

Oral dentures and quality of life related to Parkinson disease: An integrative review

Prótese oral e qualidade de vida relacionada à doença de Parkinson: Uma revisão integrativa

Prótesis dentales y calidad de vida relacionada con la enfermedad de Parkinson: Una revisión integradora

Received: 12/17/2023 | Revised: 06/12/2024 | Accepted: 06/20/2024 | Published: 06/23/2024

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Abstract

Parkinson's disease (PD) is a neurodegenerative condition affecting millions of elderly people, causing tooth loss and difficulties in oral hygiene. These complications increase the incidence of cavities and periodontal diseases. Oral rehabilitation with dentures is crucial to restore masticatory function and improve the quality of life for these patients. The objective of this study is to evaluate the impact of oral rehabilitation on the quality of life of edentulous older patients with Parkinson's. An integrative review was prepared following the recommendations of the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA), based on the research's guiding question: "What is the impact of rehabilitation with complete dentures on the quality of life of older patients with Parkinson's?". The PICO search strategy was set up (P=patient, I=intervention, C=control and O =outcome) and the descriptors that guided the search were obtained from the health sciences descriptors of the virtual health library (DeCSbvs) and the headings of medical subjects (MeSH Pubmed). We used the Pubmed/Medline, BVS, CINAHL, EMBASE, SCOPUS and Web of Science databases, in the last 10 years (between June 2012 and June 2022), presenting title and abstract in English. Used the selection process of the articles occurred according to the three steps of the Prisma Flow Diagram: Step 1: Articles selected through critical and reflective reading by title and summary; Step 2: Articles read in full and included in the review only related to the research theme and Step 3: Selection of articles according to the pre-established inclusion and exclusion criteria. As results, from 42 initial studies were included two studies. Conclusions: there is a lack of studies in the field of quality of life related to dentures in patients with Parkinson disease.

Keywords: Parkinson disease; Complete denture; Quality of life.

Resumo

A doença de Parkinson (DP) é uma condição neurodegenerativa que afeta milhões de idosos, causando perda dentária e dificuldades de higiene oral. Essas complicações aumentam a incidência de cáries e doenças periodontais. A reabilitação oral com próteses dentárias é crucial para restaurar a função mastigatória e melhorar a qualidade de vida desses pacientes. O objetivo deste estudo é avaliar o impacto da reabilitação oral na qualidade de vida de pacientes idosos desdentados com Parkinson. Foi realizada uma revisão integrativa seguindo as recomendações dos Itens de Relatório Preferidos para Revisões Sistemáticas e Meta-Análises (PRISMA), baseada na pergunta norteadora da pesquisa: "Qual é o impacto da reabilitação com próteses totais na qualidade de vida de pacientes idosos com Parkinson?". A estratégia de busca PICO foi configurada (P= paciente, I= intervenção, C= controle e O= desfecho) e os descritores que orientaram a busca foram obtidos dos descritores em ciências da saúde da biblioteca virtual em saúde (DeCS) e dos cabeçalhos de assuntos médicos (MeSH Pubmed). Utilizamos as bases de dados Pubmed/Medline, BVS,

CINAHL, EMBASE, SCOPUS e Web of Science, nos últimos 10 anos (entre junho de 2012 e junho de 2022), apresentando título e resumo em inglês. O processo de seleção dos artigos ocorreu de acordo com as três etapas do Diagrama de Fluxo Prisma: Etapa 1: Artigos selecionados por meio de leitura crítica e reflexiva por título e resumo; Etapa 2: Artigos lidos na íntegra e incluídos na revisão apenas os relacionados ao tema da pesquisa; e Etapa 3: Seleção de artigos de acordo com os critérios de inclusão e exclusão preestabelecidos. Como resultados, de 42 estudos iniciais, foram incluídos dois estudos. Conclusões: há uma falta de estudos na área de qualidade de vida relacionada a próteses em pacientes com doença de Parkinson.

Palavras-chave: Doença de Parkinson; Prótese total; Qualidade de vida.

