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Telenutrition in the care of adults and elderly in Primary Health Care during the COVID-19 pandemic

Telenutrição no atendimento de adultos e idosos na Atenção Primária à Saúde durante a pandemia de Covid-19

Abstract

Introduction: Faced with the social distancing recommendations adopted during the Covid-19 pandemic, nutritional assistance began to include telenutrition in the Primary Health Care routine. **Objective:** To evaluate nutrition telecare in Primary Health Care during the Covid-19 pandemic in the dimensions of care guidelines and technology management. **Methods:** This is a descriptive study with adult and elderly users in nutritional telecare at a Primary Health Care Unit in Southern Brazil between March 2020 and March 2021. Data were collected from electronic medical records and telephone interviews. The socioeconomic characteristics of the participants were analyzed, as well as the assessment of nutrition teleconsultation and dietary and lifestyle changes resulting from nutritional monitoring, with anthropometric data obtained by self-report. Descriptive statistics were used to calculate absolute and relative frequency, mean, and standard deviation. **Results:** A total of 100 users were interviewed, 53.0% of whom were adults, most of whom were women (72.0%) with white skin color (85.9%), and completed secondary education (44.0%). Excess weight reached 78.6% of people. The majority denied difficulties in understanding nutritional guidelines (91.0%) or needing help to use technologies (81.0%). The user's assessment of the remote service was positive, pointing to an improvement in the quality of food (79.7%), in behavioral aspects (46.8%), and in the practice of physical activity (53.2%). **Conclusion:** Users presented a positive evaluation and good adaptation to the remote care method.

Keywords: Primary Health Care. Information Technology. Telenutrition. Telehealth.

Resumo

Introdução. Frente às recomendações de distanciamento social adotadas durante a pandemia de Covid-19, a assistência nutricional passou a incluir a modalidade de telenutrição na rotina da Atenção Primária à Saúde. **Objetivo.** Avaliar o teleatendimento de nutrição realizado na Atenção Primária à Saúde durante a pandemia de Covid-19, nas dimensões das orientações de cuidado e manejo de tecnologias. **Métodos.** Estudo descritivo com usuários adultos e idosos em teleatendimento nutricional de uma Unidade Básica de Saúde no Sul do Brasil, no período entre março de 2020 e março de 2021. Os dados foram coletados dos registros de prontuários eletrônicos e de entrevistas por chamada telefônica. Foram analisadas as características socioeconômicas dos participantes, bem como a avaliação da teleconsulta de nutrição e mudanças alimentares e de estilo de vida resultantes do acompanhamento nutricional, sendo os dados antropométricos obtidos por autorrelato. Utilizou-se estatística descritiva com cálculo de frequência absoluta e relativa, média e desvio padrão. **Resultados.** Total de 100 usuários entrevistados, sendo 53,0% adultos, a maioria mulheres (72,0%), de cor da pele branca

(85,9%) e ensino médio completo (44,0%). O excesso de peso atingiu 78,6% das pessoas. A maioria negou dificuldades para compreender as orientações nutricionais (91,0%) ou necessitar de ajuda para utilizar as tecnologias (81,0%). A avaliação do usuário acerca do atendimento por meio remoto foi positiva, apontando melhora da qualidade da alimentação (79,7%), nos aspectos comportamentais (46,8%) e na prática de atividade física (53,2%). **Conclusão.** Usuários apresentaram avaliação positiva e boa adaptação ao método de atendimento remoto.

Palavras-chave: Atenção Primária à Saúde. Tecnologia da Informação. Telenutrição. Telessaúde.

INTRODUCTION

Covid-19 is an infectious disease caused by the new coronavirus (SARS-CoV-2), which has, since 2019, caused thousands of deaths around the world.¹ In Brazil, 654,086 thousand deaths were attributed to the disease by 2022, aggravating the public health crisis in the country¹⁻³ and exposing the need to organize the health sectors to maintain care for the population.

