulties (14.6%) and difficulties arising from performing the consultation in the home setting (2.4%). The percentage of nutritionists who reported previous experience with video call counseling was 55.1%. Less than half (48.4%) indicated that the video consultation was inferior to the face-to-face consultation, while 43.9% indicated the two techniques as being similar. Only 4.4% cited video call counseling as superior to face-to-face counseling. The most frequent difficulties reported in using online counselling were technical difficulties (46.9%), followed by lack of anthropometric measurements (28.1%), interpersonal or communication difficulties (19.3%) and in conducting the consultation in the home setting (2.1%) [14].

According to the 2019 Brazil Internet Steering Committee (CGIbr) survey (*TIC Domicílios*), this country had about 134 million Internet users, which is equivalent to 74% of the population aged ten or over. Despite the increase in the number of Web users in recent years, one in four people did not use the network in Brazil which represents approximately 47 million non-users. It is worth noting that 40 million had completed elementary school, and almost all – 45 million – belonged to classes C and DE, an indication



of the close relationship between digital and social inequalities in the country. About 35 million people in urban areas (23%) and 12 million in rural areas (47%) remain disconnected. Classes DE population includes almost 26 million (43%) of non-users, with the cell phone being the main device used to access the Internet (99%). Note that many Brazilians lack access and quality for online learning, video streaming and telehealth. Hence the need to develop public policies and government actions to raise the level of Internet access and to seek meaningful connectivity for all [24].

With regard to nutritional care through the SUS, in 2020 the Action Plan for Monitoring and Evaluation of the Digital Health Strategy for Brazil 2019-2023, of the Program Conecta SUS and the institution of the National Health Data Network were issued. Connect SUS enables the digital inclusion of users and fosters the Digital Health market [25].

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## **REQUEST FOR LABORATORY EXAMS AND PRESCRIPTION OF FOOD SUPPLEMENTS IN THE NUTRITION TELECONSULTATION**

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The request for laboratory exams must be carried out, if necessary, using a nutritional prescription, digitized, stamped, signed or with a certified digital signature, dated and identified containing the patient/client/user and nutritionist's data (full name, CRN registration number and means of contact, such as email and telephone). The request may be forwarded electronically, with confirmation of receipt, at the time of consultation or later; and must be properly registered in the medical records [15,21,23].

In case of availability of the patient/client/user's updated laboratory exams, these can be used to support the nutritional diagnosis, even if requested by another health care professional, and must be entered in the patients' medical record [12]. The nutritionist must exclusively request the laboratory exams necessary for the assessment, prescription and nutritional evolution of the client/patient, considering diagnoses, reports and opinions of the other members of the multidisciplinary team, and establishing with them, whenever relevant, other laboratory exams; always complying with the principles of bioethics and requesting laboratory exams which methods and techniques have been scientifically approved [23].

Questions that help provide Information usually obtained in the nutrition anamnesis, such as socioeconomic and cultural characteristics, history of diseases, medications and supplements currently in use, gastrointestinal symptoms, daily and physical activity routine, eating habits, may be forwarded in advance to be answered by the client/patient. However, the nutritionist must validate the responses of the nutrition anamnesis during the teleconsultation in a welcoming way, giving the patients an opportunity to express themselves [22].

Food supplements regulated for dietary prescription by the nutritionist are listed in Resolution No. 656/2020, according to the usual conduct and must be prescribed after nutritional assessment and diagnosis; clearly structured and presented for proper understanding [26]; dated and identified with patient and nutritionist's data (full name, registration number and CRN jurisdiction and contact information, such as email and telephone) and digitized with the nutritionist's manual signature or issued with a certified digital signature [12].

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## **PROFESSIONAL ACTIVITIES: DISCLOSURE, FEES AND GENERAL CONDITIONS IN NUTRITION TELECONSULTATION**

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The entities representing the nutritionists' class have different purposes, responsibilities and range of action. The CFN/CRN System is responsible for guiding, ruling and supervising professional practice. The

Union, on the other hand, is the entity that advocates the rights and the collective or individual interests of the category [23].