Resumen

La enfermedad de Parkinson (EP) es una condición neurodegenerativa que afecta a millones de personas mayores, causando la pérdida de dientes y dificultades en la higiene oral. Estas complicaciones aumentan la incidencia de caries y enfermedades periodontales. La rehabilitación oral con prótesis dentales es crucial para restaurar la función masticatoria y mejorar la calidad de vida de estos pacientes. El objetivo de este estudio es evaluar el impacto de la rehabilitación oral en la calidad de vida de los pacientes mayores desdentados con Parkinson. Se preparó una revisión integradora siguiendo las recomendaciones de los Ítems de Reporte Preferidos para Revisiones Sistemáticas y Meta-Análisis (PRISMA), basada en la pregunta orientadora de la investigación: "¿Cuál es el impacto de la rehabilitación con prótesis completas en la calidad de vida de los pacientes mayores con Parkinson?". Se configuró la estrategia de búsqueda PICO (P= paciente, I= intervención, C= control y O= resultado) y los descriptores que guiaron la búsqueda se obtuvieron de los descriptores en ciencias de la salud de la biblioteca virtual en salud (DeCSbvs) y de los encabezados de asuntos médicos (MeSH Pubmed). Utilizamos las bases de datos Pubmed/Medline, BVS, CINAHL, EMBASE, SCOPUS y Web of Science, en los últimos 10 años (entre junio de 2012 y junio de 2022), presentando título y resumen en inglés. El proceso de selección de los artículos se realizó de acuerdo con los tres pasos del Diagrama de Flujo Prisma: Paso 1: Artículos seleccionados mediante lectura crítica y reflexiva por título y resumen; Paso 2: Artículos leídos en su totalidad e incluidos en la revisión solo los relacionados con el tema de investigación; y Paso 3: Selección de artículos según los criterios de inclusión y exclusión preestablecidos. Como resultados, de 42 estudios iniciales se incluyeron dos estudios. Conclusiones: existe una falta de estudios en el campo de la calidad de vida relacionada con prótesis dentales en pacientes con enfermedad de Parkinson.

Palabras clave: Enfermedad de Parkinson; Prótesis completa; Calidad de vida.

1. Introduction

Parkinson's disease, described by James Parkinson in 1817 (Parkinson, 2002), is the second most common degenerative disorder of the central nervous system (Kalia et al., 2015). It affects about 0.1% of the population (Von Campenhausen et al., 2005), with a predilection for males and an increase in cases at a rate of 1% in the population aged 60 years and over (de Lau et al., 2006). It is characterized by rest tremor, tremor in the extremities, postural instability, joint stiffness, and slowness of movement (Postuma et al., 2015).

It is considered a movement disorder that presents three main motor signs: tremor, rigidity, and bradykinesia (Tysnes et al., 2017). In addition to these signs, individuals may develop depression, cognitive disorders, apathy, fatigue, and pain throughout the disease, directly reflecting on the decrease in quality of life (Prange et al., 2022).

In addition to the general physical implications, the oral health of patients with the disease can be compromised. Possible local alterations include dysphagia, sialorrhea or xerostomia, periodontal disease, and caries (Zlotnik et al., 2015). Furthermore, the patient may experience lip and lingual tremors, dental fractures, soft tissue trauma, and pain in the temporomandibular joint due to tightness of the orofacial muscles (Kalia et al., 2015; Ribeiro et al., 2017).

This motor instability, coupled with the common and precarious oral health condition of older adults, who are often toothless, makes oral rehabilitation with mucous-supported complete dentures challenging. The stability and retention of these prostheses depend on the neuromuscular control of the paraprosthodontic musculature, as well as the control of opening and closing movements of the mouth (Brígido et al., 2023).

In this context, a negative impact on the quality-of-life indices associated with the oral health of geriatric patients is expected. According to the literature, the instruments validated for this assessment are the GOHAI (Geriatric Oral Health Assessment Index) (Atchison et al., 1990), which assesses the degree of psychosocial impact of oral conditions; the DIDL (Dental

Impact on Daily Living) (Leao et al., 1996), which seeks five dimensions of the patient's quality of life; the OHIP-Edent (Oral Health Impact Profile for Edentulous) (Possebon et al., 2018), which measures dysfunction, discomfort, and disability attributed to oral conditions; and the WHOQOL-OLD (World Health Organization Quality of Life Group) (Power et al., 2005), which evaluates the quality of life in older people.

Despite the many published studies on the use of these instruments in assessing the quality of life related to oral health in aging adults, little is known about the impact of this condition on the quality of life of older people with Parkinson's disease, especially concerning the use of complete dentures. Thus, the objective of this study is to evaluate the impact of oral rehabilitation on the quality of life of edentulous aging patients with Parkinson's, through an integrative review of the literature. The hypothesis to be tested is the improvement in quality of life that rehabilitation with complete dentures can provide in persons 65 years and older, even with Parkinson's disease.

2. Methodology

This integrative review was conducted following the guidelines of the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) (Liberati et al., 2009). The research question guiding this review was: "What is the impact of rehabilitation with complete dentures on the quality of life of elderly patients with Parkinson's?" The PICO search strategy was employed, with P representing patient, I representing intervention, C representing control, and O representing outcome. Descriptors guiding the search were derived from the health sciences descriptors of the virtual health library (DeCSbvs) and the medical subject headings (MeSH Pubmed), as outlined in Table 1.

Table 1 - PICO's key words and MeSH Pubmed descriptors.