Thus, one of the key points for coping with the pandemic has been strengthening Primary Health Care (PHC) in the care of respiratory symptoms and the continuity of PHC actions. The lack of validated diagnostic tools, therapeutic strategies, and prepared health systems put extreme pressure on health services, triggering significant changes in care flows.⁴⁻⁶

Due to Brazil's demographic and epidemiological transition, a high burden of chronic non-communicable diseases (NCDs). These diseases, commonly accompanied by PHC, have been associated with greater severity and lethality of Covid-19.⁷⁻¹¹ Nutritional assistance is essential in the prevention and treatment of modifiable risk factors for NCDs, and the continuity of its actions during the Covid-19 pandemic is fundamental.¹²

Thus, given the social distancing recommendations adopted by the Ministry of Health to minimize the spread of the virus,⁴ the Primary Health Care Units (PHU) began using Information and Communication Technology (ICT) to provide health care and safely maintain care activities for the population. Nutritional assistance had to reorganize its workflows, starting remote and telenutrition services in the care practice to welcome and meet the demands of users of the territory.¹³

Telenutrition involves the use, by a professional nutritionist, of ICT in the nutritional care process.¹⁴ Studies show that nutritional assistance through ICT has effects on lifestyle changes in patients with NCDs, triggering an improvement in eating habits, blood pressure, lipid, and glycemic control, and anthropometric parameters such as weight, waist circumference, and body mass index.¹⁵⁻²¹ In the PHC environment, dietary guidelines carried out through telenutrition proved to be effective for weight control and NCDs and for the prevention and management of malnutrition in the community environment.^{22,23}

Some studies are already being carried out to describe the patient's experience using ICT in health.²⁴⁻²⁷ The results demonstrate high user satisfaction with remote care, greater access to healthcare, reduction of transport barriers, cost reduction, time savings, and, above all, increased user empowerment regarding their health status, gaining more control over self-care.^{26,28-32}

Despite the optimistic results of some studies, in Brazil, mainly in Food and Nutrition, little literature is available on the perception and evaluation of the user with the remote service modality. This study aims to describe the results of evaluating PH Cusers on nutrition telecare during the Covid-19 pandemic in the dimensions of care guidelines and technology management.

METHODS

All adult and elderly patients who had at least one teleconsultation (phone call or video call) on nutrition at the healthcare unit between March 2020 and March 2021 accessed the service through referrals by professionals from the reference team or by spontaneous demand. This is a descriptive study with consecutive sampling, in which subjects who met the entry criteria were consecutively enrolled.³³

The established exclusion criteria were: users of the PHU Home Care Program whose teleconsultation had been done by the caregiver, users without consultation at the PHU before the pandemic, those clinically unable to answer the questionnaire at the time of the call, and the user who did not remember the nutrition consultation performed. Those

users who did not accept to participate in the research and those who did not answer the telephone call, even with attempts on alternate days and shifts, were considered losses.

The study was located at PHU in the central region of the city of Porto Alegre-RS, Brazil. This is a teaching assistance unit, part of the PHC network in the city, with a vital role in training, having in its teams students from the health area of the university and multidisciplinary and Family and Community Medicine residents. The territory covered has around 40,000 users and is characterized by areas contrasting significant socioeconomic vulnerability and a high socioeconomic level. In order to serve the population, in addition to the minimum Family Health Strategy (FHS) team, formed by a doctor, nurse, community health agent, and nursing technician, PHU has four expanded FHS teams, made up of other professionals from the multidisciplinary team, such as nutritionists, pharmacists, social workers, psychologists, and physical educators who support, complement and matrix the work developed by the minimum team.³⁴

