ABSTRACT

Introduction Neurodegenerative diseases affect the nervous system and are characterised by the deterioration and/or death of neurons. Nutrition care is essential for maintaining an adequate nutritional status, which influences the prognosis and survival of patients with neurological diseases. Caregivers participate assiduously in the care of these patients and must be integrated into the multidisciplinary team. They often need specific training or knowledge regarding food and nutrition to perform their roles with patients. Health educommunication is a learning tool that can positively influence the appropriation of the theme and the construction of care autonomy. This scoping review (ScR) will map educommunication actions/strategies in nutrition and neurodegenerative diseases.

Methods and analysis This ScR will be designed based on the methodology of Arksey and O’Malley and will follow the methodological guidance for conducting a Joanna Briggs Institute ScR. The research question addressed by the scoping review will be: what actions/strategies for educommunication in nutrition and neurodegenerative diseases have been developed for patients or caregivers? Many search sites it will be used in this review, such as electronic databases (Embase, PubMed/MEDLINE, Scopus, Web of Science), Google Scholar and grey literature sources. No restrictions of date or language will be applied to the search strategy. Two reviewers will independently screen all abstracts and full-text studies for inclusion. Data, including the study design, objective, study population, neurodegenerative diseases, nutrition topics and educommunication strategies will be logically organised and tabulated in a Microsoft Excel.

Ethics and dissemination The data used for this review are from secondary sources and available to the public; thus, no ethical approval and human consent will be required for this study. Dissemination of the results will be published in a peer-reviewed journal and presented at conferences.

INTRODUCTION

Neurodegenerative diseases (NDs) are characterised by the degeneration and/or death of neurons, causing progressive and gradual loss of motor, physiological and cognitive functions. They have genetic origin or not and cover several diseases that affect the peripheral and central nervous system. The most prevalent NDs include Alzheimer’s disease, Parkinson’s disease and motor neuron diseases.

NDs have a major impact on the nutritional status of patients, especially those associated with swallowing disorders. Dysphagia largely affects respiratory safety due to the increased risk of aspiration and impaired coordination of swallowing, leading to malnutrition and dehydration. Thus, careful consideration of the nutritional condition of patients with NDs is essential for better management. On the other hand, diet and nutrition play an important role in the pathogenesis of NDs. Deficiency of energy, nutrients and bioactive compounds accentuates pathophysiological processes such as inflammation, oxidative stress, gut dysbiosis and immune dysfunction, while proper nutrition can prevent, mitigate or slow down the progression of NDs. This fact highlights the importance of diet and nutrition for patients with NDs.
Multidisciplinary care interventions aimed at managing symptoms and maintaining/recovering nutritional status contribute to improving the quality of life and survival of patients with neurological diseases. This contribution is aligned with the Sustainable Development Goals of the United Nations, supporting targets of the third goal about good health and well-being.

Caregivers of patients with NDs, whether family members, professionals or volunteers, participate assiduously in the care of these patients and must be integrated into the multidisciplinary team. Training caregivers in general and specific knowledge and skills related to their patients’ main disease and all associated nutritional implications is fundamental for the quality of care provided.

In this sense, nutrition education plays a pivotal role in NDs. However, strategies of nutrition education are lacking in neurological diseases, and many times, health professionals are not prepared or aligned to strengthen nutrition education as a component of multidisciplinary care. Nutrition education can be provided in many ways and formats. Educommunication (education-communication) emerges as a tool that can integrate the health and nutrition education processes. Educommunication started in Latin America in the late 1960s and 1970s, and since then, it has had an enormous impact across these regions. According to Soares, educommunication is a pedagogical methodology that uses communication as an element of education in a simple, procedural, mediatic, interdisciplinary and interdiscursive way. Educommunication uses different communication technologies or integrates different media, that, when applied to the health or nutrition area, becomes a creative tool capable of strengthening communication and learning processes, positively influencing the quality of life of patients and caregivers.