P (patient)	I (intervention)	C (control)	O (outcome)
Key words			
Aged OR Frail Elderly OR Older Adults	Complete denture OR Overdenture	Edentulism	Quality of life ORGOHAI OR DIDL OR OHIP-Edent OR WHOQOL-OLD
MeSH descriptors			
Aged <ul style="list-style-type: none"> • Aged, 80 and over • <u>Centenarians</u> • <u>Nonagenarians</u> • <u>Octogenarians</u> Frail Elderly <ul style="list-style-type: none"> • Elderly, Frail • Frail Elders • Elder, Frail • Elders, Frail • Frail Elder • Functionally-Impaired Elderly • Elderly, Functionally-Impaired • Functionally Impaired Elderly • Frail Older Adults • Adult, Frail Older • Adults, Frail Older • Frail Older Adult • Older Adult, Frail • Older Adults, Frail 	Complete denture OR Overdenture <ul style="list-style-type: none"> • Complete Denture • Complete Dentures • Dentures, Complete • Dentures, Overlay • Overlay Denture • Overlay Dentures • Overdenture • Overdentures 	<ul style="list-style-type: none"> • Edentulous • Edentulous Jaw • Edentulous Jaws • Jaws, Edentulous • Edentulous Mouth • Edentulous Mouths • Mouth, Toothless • Toothless Mouth 	Quality of life ORGOHAI OR DIDL OR OHIP-Edent OR WHOQOL-OLD <ul style="list-style-type: none"> • OHIP-edent • Whoquol • DIDL • Whoquol-OLD • GOHAI

<p>PARKINSONIAN DISORDERS</p> <ul style="list-style-type: none"> • Parkinsonian Syndrome • Parkinsonian Syndromes • Parkinsonian Diseases • Parkinsonism • Autosomal Dominant Parkinsonism • Dominant Parkinsonism, Autosomal • Parkinsonism, Autosomal Dominant • Parkinson Disease • Chromosome 6-Linked Autosomal Recessive Parkinsonism • Chromosome 6 Linked Autosomal Recessive Parkinsonism • Parkinson Disease, Familial, Autosomal Recessive • Ramsay Hunt Paralysis Syndrome • Experimental Parkinsonisms • Parkinsonisms, Experimental • Parkinson Disease, Experimental • Experimental Parkinson Disease • Diseases, Experimental Parkinson • Experimental Parkinson Diseases • Parkinson Diseases, Experimental • Experimental Parkinsonism • Autosomal Recessive Parkinsonism • Parkinsonism, Autosomal Recessive • Recessive Parkinsonism, Autosomal 			
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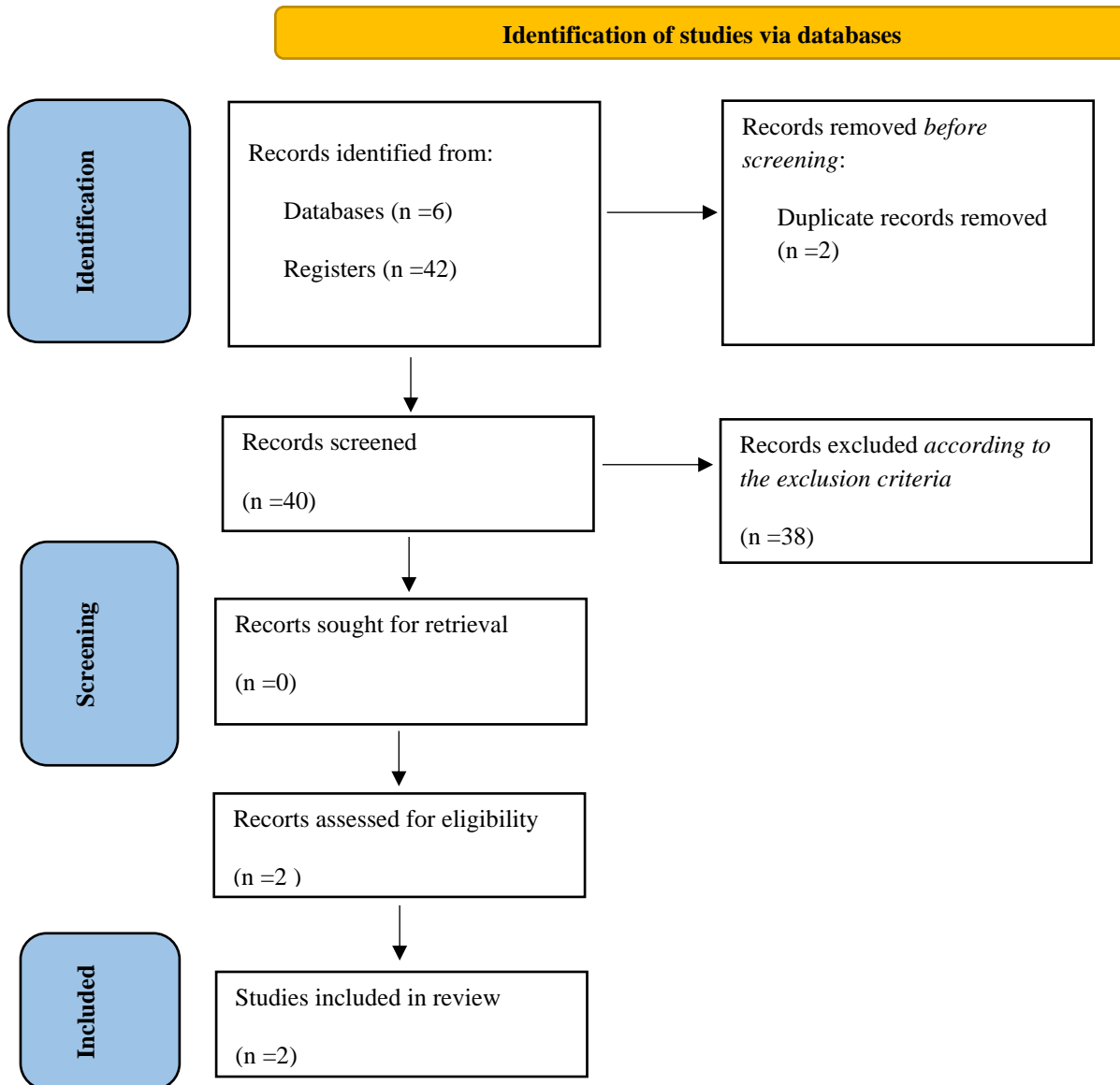
Source: Self elaboration (2024).