Chapter IV of the CECN, which deals with the Means of Communication and Information, establishes conditions for the use of strategies for communication and information to the public and for disseminating information on the nutritionist's professional activities. In this connection, Articles 56 and 57 stand out. They deal with the necessary care in the strategies used for the dissemination of information, which should not generate unfair competition; in addition fees should not be used as a form of advertising for the nutritionist or workplace [10]. Also in CECN, Chapter III - Professional Conduct and Practices, articles 50 and 51, respectively, state that "The nutritionist is prohibited from charging or receiving fees and benefits from individuals and communities assisted in institutions that provide public services in any area of "activity", and "The nutritionist is prohibited from charging or receiving fees from individuals or collectives for procedures already compensated in the health plan contract by which individuals or collectives are being assisted". These articles are applicable both to the public health service, as well as to the supplementary health [10].

In relation to the amount charged for the private consultation, the nutritionist should verify the fees list of the Nutritionists Union in their region of operation and check the amounts recommended. In the absence of a local Union, the nutritionist may consult the *Federação Nacional de Nutricionistas* (FNN, National Federation of Nutritionists) for clarification [12,17,22,23]. Further, in the case of private consultations, these fees and the method of payment must be previously agreed upon between the parties. With regard to Supplementary Health, the nutritionist and the user must contact the health plan operators to verify the coverage of telehealth services, which includes the teleconsultation [12].

The *Guia para Atuação de Nutricionistas e Técnicos em Nutrição e Dietética* (TND, Guide for the Performance of Nutritionists and Nutrition Technicians and Dietetics) in the Covid-19 Pandemic drawn by CRN4 provides practical guidelines addressing fees and the form of dissemination of teleconsultation information, which must be based on professional ethics. Nutritionists must identify themselves, informing their profession, name and registration number in the Regional Council of Nutritionists in their respective jurisdiction. In addition, nutritionists can share their professional experience, area of expertise and titles they may have, clarifying how they provide care, the steps and services offered, consultation time and continuity of nutritional care [23]. As in the face-to-face consultation, the teleconsultation time should be sufficient to collect all the information necessary for adequate nutritional treatment and, therefore, defined by the professional who provides the service.

## **NUTRITION TELECONSULTATION PLATFORMS**

The nutritionist is responsible for indicating how the interaction with the patient/client/user will be deployed. It is essential that the chosen platform ensures data security and confidentiality revealed during the teleconsultation. To that effect, it is important to assess with the patient/client/user the degree of familiarity with ICTs and understand which tool best suits the individual, as some platforms require applications. The choice of the tool must be appropriate so that the consultation can run smoothly and without interruptions. The use of headphones can contribute to the confidentiality of the reported information [23-24].

As for the different applications that can be used for video conferencing, some examples are: Apple FaceTime®, Facebook Messenger video chat®, Google Video Hangouts®, WhatsApp video chat®, Zoom® and Skype®, as indicated in Farid's work [18].

In order to increase the success and adherence of patients to the Nutrition teleconsultation in the available platforms, some instructions and precautions were suggested by Kaufman-Shriqui *et al.* [14], including minimizing ambient sounds, speaking clearly, taking frequent breaks to clarify the patient's

questions and, if using the online platform, keeping the camera directly in front of the patient's face at eye level and dressing professionally.

*Conselho Federal de Nutricionistas*, Resolution No. 666, which defines and set rules on teleconsultation as a way to carry out Nutrition teleconsultation through ICTs, includes some of these suggestions and additional ones such as: carrying out service teleconsultation in a private setting, without the presence of other people, wearing appropriate clothing; teleconsultation should be performed in an environment without any elements that may influence the service, promotion of food products brands, food supplements, herbal medicines, utensils, equipment, services, laboratories, pharmacies, companies or industries related to food and nutrition activities, in order not to direct selections, and to preserve the autonomy of individuals and communities and the services trustworthiness; the parties should not be able to record the teleconsultation thus ensuring the information confidentiality, so that audios, images, videos and screen captures cannot be disclosed or shared, even if authorized by the client/patient/user; in the case of teleconsultation with minors, the nutritionist must request authorization from the guardian, and must comply with the right to individuality and intimacy of the child and adolescent, under the terms of current legislation; in addition to agreeing with the client/patient/user on how to continue nutritional assistance; and not use the data, files and images provided by the client/patient/user for any other purpose [12]. Thus, it is clear that some of the instructions given by international authors are covered by the aforementioned Resolution, which manages to inform on the most important guidelines to nutritionists at the time of teleconsultation.