**STUDY RATIONALE**

This scoping review (ScR) will be the first, to our knowledge, to identify and map studies that address educommunication in nutrition and NDs, focusing on caregivers or patients as active subjects of the teaching and learning processes. This research will bring important insights to guide learning strategies that can positively influence the construction of care autonomy and identify strengths and weaknesses with the implementation and development of educommunication.

**STUDY OBJECTIVES**

The main objective for the proposed ScR is to identify and map the literature on actions/strategies of educommunication in nutrition and NDs used in caregivers or patients.

**METHODS AND ANALYSIS**

**Protocol and registration**

The study follows a ScR protocol, registered on the Home OSF platform in July 2022, with DOI 10.1765/OSF.IO/ZGQ4X and entitled ‘Educomunicação nutricional para pacientes com doenças neurodegenerativas: uma revisão de escopo’.

**Study design**

This ScR is guided by the recommendations of the Joanna Briggs Institute (JBI) Reviewer’s Manual. It is conducted according to the theoretical framework proposed by Arksey and O’Malley, and Peters et al. according to the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) Extension for ScRs.

**Patient and public involvement**

No patient or public has been involved in this ScR protocol.

**Identifying relevant studies**

Relevant studies were those addressing or using actions/strategies of educommunication in nutrition and NDs for caregivers and/or patients.

**Research question**

To formulate the question, the PCC strategy will be used, as described below:

- **P (Population):** neurodegenerative diseases OR degenerative diseases of the nervous system.
- **C (Concept):** educommunication OR health education OR health literacy OR education OR communication OR educational communication OR educational communication OR learning OR health literacy.
- **C (Context):** nutrition OR nutrition science OR nutritional therapy.

Research question: what actions/strategies of educommunication in nutrition and NDs have been developed for caregivers or patients dealing with this condition?

**Inclusion and exclusion criteria**

Observational studies, experimental studies and grey literature, including dissertation and thesis, available in full text, will be included. No restrictions of date or language will be applied to the search strategy. Duplicate articles, editorials, reviews, manuals, books, experience reports, reflection studies and studies without abstracts will be excluded.

**Search strategy**

A broad search strategy will be carried out, including the following databases: Embase, PubMed/MEDLINE, Scopus, Web of Science, Google Scholar and Theses and Dissertations from Latin America, as well as grey literature sources. No restrictions of date or language will be applied to the search strategy.

The search strategy will include the following combinations: Neurodegenerative diseases OR Degenerative Diseases Central Nervous System OR Degenerative Diseases Nervous System OR degenerative disease AND Education OR educommunication OR Literacy OR Teach-Back Communication AND nutritional sciences OR nutritional status OR nutrition education OR Nutrition, according to MeSH. The crossing method used...
Table 1  Standardisation of the data extraction

<table>
<thead>
<tr>
<th>Variable</th>
<th>Standardisation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Database</td>
<td>According to the origin of the study during the selection process</td>
</tr>
<tr>
<td>Publication year</td>
<td>Year the study was published</td>
</tr>
<tr>
<td>Country</td>
<td>Country where the study was performed</td>
</tr>
<tr>
<td>Objective</td>
<td>Describe in detail the objective of the study</td>
</tr>
<tr>
<td>Study design and approach</td>
<td>Describe the study design and approach used</td>
</tr>
<tr>
<td>Level of evidence</td>
<td>According to the recommendations of the Joanna Briggs Institute</td>
</tr>
<tr>
<td>Study population</td>
<td>Patients, family members, caregivers and/or health professionals</td>
</tr>
<tr>
<td>Educommunication actions/strategies</td>
<td>Describe actions, strategies and tools used in the eduducation process</td>
</tr>
<tr>
<td>Neurodegenerative/neuromuscular diseases</td>
<td>Amyotrophic lateral sclerosis, multiple sclerosis, Duchenne muscular dystrophy, Parkinson’s disease, Alzheimer’s disease, etc.</td>
</tr>
<tr>
<td>Feeding route</td>
<td>Oral or enteral</td>
</tr>
<tr>
<td>Nutrition topics and teaching/learning format</td>
<td>In person or virtual</td>
</tr>
<tr>
<td>Facilitating aspects/or challenges</td>
<td>Adherence, access to technology, level of education, dissemination, etc.</td>
</tr>
</tbody>
</table>

will be modified according to the particularities of each database. A draft of our search strategy in two databases (Embase and PubMed/MEDLINE) has been provided as an online supplemental material.