We utilized the Pubmed/Medline, BVS, CINAHL, EMBASE, SCOPUS, and Web of Science databases, covering the past 10 years (from June 2012 to June 2022), with titles and abstracts presented in English. The inclusion criteria comprised articles and abstracts available in the English language, with titles and/or abstracts relevant to the theme of this review and/or related to the descriptors used. Conversely, exclusion criteria encompassed incomplete articles, duplicate articles, pre-prints, resumes, note previews, and editorials. Articles not meeting these criteria or addressing the proposed topic were excluded from consideration.

Two subject-matter experts selected articles and extracted data from the included studies. Article selection followed the three-step process outlined in the PRISMA Flow Diagram: Step 1 involved critical and reflective reading of titles and summaries; Step 2 involved full-text reading and inclusion of articles related to the research theme only; Step 3 entailed selecting articles

based on pre-established inclusion and exclusion criteria. The step-by-step PRISMA flowchart was detailed in Figure 1.

Figure 1 - PRISMA flowchart used in the integrative review.



Source: Self elaboration (2024).

3. Results

3.1 Studies selection

The complete description of search strategy of each database, with respective descriptors combinations and results are described in Table 2.

Table 2 – Search Strategy of database (PUBMED; SCOPUS; EMBASE; BVS; CINAHL; World of Science).