To access the Nutrition teleconsultation, users were referred by professionals from the PHU multidisciplinary team through face-to-face case discussion with the unit's nutritionists, as well as requesting a teleconsultation on spontaneous demand through the PHU reception or by telephone. The Nutrition team organized the work schedule for the teleconsultations, which were initially carried out using the institution's cell phone in a specific room for adequate communication. Subsequently, these services began to be carried out using the 3CX application, which allows making and receiving phone and video calls through a computer in a call center equipped so that the maximum number of users could be assisted by the multiprofessional team remotely, avoiding face-to-face contact. In the teleconsultations, anamneses adapted to the remote service were carried out with more objective questions and which initially included active listening concerning the user's coping with social distancing, family organization issues, work, aid needs, clarification of questions regarding preventive care, as well as fears about the coronavirus and the disease. Next, we treated the specific issue that led to the teleconsultation, seeking to create a bond with the user and referring other demands to the team.

After the teleconsultation, the attending professional forwarded audiovisual materials, such as guidelines on how to put together a healthy dish, a guide to food portions, a food plan, diet prescription and/or supplements, explanatory videos, reading materials, culinary recipes and other resources for food and nutrition education, through a free text message application (WhatsApp) to complement the guidelines.

The health education groups, which took place face-to-face before the pandemic, underwent reformatting and adaptation to the virtual format. The virtual meetings took place through a free video call platform (Google Meet), maintained weekly for a month. These virtual groups aimed to maintain collective nutritional follow-up, even with social distancing measures, allowing for continuity of care and bonding. Nutritionists and other FHS professionals taught the groups at the unit.

Data collection for the research took place in two stages, the first from electronic medical records and the other from phone interviews with users. The author developed a questionnaire containing structured and semi-structured questions based on a broad search in the scientific literature to identify tools for evaluating experiences with teleconsultations.

The need for more studies and assessment tools has shown that there are gaps on the subject in the scientific literature that need to be explored. Thus, questionnaires used in other studies assessing the use of ICT in health care were used as a basis for the elaboration of the data collection instrument, such as the one used by Bradford et al., 2015, Powel et al., 2017 e Polinski et al., 2016, in addition to the PHC teleconsultation manual developed by the Rio Grande do Sul Telehealth service and the Food Guide for the Brazilian Population.^{13,31,32,35,36}

In the questionnaire developed for data collection, the variables "Type of material received," "Type of group," and "Axes of change" presented the possibility of multiple answers, the others being a single answer.

Ten test calls were carried out, which enabled adjustments to the data collection questionnaire. The telephone number of the participants were obtained through the individual medical records of the institution. Telephone calls were made using the 3CX application installed on specific institutional computers for the teleconsultation activity in a room suitable for this purpose. The data collection team consisted of a nutritionist and a graduate student in nutrition who was previously trained to apply the questionnaire. At least three attempts were made to contact the participants on alternate shifts and days. After the attempts, those with no response were considered as losses from the study.

The researched variables are presented below, part of which was collected from the individual electronic medical record, and the rest were self-reported during the telephone interview.

Socioeconomic Variables

- Age, gender, marital status, education, and skin color (collected from the electronic medical record);
- Work status, receipt of social benefits, and number of residents in the household (self-report).

Experience with nutrition teleconsultation

- Difficulty in using technology and carrying out teleconsultation; understanding of the nutritional orientations; perception of saving time and money; less exposure to disease; greater attendance; receiving, accessing, and understanding complementary materials; participation in virtual health education groups (self-report).

Changes in eating habits and lifestyle

- **Anthropometric assessment** current body mass index (BMI); classified according to criteria of the World Health Organization,³⁷ using weight (kg) and height (m), and perception of weight gain during the pandemic (self-report).
- **Dietary and lifestyle changes** aspects of diet quality, eating behavior, and practice of physical activity (self-report):

Diet quality: changes in the consumption of fruits, vegetables, and whole foods; intake of ultra-processed foods; change in frequency of the number of meals; culinary skills; dietary variability; change in water intake and changes in consumption of salt and fried foods.

Eating behavior: change in the time allotted for eating; eating together; control over emotional eating and change in the organization of the eating routine.