## **NUTRITION TELECONSULTATION FOR PEOPLE ACROSS THE NATIONAL TERRITORY OR RESIDENTS ABROAD**

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*Conselho Federal de Nutricionistas*, Resolution No. 660/2020 does not restrict nutritionists from serving only patients/clients/users in the jurisdiction where they maintain their registration [11].

As to the service in another country, Law nº 8.234/1991 [27] which regulates the Nutritionist profession, stipulates that the Law will only be effective in the Brazilian territory, specifying the activities that the Nutritionist is qualified to provide to the country's population. Likewise, the guiding, regulating and inspecting CFN competency established in Law no. 6.583/1978 [28], regulated by Decree no. 84.444/1980 [29], is restricted to the national territory.

The Nutritionist, that is, the professional with active registration in the CRN, who is in another country and intends to provide service to the patient/client/user in Brazil or whoever dwells in Brazil and intends to provide service to the patient/client/user in another country, must comply with the legislation of the country involved. International service has legal implications, runs the risk of not meeting the expectations of the patient/client/user and can also be characterized as an illegal exercise of profession/occupation in that country. Therefore, caution is recommended when exploring services involving parties in different countries.

## **ADVANTAGES AND LIMITATIONS OF NUTRITION TELECONSULTATION**

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Teleconsultation can allow an increase in the offer of services [30]. However, its potential limitations and challenges for the proper implementation of Nutrition teleconsultation should also be acknowledged, as shown in Chart 2.

**Chart 2** – Presentation of the potential advantages and limitations of the Nutrition teleconsultation.

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**Potential Advantages**

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Increase in the number of consultations carried out by nutritionists;  
 Increase in nutritionist efficiency and productivity in rural and urban areas;  
 Better monitoring of non-communicable chronic diseases;  
 Reduced waiting time to consult with a nutritionist;  
 Reduced absenteeism and abandonment of nutritional treatment;  
 Decrease in costs for the professional (room rental, employees, displacement, loss of productivity with displacement, for example) and the patient/client/user;  
 Possibility of more clinical discussions between professionals (which sometimes are not possible due to incompatible shifts or schedules);  
 Increased contact/bond between professional and patient/client/user;  
 Increased involvement of the patient/client/user and their families in their treatment and improvement in self-care;  
 Reduction in the spread of infectious diseases, such as COVID-19, for example.

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**Potential Limitations**

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Greater care to protect the privacy and security of patient/customer/user information;  
 Cognitive, cultural, educational, and logistical aspects may limit the patient/client/user to some types of services;  
 Required ICTs may be unavailable;  
 Interference in professional communication with patient/client/user, due to reduced perception of non-verbal language;  
 Lack of professional skills with ICTs;  
 Not evaluating some physical signs of nutritional deficiencies and not being able to carry out an anthropometric assessment;  
 Possibility that some anthropometric self-measured data are underestimated or overestimated by the patients/clients/users  
 Difficulty in supervising professional practice;  
 Need for appropriate space/place to provide the service.

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Note: Prepared by the authors based on the narrative review, 2021 [14, 30-34, 37, 38].

The use of teleconsultation, in general, has potential advantages, including reduced healthcare costs, improved access to healthcare services, increased patient compliance and satisfactory results [30,31,32]. Likewise, teleconsultation can eliminate geographic barriers and facilitate access for patients around the world [31,32].

Teleconsultation through online platforms can also create unique opportunities to learn more about patients [33]. For example, nutritionists may ask to see the patient's kitchen/pantry, food items or dishes, and check medications and supplements, which name patients sometimes don't remember in a face-to-face consultation. Nutritionists can also allow family members from different locations to participate in the consultation [14].

In the study by Kaufman-Shriqui *et al.* [14], nutritionists rated the overall quality of the telephone and online consultation as relatively high. However, at least half of the nutritionists indicated that teleconsultation is inferior to face-to-face consultation. It appears that teleconsultation will not entirely replace face-to-face consultations, although it can serve as a vital complement to patient care in certain circumstances [32].