PUBMED		
Search number	Query	Results
#1	("Aged, 80 and over" OR "Centenarians" OR "Nonagenarians" OR "Octogenarians" OR "Frail Elderly" OR "Elderly, Frail" OR "Frail Elders" OR "Elder, Frail" OR "Elders, Frail" OR "Frail Elder" OR "Functionally-Impaired Elderly" OR "Elderly, Functionally-Impaired" OR "Functionally Impaired Elderly" OR "Frail Older Adults" OR "Adult, Frail Older" OR "Adults, Frail Older" OR "Frail Older Adult" OR "Older Adult, Frail" OR "Older Adults, Frail") AND ("Parkinsonian Disorders" OR "Parkinsonian Syndrome" OR "Parkinsonian Syndromes" OR "Parkinsonian Diseases" OR "Parkinsonism" OR "Autosomal Dominant Parkinsonism" OR "Dominant Parkinsonism, Autosomal" OR "Parkinsonism, Autosomal Dominant" OR "Parkinson Disease" OR "Chromosome 6-Linked Autosomal Recessive Parkinsonism" OR "Chromosome 6 Linked Autosomal Recessive Parkinsonism" OR "Parkinson Disease, Familial, Autosomal Recessive" OR "Ramsay Hunt Paralysis Syndrome" OR "Experimental Parkinsonisms" OR "Parkinsonisms, Experimental" OR "Parkinson Disease, Experimental" OR "Experimental Parkinson Disease" OR "Diseases, Experimental Parkinson" OR "Experimental Parkinson Diseases" OR "Parkinson Diseases, Experimental" OR "Experimental Parkinsonism" OR "Autosomal Recessive Parkinsonism" OR "Parkinsonism, Autosomal Recessive" OR "Recessive Parkinsonism, Autosomal")	11.448
#2	"Complete Denture" OR "Complete Dentures" OR "Dentures, Complete" OR "Dentures, Overlay" OR "Overlay Denture" OR "Overlay Dentures" OR "Overdenture" OR "Overdentures"	17.079
#3	"Edentulous" OR "Edentulous Jaw" OR "Edentulous Jaws" OR "Jaws, Edentulous" OR "Edentulous Mouth" OR "Edentulous Mouths" OR "Mouth, Toothless" OR "Toothless Mouth"	18.612
#4	"Quality of life" OR "HRQOL" OR "Health Related Quality Of Life" OR "Health-Related Quality Of Life" OR "Life Quality" OR "OHIP-edent" OR "Whoquol" OR "DIDL" OR "Whoquol-OLD" OR "GOHAI"	408.673
#5	#1 AND #2 AND #3 AND #4	0
#6	#1 AND #3 AND #4	0
#7	#1 AND #2 AND #4	0
#8	#1 AND #2 AND #3	2
SCOPUS		
#1	ALL("Aged, 80 and over" OR "Centenarians" OR "Nonagenarians" OR "Octogenarians" OR "Frail Elderly" OR "Elderly, Frail" OR "Frail Elders" OR "Elder, Frail" OR "Elders, Frail" OR "Frail Elder" OR "Functionally-Impaired Elderly" OR "Elderly, Functionally-Impaired" OR "Functionally Impaired Elderly" OR "Frail Older Adults" OR "Adult, Frail Older" OR "Adults, Frail Older" OR "Frail Older Adult" OR "Older Adult, Frail" OR "Older Adults, Frail") AND ALL("Parkinsonian Disorders" OR "Parkinsonian Syndrome" OR "Parkinsonian Syndromes" OR "Parkinsonian Diseases" OR "Parkinsonism" OR "Autosomal Dominant Parkinsonism" OR "Dominant Parkinsonism, Autosomal" OR "Parkinsonism, Autosomal Dominant" OR "Parkinson Disease" OR "Chromosome 6-Linked Autosomal Recessive Parkinsonism" OR "Chromosome 6 Linked Autosomal Recessive Parkinsonism" OR "Parkinson Disease, Familial, Autosomal Recessive" OR "Ramsay Hunt Paralysis Syndrome" OR "Experimental Parkinsonisms" OR "Parkinsonisms, Experimental" OR "Parkinson Disease, Experimental" OR "Experimental Parkinson Disease" OR "Diseases, Experimental Parkinson" OR "Experimental Parkinson Diseases" OR "Parkinson Diseases, Experimental" OR "Experimental Parkinsonism" OR "Autosomal Recessive Parkinsonism" OR "Parkinsonism, Autosomal Recessive" OR "Recessive Parkinsonism, Autosomal")	32.108
#2	ALL("Complete Denture" OR "Complete Dentures" OR "Dentures, Complete" OR "Dentures, Overlay" OR "Overlay Denture" OR "Overlay Dentures" OR "Overdenture" OR "Overdentures")	32.963
#3	ALL("Edentulous" OR "Edentulous Jaw" OR "Edentulous Jaws" OR "Jaws, Edentulous" OR "Edentulous Mouth" OR "Edentulous Mouths" OR "Mouth, Toothless" OR "Toothless Mouth")	46.985
#4	ALL("Quality of life" OR "HRQOL" OR "Health Related Quality Of Life" OR "Health-Related Quality Of Life" OR "Life Quality" OR "OHIP-edent" OR "Whoquol" OR "DIDL" OR "Whoquol-OLD" OR "GOHAI")	1.475.459
#5	#1 AND #2 AND #3 AND #4	28
#6	#1 AND #3 AND #4	42
#7	#1 AND #2 AND #4	46
#8	#1 AND #2 AND #3	40

EMBASE

#1	('aged, 80 and over' OR 'centenarians' OR 'nonagenarians' OR 'octogenarians' OR 'frail elderly' OR 'elderly, frail' OR 'frail elders' OR 'elder, frail' OR 'elders, frail' OR 'frail elder' OR 'functionally-impaired elderly' OR 'elderly, functionally-impaired' OR 'functionally impaired elderly' OR 'frail older adults' OR 'adult, frail older' OR 'adults, frail older' OR 'frail older adult' OR 'older adult, frail' OR 'older adults, frail') AND ('parkinsonian disorders' OR 'parkinsonian syndrome' OR 'parkinsonian syndromes' OR 'parkinsonian diseases' OR 'parkinsonism' OR 'autosomal dominant parkinsonism' OR 'dominant parkinsonism, autosomal' OR 'parkinsonism, autosomal dominant' OR 'parkinson disease' OR 'chromosome 6-linked autosomal recessive parkinsonism' OR 'chromosome 6 linked autosomal recessive parkinsonism' OR 'parkinson disease, familial, autosomal recessive' OR 'ramsay hunt paralysis syndrome' OR 'experimental parkinsonisms' OR 'parkinsonisms, experimental' OR 'parkinson disease, experimental' OR 'experimental parkinson disease' OR 'diseases, experimental parkinson' OR 'experimental parkinson diseases' OR 'parkinson diseases, experimental' OR 'experimental parkinsonism' OR 'autosomal recessive parkinsonism' OR 'parkinsonism, autosomal recessive' OR 'recessive parkinsonism, autosomal')	203
#2	complete denture' OR 'complete dentures' OR 'dentures, complete' OR 'dentures, overlay' OR 'overlay denture' OR 'overlay dentures' OR 'overdenture' OR 'overdentures'	9.355
#3	edentulous' OR 'edentulous jaw' OR 'edentulous jaws' OR 'jaws, edentulous' OR 'edentulous mouth' OR 'edentulous mouths' OR 'mouth, toothless' OR 'toothless mouth'	12.902
#4	'quality of life' OR 'hrqol' OR 'health related quality of life' OR 'health-related quality of life' OR 'life quality' OR 'ohip-edent' OR 'whoquo' OR 'didl' OR 'whoquo-old' OR 'gohai'	712.804
#5	#1 AND #2 AND #3 AND #4	0
#6	#1 AND #3 AND #4	0
#7	#1 AND #2 AND #4	0
#8	#1 AND #2 AND #3	0