Practice of physical activity: changes in the practice of physical activity routine.

A question was also included in which the user was encouraged to make complaints or suggestions about the flow of access and service in the nutrition sector at the PHU and teleconsultations.

The variables were entered twice in a database using the EpiData® software, version 3.1. Data analysis was performed using SPSS version 18.0 (Statistical Package for the Social Sciences). Numerical variables were analyzed using mean and standard deviation, and categorical variables using absolute and relative frequency. Two normality tests were performed (Kolmogorov-Smirnov and Shapiro-Wilk). All analyzed variables showed non-normal distribution.

The research project was submitted to the Research Ethics Committee of the Hospital de Clínicas de Porto Alegre (Hospital of Clinics of Porto Alegre) (CAAE: 42378920.3.0000.5327) on 12/11/2020 and approved on 02/09/2021. Participants who consented to participate in the study by telephone received the Informed Consent Form electronically.

RESULTS

Among the 155 people eligible for the study, three did not remember their teleconsultation with the nutrition team, thus being excluded from the research. There were 49 losses for not answering the phone call, even with attempts on

alternate days and shifts, and three for not accepting to participate in the research. Thus, the total number of participants was 100 users of the Primary Health Care Unit.

Table 1 presents the sociodemographic and economic characteristics of the group participating in the research. There is a predominance of adults (53.0%), female (72.0%), white skin color (85.9%), with complete secondary education (44.0%), married (39%), and with a mean number of residents in the household of 2.55 (± 1.51). Many people performed housework (40.0%), and 43.0% were retired.

Table 1. Sociodemographic and economic characteristics of users receiving nutritional follow-up via teleservice at a Primary Health Care Unit. Porto Alegre-RS, 2021 (n=100).

Variable	n (%)
Age group	
20-40 years	20 (20,0)
41-59 years	33 (33,0)
≥ 60 years	47 (47,0)
Mean age (mean \pm SD)	55,6 ($\pm 15,14$)
Sex	
Male	28 (28,0)
Female	72 (72,0)
Skin color (n = 99)	
White	85 (85,9)
Non-white	14 (14,1)
Education	
Complete elementary school	24 (24,0)
Complete high school	44 (44,0)
Complete higher education	32 (32,0)
Marital Status	
Single	23 (23,0)
Married	39 (39,0)
Divorced/Widowed	38 (38,0)
Nº of residents in the household (mean \pm SD)	2,55 ($\pm 1,51$)
Work status	
Worker with a formal contract	17 (17,0)
Self-employed	28 (28,0)
Homemaker	40 (40,0)
Unemployed	11 (11,0)
Others	04 (04,0)
Social assistance	
No	47 (47,0)
Retirement	43 (43,0)
Family aid	06 (6,0)
Others	04 (04,0)
Emergency aid	
Yes	30 (30,0)
No	70 (70,0)

Caption: n, absolute value; %, value in percentage; SD, standard deviation; Nº, number.

Source: elaborated by the authors.

The information and communication technology (ICT) most used in nutrition consultations was telephone calls, with a small number of users through video calls. Most participants answered that they did not have difficulties understanding the nutritional guidance received through teleconsultation and did not need help using technologies such as a landline, cell phone, or computer at the time of the teleconsultation. Most interviewees also answered that they had no difficulty receiving care when the professional contacted them.

When asked to evaluate nutritional care via teleconsultation, compared to face-to-face care in the pre-pandemic, 76.0% of participants said they had saved time and 47.0% money. Also critical is the evaluation of the majority, who said they felt safer with this type of care, avoiding their exposure to diseases and feeling more encouraged to attend appointments (Table 2).

Table 2. User evaluation of Nutrition teleconsultation. Porto Alegre-RS, 2021 (n=100).