Limitations of teleconsultation, as reported by patients, include lack of access to the necessary infrastructure, feeling uncomfortable with the technology, concerns about safety, or a desire to be personally assisted by the professionals [32,34]. Thus, the implementation of teleconsultation can be a challenge, and some questions regarding its acceptability by patients and professionals are still unanswered [30].

Some of these challenges were also reported by nutritionists in the study by Kaufman-Shriqui *et al.* [14]. The most prevalent telephone or online platforms difficulties reported were technical, lack of anthropometric measurements and difficulties in interpersonal communication [14-31].

Furthermore, the level of comfort and general health literacy are important factors that should be considered in strategies to increase the use of teleconsultation [31]. Other important tools that can improve teleconsultation services by a nutritionist are health devices such as smartwatches, electronic scales and

continuous glucose monitoring [31,35,36]. Maintaining patient privacy should be assured when using electronic data transfer [32].

In a survey of nutritionists and physicians in New York, during the pandemic, differences were observed in the type of referral in more than half of respondents compared to what is usual. Most professionals identified an increase in referrals aimed at loss or maintenance of body weight, which is not surprising since obesity and its comorbidities were considered risk factors for morbidity and mortality related to COVID-19 [37]. Furthermore, social distancing imposed to mitigate the spread of COVID-19 may increase the risk of obesity and its health consequences [37]. This is due to irregular eating patterns, poor quality diet, inadequate physical activity, excessive screen time, interruption of sleeping routines, higher stress levels and social immobility, which likely evolved or were exacerbated during the pandemic, at least in some populations [36, 37].

The study by Brunton *et al.* [38], showed that the application of telehealth to nutritional care, carried out with the use of technology, can contribute to improve results and lower the burden on health resources. A survey was conducted with approximately 200 nutritionists from hospitals and clinics in the United States of America (USA), who reported increased use of teleconsultation for nutritionally at-risk patients during the pandemic. They also suggested that the use of this modality of care had positive results for patients, and some found it important to continue post-pandemic Nutrition teleconsultations. According to the authors of this study, nutritional care through telehealth technology has the potential to improve the care provided to patients, reducing absenteeism rates and increasing adherence to treatment, as well as improving patients' health outcomes. [38]. In addition, it is possible that the acquisition of knowledge and training for nutritionists be the main keys to the successful implementation of the Nutrition teleconsultation [30].

## CONCLUSION

As seen, the conditions for Nutrition teleconsultation are clear. They must preserve the quality characteristics of face-to-face care and be able to overcome the challenges of physical distance, considering the potential limitations in the collection of information. Nutritionists must be diligent in obtaining, keeping and using the information collected in the teleconsultation.

It is essential that the professional guarantees the reliability of the information; that he/she has an appropriate place to establish contact with the patient, without interference from other people and through a secure internet connection. The nutritionist must be creative, empathetic and ethical to be successful in teleconsultations, and should communicate with clarity, objectivity and scientific spirit, including alerting the patient with regard to potential difficulties in data collection.

The impossibility of evaluating some physical signs of nutritional deficiencies and taking the anthropometric measurements, for example, should be explained to the patient, including remembering the possibility of performing such assessment later, at a more appropriate time. The difficulty in reading non-verbal language (gestures, facial expressions, way of sitting), which express the empathy of the person with regard to the service, may also be present due to the inherent conditions of teleconsultation. In this case, the nutritionist's experience and his/her ability to listen to the patient may be fundamental in establishing an active and empathetic connection.

If properly conducted, teleconsultation can be effective for the patient and may assure access to specialized nutritional care for patients, clients and users who need such care. It is also important for the nutritionist to master the chosen ICTs so that the consultation runs without interruptions and ensures the digital inclusion of the patient/client/user, allowing the qualification of the Nutrition teleconsultation, complying with the ethical principles of the profession.

The quality and effectiveness of Nutrition teleconsultations in Brazil are still unknown. Future studies may elucidate, through professional experiences, the advantages and limitations of this model of care in Brazil and the effectiveness of teleconsultation so that more assertive recommendations and adjustments for the qualification of Nutrition teleconsultation be possible.

## CONTRIBUTORS

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