BVS

#1	("Aged, 80 and over" OR "Centenarians" OR "Nonagenarians" OR "Octogenarians" OR "Frail Elderly" OR "Elderly, Frail" OR "Frail Elders" OR "Elder, Frail" OR "Elders, Frail" OR "Frail Elder" OR "Functionally-Impaired Elderly" OR "Elderly, Functionally-Impaired" OR "Functionally Impaired Elderly" OR "Frail Older Adults" OR "Adult, Frail Older" OR "Adults, Frail Older" OR "Frail Older Adult" OR "Older Adult, Frail" OR "Older Adults, Frail") AND ("Parkinsonian Disorders" OR "Parkinsonian Syndrome" OR "Parkinsonian Syndromes" OR "Parkinsonian Diseases" OR "Parkinsonism" OR "Autosomal Dominant Parkinsonism" OR "Dominant Parkinsonism, Autosomal" OR "Parkinsonism, Autosomal Dominant" OR "Parkinson Disease" OR "Chromosome 6-Linked Autosomal Recessive Parkinsonism" OR "Chromosome 6 Linked Autosomal Recessive Parkinsonism" OR "Parkinson Disease, Familial, Autosomal Recessive" OR "Ramsay Hunt Paralysis Syndrome" OR "Experimental Parkinsonisms" OR "Parkinsonisms, Experimental" OR "Parkinson Disease, Experimental" OR "Experimental Parkinson Disease" OR "Diseases, Experimental Parkinson" OR "Experimental Parkinson Diseases" OR "Parkinson Diseases, Experimental" OR "Experimental Parkinsonism" OR "Autosomal Recessive Parkinsonism" OR "Parkinsonism, Autosomal Recessive" OR "Recessive Parkinsonism, Autosomal")	15.112
#2	("Complete Denture" OR "Complete Dentures" OR "Dentures, Complete" OR "Dentures, Overlay" OR "Overlay Denture" OR "Overlay Dentures" OR "Overdenture" OR "Overdentures")	17.870
#3	("Edentulous" OR "Edentulous Jaw" OR "Edentulous Jaws" OR "Jaws, Edentulous" OR "Edentulous Mouth" OR "Edentulous Mouths" OR "Mouth, Toothless" OR "Toothless Mouth")	20.007
#4	("Quality of life" OR "HRQOL" OR "Health Related Quality Of Life" OR "Health-Related Quality Of Life" OR "Life Quality" OR "OHIP-edent" OR "Whoquo" OR "DIDL" OR "Whoquo-OLD" OR "GOHAI")	438.909
#5	#1 AND #2 AND #3 AND #4	0
#6	#1 AND #3 AND #4	0
#7	#1 AND #2 AND #4	0
#8	#1 AND #2 AND #3	2

CINAHL

#1	("Aged, 80 and over" OR "Centenarians" OR "Nonagenarians" OR "Octogenarians" OR "Frail Elderly" OR "Elderly, Frail" OR "Frail Elders" OR "Elder, Frail" OR "Elders, Frail" OR "Frail Elder" OR "Functionally-Impaired Elderly" OR "Elderly, Functionally-Impaired" OR "Functionally Impaired Elderly" OR "Frail Older Adults" OR "Adult, Frail Older" OR "Adults, Frail Older" OR "Frail Older Adult" OR "Older Adult, Frail" OR "Older Adults, Frail") AND ("Parkinsonian Disorders" OR "Parkinsonian Syndrome" OR "Parkinsonian Syndromes" OR "Parkinsonian Diseases" OR "Parkinsonism" OR "Autosomal Dominant Parkinsonism" OR "Dominant Parkinsonism, Autosomal" OR "Parkinsonism, Autosomal Dominant" OR "Parkinson Disease" OR "Chromosome 6-Linked Autosomal Recessive Parkinsonism" OR "Chromosome 6 Linked Autosomal Recessive Parkinsonism" OR "Parkinson Disease, Familial, Autosomal Recessive" OR "Ramsay Hunt Paralysis Syndrome" OR "Experimental Parkinsonisms" OR "Parkinsonisms, Experimental" OR "Parkinson Disease, Experimental" OR "Experimental Parkinson Disease" OR "Diseases, Experimental Parkinson" OR "Experimental Parkinson Diseases" OR "Parkinson Diseases, Experimental" OR "Experimental Parkinsonism" OR "Autosomal Recessive Parkinsonism" OR "Parkinsonism, Autosomal Recessive" OR "Recessive Parkinsonism, Autosomal")	3.560
#2	("Complete Denture" OR "Complete Dentures" OR "Dentures, Complete" OR "Dentures, Overlay" OR "Overlay Denture" OR "Overlay Dentures" OR "Overdenture" OR "Overdentures")	2.251
#3	("Edentulous" OR "Edentulous Jaw" OR "Edentulous Jaws" OR "Jaws, Edentulous" OR "Edentulous Mouth" OR "Edentulous Mouths" OR "Mouth, Toothless" OR "Toothless Mouth")	4.171
#4	("Quality of life" OR "HRQOL" OR "Health Related Quality Of Life" OR "Health-Related Quality Of Life" OR "Life Quality" OR "OHIP-edent" OR "Whoquol" OR "DIDL" OR "Whoquol-OLD" OR "GOHAI")	225.220
#5	#1 AND #2 AND #3 AND #4	0
#6	#1 AND #3 AND #4	0
#7	#1 AND #2 AND #4	0
#8	#1 AND #2 AND #3	0