Variable	n (%)
ICT used in the consultation	
Telephone calls	77 (77,0)
Phone calls and video calls	20 (20,0)
Video calls	03 (3,0)
Difficulty in technology use	
Yes	17 (17,0)
No	81 (81,0)
Do not know	02 (2,0)
Difficulty in completing teleconsultation	
Yes, but the teleconsultation was accomplished	05 (5,0)
Yes, canceled the appointment	21 (21,0)
No	72 (72,0)
Do not know	02 (2,0)
Difficulty understanding guidelines	
Yes	09 (9,0)
No	91 (91,0)
Time saving perception	
Yes	76 (76,0)
No	22 (22,0)
Do not know	02 (2,0)
Money saving perception	
Yes	47 (47,0)
No	51 (51,0)
Do not know	02 (2,0)
Perception of low exposure to disease	
Yes	89 (89,0)
No	10 (10,0)
Do not know	01 (1,0)
Perception of greater assiduity	
Yes	67 (67,0)
No	27 (27,0)
Do not know	06 (6,0)

Caption: n, absolute value; %, value in percentage; ICT, Information and Communication Technology. Source: elaborated by the authors.

After the nutrition teleconsultation, 56.0% of the interviewees received complementary material via electronic means (WhatsApp), with reading materials and cooking recipes being the most frequently received, as described in Table 3. Among those who received the materials, most reported having accessed the content in full, and a small group, partially. Most interviewees responded positively about understanding the content, and almost all said that it helped to review and assimilate the guidelines received during the teleconsultation.

Table 3. Assessment of complementary materials and participation in health education groups in virtual format. Porto Alegre-RS, 2021 (n=100).

Variable	n (%)
User received complementary virtual material	
Yes	56 (56,0)
No	43 (43,0)
Do not know	01 (1,0)
Type of material received (n = 56)*	
Culinary recipes	38 (66,7)
Reading material	31 (58,5)
Food plan	27 (50,9)
Diet/supplement prescription	02 (3,8)
Others	07 (12,5)
User accessed the materials(n = 56)	
Fully accessed	41 (73,2)
Partially accessed	13 (23,2)
Did not access / Do not know	02 (3,6)
Understanding of the material's content (n =54)	
Fully understood	48 (88,9)
Partially understood	05 (9,3)
Did not understand	01 (1,8)
Materials influenced the adherence to guidelines (n = 53)	
Yes	52 (98,1)
No	01 (1,9)
Participated in virtual health education groups	
Yes	24 (24,0)
No	76 (76,0)
Group type (n = 24)*	
Nutrition	22 (91,7)
Physical exercise	04 (16,7)
Pregnant women	02 (8,3)

Caption: n, absolute value; %, value in percentage.* Variables present more than one possible answer.

Source: elaborated by the authors.

Regarding participation in health education groups, 24.0% of participants responded that they had participated in activities offered by PHU through groups virtually during the pandemic. The group promoting healthy eating was the most cited, followed by the physical activity group, and the pregnant women group.

When asked about weight gain, 51.0% of participants said they had gained weight during the pandemic. The results of the anthropometric assessment showed that 78.6% were overweight, and, of these, 54.8% had a diagnosis of obesity. Most of those surveyed stated that the teleconsultation service favored dietary and

lifestyle changes, whether in improving the quality of food (79.7%), in behavioral aspects about the act of eating (46.8%), and in the practice of physical activity (53.2%) (Table 4).

Table 4. Nutritional status and changes in eating habits and lifestyle with monitoring by teleconsultation. Porto Alegre-RS, 2021 (n=100).

Variable	n (%)
Body mass index (n=84)	
Underweight	01 (1,2)
Eutrophy	17 (20,2)
Overweight	20 (23,8)
Obesity	46 (54,8)
Weight gain during a pandemic	
Yes	51 (51,0)
No	44 (44,0)
Do not know	05 (5,0)
Dietary and lifestyle changes	
Yes	79 (79,0)
No	20 (20,0)
Do not know	01 (1,0)
Axes of changes (n=79)*	63 (79,7)
Food quality	37 (46,8)
Eating behavior	42 (53,2)
Physical activity	

Caption: n, absolute value; %, value in percentage; * Variable present more than one possible answer. Source: elaborated by the authors.