Selection of eligible studies
For all identified studies, at least two authors (KMDC and LLL) will independently select and review titles and abstracts using the Rayyan QCRI tool. Papers that meet the inclusion criteria will be ordered for a full review. Any disagreement will be resolved by discussion with a third reviewer (SHLV). Information on the phases of the selection process will be described through the PRISMA flow diagram.22

Data extraction
The data extraction will be done in a standardised way using Microsoft Excel (by two independent authors (KMDC and LLL)). Discrepancies between the data extraction will be resolved by consensus. The process for standardisation of the data extraction was adapted from the JBI Reviewer’s Manual20 and will include many variables (table 1). In case of incomplete information or missing data, the corresponding authors of the studies will be contacted. If we do not receive the necessary information, the data will be excluded from our analysis and will be dealt with in the Discussion section.

Discussion
As the ScR follows a systematic approach to map evidence on a topic and identify key concepts, theories, sources and knowledge gaps,23 the results of this review will be related to the objective and research question, being discussed as they are associated with practice and education. Gaps and limitations of the current literature will also be identified.

Ethics and dissemination
The results of this ScR will be published in a peer-reviewed journal. The data used for this review are from secondary sources and available to the public; thus, no ethical approval and human consent will be required for this study.

Acknowledgements  The authors thank the Laboratory of Technological Innovation in Health (LAIS) at the Federal University of Rio Grande do Norte (UFRN) and its researchers who are part of the revELA project.

Collaborators  No collaborators.

Contributors  KMDC, LLL, MSB and KCL participated in the development and design of this protocol. KMDC, LLL, MSB and MKSR contributed to discussions and initial tests to choose the best search terms and strategies. KMDC, LLL, MSB, MKSR and SHLV were involved in the acquisition, analysis and interpretation of data for this work. KMDC and LLL wrote the drafts of this manuscript. All authors critically reviewed, edited and approved the final version of this manuscript to be published. Furthermore, all authors agree to be accountable for all aspects related to this work.

Funding  This study was funded by Ministry of Health (Brazil), grant number TED 132/2018 (Laboratory of Technological Innovation in Health at the Federal University of Rio Grande do Norte; LAIS/UFRN).

Competing interests  None declared.

Patient and public involvement  Patients and/or the public were not involved in the design, conduct, reporting or dissemination plans of this research.

Patient consent for publication  Not applicable.

Provenance and peer review  Not commissioned; externally peer reviewed.

Supplemental material  This content has been supplied by the author(s). It has not been vetted by BMJ Publishing Group Limited (BMJ) and may not have been

Coutinho KMD, et al. BMJ Open 2024;14:e071872. doi:10.1136/bmjopen-2023-071872
peer-reviewed. Any opinions or recommendations discussed are solely those of the author(s) and are not endorsed by BMJ. BMJ disclaims all liability and responsibility arising from any reliance placed on the content. Where the content includes any translated material, BMJ does not warrant the accuracy and reliability of the translations (including but not limited to local regulations, clinical guidelines, terminology, drug names and drug dosages), and is not responsible for any error and/or omissions arising from translation and adaptation or otherwise.

Open access This is an open access article distributed in accordance with the Creative Commons Attribution Non Commercial (CC BY-NC 4.0) license, which permits others to distribute, remix, adapt, build upon this work non-commercially, and license their derivative works on different terms, provided the original work is properly cited, appropriate credit is given, any changes made indicated, and the use is non-commercial. See: http://creativecommons.org/licenses/by-nc/4.0/.

ORCID id
Lucia Leite-Lais http://orcid.org/0000-0002-8061-7048

REFERENCES