World of Science

#1	ALL=("Aged, 80 and over" OR "Centenarians" OR "Nonagenarians" OR "Octogenarians" OR "Frail Elderly" OR "Elderly, Frail" OR "Frail Elders" OR "Elder, Frail" OR "Elders, Frail" OR "Frail Elder" OR "Functionally-Impaired Elderly" OR "Elderly, Functionally-Impaired" OR "Functionally Impaired Elderly" OR "Frail Older Adults" OR "Adult, Frail Older" OR "Adults, Frail Older" OR "Frail Older Adult" OR "Older Adult, Frail" OR "Older Adults, Frail") AND ALL=("Parkinsonian Disorders" OR "Parkinsonian Syndrome" OR "Parkinsonian Syndromes" OR "Parkinsonian Diseases" OR "Parkinsonism" OR "Autosomal Dominant Parkinsonism" OR "Dominant Parkinsonism, Autosomal" OR "Parkinsonism, Autosomal Dominant" OR "Parkinson Disease" OR "Chromosome 6-Linked Autosomal Recessive Parkinsonism" OR "Chromosome 6 Linked Autosomal Recessive Parkinsonism" OR "Parkinson Disease, Familial, Autosomal Recessive" OR "Ramsay Hunt Paralysis Syndrome" OR "Experimental Parkinsonisms" OR "Parkinsonisms, Experimental" OR "Parkinson Disease, Experimental" OR "Experimental Parkinson Disease" OR "Diseases, Experimental Parkinson" OR "Experimental Parkinson Diseases" OR "Parkinson Diseases, Experimental" OR "Experimental Parkinsonism" OR "Autosomal Recessive Parkinsonism" OR "Parkinsonism, Autosomal Recessive" OR "Recessive Parkinsonism, Autosomal")	30
#2	ALL=("Complete Denture" OR "Complete Dentures" OR "Dentures, Complete" OR "Dentures, Overlay" OR "Overlay Denture" OR "Overlay Dentures" OR "Overdenture" OR "Overdentures")	6.666
#3	ALL=("Edentulous" OR "Edentulous Jaw" OR "Edentulous Jaws" OR "Jaws, Edentulous" OR "Edentulous Mouth" OR "Edentulous Mouths" OR "Mouth, Toothless" OR "Toothless Mouth")	10.197
#4	ALL=("Quality of life" OR "HRQOL" OR "Health Related Quality Of Life" OR "Health-Related Quality Of Life" OR "Life Quality" OR "OHIP-edent" OR "Whoquol" OR "DIDL" OR "Whoquol-OLD" OR "GOHAI")	499.927
#5	#1 AND #2 AND #3 AND #4	0
#6	#1 AND #3 AND #4	0
#7	#1 AND #2 AND #4	0
#8	#1 AND #2 AND #3	0

Source: Self elaboration (2024).

The electronic database search initially yielded 42 studies, which were refined to 40 potential studies after removing duplicates. Titles and abstracts were screened based on study design, population, and the reporting of denture use and related quality of life. After screening the titles and abstracts, two studies were selected (Table 3).

Table 3 - Articles included in the research.

Title	Author and publication year	Study Design	Population	Purpose	Results
Influence of a removable prosthesis on oral health-related quality of life and mastication in elders with Parkinson disease.	Ribeiro et al., 2017.	Observational clinical study.	Thirty-four elders with PD (n=17, mean age 69.4 ±4.7 years) or without PD (n=17, mean age 70.7 ±4.7 years).	Evaluate the influence of oral rehabilitation with a removable prosthesis on oral health-related quality of life (OHRQoL) and masticatory efficiency (ME) in elders with PD.	After the insertion of removable prostheses, elders with both groups showed improved OHRQoL and ME. At baseline, elders with PD had lower OHRQoL and ME compared with the controls (P<.05). After removable prosthesis insertion, the elders with PD continued to show lower ME values than the controls, but their OHRQoL was similar.
Do swallowing exercises improve swallowing dynamic and quality of life in Parkinson's disease?	Argolo et al., 2013.	A before-after trial	Fifteen patients concluded the study (10 man/5 woman; mean age 59.2 ± 9.17)	To investigate the effect of motor swallowing exercises on swallowing dynamic, quality of life and swallowing complaints in Parkinson's disease (PD).	Showed significant videofluoroscopic improvements in bolus control, piecemeal swallow, and residue issues. Quality of life (QOL) improved in fear and symptom frequency, but QOL improvements were not correlated with reduced swallowing disorders.