When encouraged to, based on their experience, make complaints and suggestions that could contribute to qualifying both the teleconsultation and the flow of nutritional care at the health unit, the participants mainly pointed out aspects related to the variation of digital tools during the service, which to allow interaction via video, in addition to audio, and a greater frequency of contact with the professional nutritionist to clarify questions. In addition, for the service flow, users express concern about information security and confidentiality of reports during the teleconsultation, suggesting service confirmation (Chart 1).

Chart 1 - Users' suggestions for the qualification of the Nutrition service and teleconsultation flow. Porto Alegre-RS, 2021.

Nutrition Teleconsultation	Service Flow
Sending complementary material after the Nutrition teleconsultation.	Consultation confirmation by text message application or identifier code.
Mixed follow-up, using other digital tools (video calls).	Setting nutrition teleconsultation appointments by phone.
Greater frequency of Nutrition consultations and direct communication channels with the nutritionist.	Service by teleconsultation at alternative times (night).

DISCUSSION

The results showed that most users did not have difficulties carrying out the teleconsultation or using technologies, positively assessed the teleconsultation and the complementary materials received, and reported dietary and lifestyle changes after starting nutritional monitoring through the teleconsultation.

We observed that women sought nutritional assistance more often, even through telephone assistance. This result aligns with several already-known studies in which women seek healthcare more than men, especially concerning routine exams or preventive care.³⁸ The results of the 2019 National Health Survey (NHS) reinforce these data, showing that of the total number of people who sought some PHC service in the six months before the interview, 69.9% were women. The greater demand of females for care related to food may also be associated with the high proportion of overweight and obesity in the female population,³⁹ as well as body dissatisfaction, an issue that often affects females.⁴⁰

The fact that most of the interviewees have white skin color and few are unemployed probably represents a bias in the socioeconomic profile that accepted teleconsultation assistance. The NHS shows that 60.9% of users who accessed the PHC had black or brown skin color, and 53.8% did not have a job.³⁹ The relatively high level of education can explain the positive evaluation of teleconsultation since it is related to greater access and use of ICT, since the more educated people are, the more intense the activity on the internet and the use of ICT by the individual.⁴¹

The user's positive assessment of the nutrition teleconsultation was high. Several studies carried out within the PHC support this result, demonstrating that using ICT is a way to increase access to health services.^{35,42-45} The user identifies teleconsultation as a service modality that can be maintained in the daily care of healthcare units, saving time, mainly commuting, saving money, and reducing exposure to potential sources of infection, in addition to allowing greater flexibility in the daily routine of the user, avoiding missed appointments and ensuring longitudinal follow-up.^{35,42-45}

The results regarding the understanding of the guidelines during the teleconsultation indicate that the communication between professionals and users was satisfactory. However, although small, a portion needed help handling the technology to carry out the teleconsultation, reinforcing the need to expand access to technological resources, together with teaching practices for using these digital tools. The difficulty of accessing and using ICT can compromise the quality of teleconsultation and exclude part of the population from the service modality; thus, the use of low-complexity tools, such as telephone calls, as seen in our study, seems to guarantee user access to the service, since the cell phone is the most prevalent digital communication device in households of Brazilians (93.2%),⁴⁶ and requires less preparation for use. However, other technologies should also be used in the care routine.

Providing complementary material seems to be a good strategy to help users with lifestyle changes. Materials with practical content applicable to everyday life are an alternative with good results in the food and nutrition education process via teleconsultation. Greater access to cell phones, computers, and free text message applications makes it possible for various resources, such as teleconsultation support materials, to be made available to users free of charge and in an easier way. These tools can positively influence teleservices since they increase the access and sharing, by the user, of reliable information about food, nutrition, and health, favoring knowledge and adherence to guidelines and providing opportunities for more frequent and faster interaction between users and professionals.