Source: Ribeiro et al. (2017); Argolo et al. (2013).

3.2 Studies included

3.2.1 Included study 1: Removable Dental Prosthesis

Ribeiro et al. (2017) evaluated the Oral Health-Related Quality of Life (OHRQoL) and masticatory efficiency (ME) of 34 older adults: 17 with Parkinson's disease (PD) and 17 without PD, both before and after the insertion of new removable prostheses. The results showed that older adults with PD experienced improvements in OHRQoL and ME. The control group also showed improvements in both measures after the insertion of removable prostheses. Their conclusion was that oral rehabilitation with new removable dental prostheses improved the OHRQoL and ME in older adults with and without PD, although ME did not reach the control levels in older adults with PD.

3.2.2 Included study 2: Do swallowing exercises improve swallowing dynamic and quality of life in Parkinson's disease?

Argolo et al. (2013) highlight the importance of teamwork in the oral rehabilitation of patients with Parkinson's disease (PD), particularly when addressing the swallowing disorders that accompany the disease. In their study, they investigated the effect of motor swallowing exercises on swallowing dynamics, quality of life, and swallowing complaints in 15 PD patients with dysphagia. The primary outcome was the difference in the number of swallowing videofluoroscopic events (Swallowing Score) before and after the intervention. The secondary outcomes included a reduction in swallowing disorders and complaints in patients without lingual pumping and dental absence, as well as a positive impact on quality of life.

4. Discussion

This integrative review was strengthened by the broadly formulated inclusion criteria regarding study designs and types of participants. Our key messages and clinical implications are as follows:

- There is a lack of studies on the quality of life related to dentures in patients with Parkinson's disease.

- The quality of life of patients with Parkinson's disease is closely related to their functional capacity and the conditions that enable them to maintain participation in self-care, socialization, and living life to the fullest.

I. Body mouth connection

Oral health is closely associated with, and can positively or negatively influence, complex factors inherent to frail aging individuals: sarcopenia, dysphagia, malnutrition, and swallowing problems. This underscores the importance of discussing the contribution of oral rehabilitation (MacDonald et al., 2006; Okamoto et al., 2012; Farpour et al., 2018). Tooth loss can negatively impact environmental enrichment and successful aging (MacDonald et al., 2006).

When medical conditions are well managed, patients with severe compromises can enjoy overall health with the comfort and confidence of fixed prostheses, rather than experiencing the discomfort and self-consciousness associated with poor oral health and hygiene, typically found in Parkinson's disease (PD) patients. The mouth is often overlooked by both patients and the medical community, who generally focus on motor or psychiatric disorders deemed more burdensome. However, oral health has a reciprocal relationship with overall health—a weakened status can trigger a decline in quality of life (Heckmann et al., 2000; Dougall et al., 2008; Gaetti-Jardim et al., 2013; Farpour et al., 2018; Azzolino et al., 2019).

II. PD Medication and Oral Implications

Auffret et al. (2021) highlighted the direct and indirect orofacial consequences of Parkinson's disease (PD) and its medication:

- Periodontal diseases, altered taste sensation, motor symptoms, dysphagia, angular cheilitis, preference for soft food, snacking behavior.
- Difficulties with dental appointments (accessibility, affordability, dentist reluctance).
- Discomfort with mouthwashes (fear of choking), burning mouth syndrome, hypomimia, speech difficulties, facial muscle rigidity, facial tremor, drooling, reduced mouth opening capacity.

III. Retention of Prosthesis: A Significant Challenge

Although the use of an implant-supported overdenture is an acceptable treatment modality, the clinician should recognize that severe mandibular atrophy is typical in aging patients (Heydecke et al., 2004), and must consider the indications and maintenance requirements of different attachment systems for individual patients.

Heckmann et al. (2000) presented benefits including ease of handling and cleaning, improved chewing and gastrointestinal function, and stability of implant overdentures in three Parkinson's disease patients. Custom-made non-rigid (resilient) telescopic attachments were used for the retention of the overdentures on the implants. Chu et al. (2004) reported an implant-tissue supported, magnet-retained mandibular overdenture for an edentulous patient with Parkinson's disease.

5. Conclusion

This review emphasizes the potential benefits of oral rehabilitation interventions in improving the quality of life for individuals with Parkinson's disease (PD). However, due to the scarcity of studies in this area, definitive conclusions regarding their effectiveness cannot be confidently drawn. Nevertheless, our findings underscore the importance of addressing oral health issues as part of PD management. Further research is warranted to better understand the impact of oral rehabilitation on PD patients' quality of life.

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