Another interesting strategy is health education groups. These spaces are part of the daily life of the PHC and are considered powerful tools for health promotion in the Public Health System, mainly because they provide reflection, accountability, and the user's protagonism in the care of their health.⁴⁷ Groups are

tools that positively impact treatment adherence, promote psychosocial support to their members, encourage socialization and improve quality of life, including those with NCDs.⁴⁸ Although activities in health education groups have been interrupted as a measure to contain the spread of the coronavirus, the practice of groups in the virtual modality through social communication media and video calls can be an interesting option for maintaining food and nutrition education. In this regard, our results demonstrate the pioneering practice of health education groups through video calls, which have had satisfactory participation by users, especially when they perceive the multidisciplinary team mobilized to maintain bond and care for them.

A significant portion of the population reported improvement in eating habits and lifestyle, whether with diet quality, eating behavior, and physical activity, showing that nutrition teleconsultation can provide a favorable approach and potential for counseling and support to lifestyle change.

In a study carried out in Switzerland, overweight and obese adults who participated in a behavioral intervention through remote counseling with a nutritionist had a significant weight loss of approximately 5% of the initial weight in 58% of the participants, reduction in BMI measurement, waist circumference waist, body fat percentage, and blood pressure. In addition, the results for certain eating habits, such as greater frequency of consumption of fruits and vegetables, breakfast, and less consumption of alcohol, sweets, and fats, were also significant.¹⁶ Other studies corroborate the data, showing that patients undergoing long-distance follow-up with interventions in eating habits also have favorable results regarding lipid profile and glycemic control markers.^{18,19,25,49}

In general, as in other studies,^{35,42,43,45} the present research results indicate a concern, on the part of the user, with the privacy of their data during the teleconsultation, manifested in the suggestions for changes to the consultation confirmation mechanisms, such as identifier code. They highlight the importance of scheduling systems and tools for teleconsultation capable of providing security with remote care and the need to keep monitoring the user with their reference team, maintaining the bond and confidence during care.^{35,42,43,45} Studies have shown that video calls can increase user confidence compared to telephone service, mainly due to the broader interaction with the professional. The video call became more personal and comforting, influencing the process of communication and relationship.^{35,42,43,45} Mixed consultations, using different technological tools, such as video calls, can be an alternative to promote an even more positive teleconsultation experience for the user. Associated with a higher frequency of consultations and contact with a trained professional to conduct the teleconsultation satisfactorily, it provides a favorable environment for bonding and sharing for lifestyle changes.

This research sought to evaluate the user's perception of the use of ICT in nutritional care, with an unprecedented and innovative character. The results of this study can benefit future users who will use this form of care. In addition, they favor the discussion on implementing ICTs in nutritional assistance within the scope of PHC.

The limitations of the present study refer to the sample size and the period of completion since it was a period of need for social distancing and, therefore, may have interfered with the perception and evaluation of the users. In addition, the time between the nutrition teleconsultation and data collection was not evaluated, which may have interfered with the results since the follow-up time is an essential factor for a more reliable evaluation of the service.

CONCLUSION

Users undergoing nutritional monitoring evaluated the teleconsultations and demonstrated good adaptation to the remote care method positively. The present study contributes to the advancement in knowledge about the impact of telenutrition, whether in an individual or group approach and favors reflection on new health care and education strategies in individualized or collective care, enabling the debate on the implementation of ICT in the daily life of Primary Health Care units, to also contribute to expanding access to health and nutrition care.

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Contributors

Pereira FVP and Schuch I participated in planning the study design, collection, analysis and interpretation of data, writing, final revision and approval of the manuscript for submission. Silva GT participated in data collection, analysis and interpretation. All authors participated in the approval of the final version of the manuscript and declared themselves responsible for its accuracy and integrity.

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