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ARTICLE

ORAL HEALTH AND QUALITY OF LIFE OF THE GERIATRIC PATIENT: CONTEXTS OF AUTONOMY.

Salud bucal y calidad de vida del paciente geriátrico: contextos de autonomía.

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ABSTRACT:

Background: The state of oral health plays an important role in the concept of frailty among the elderly, as they tend to suffer from poor oral health conditions.

Objective: The aim of our systematic review is to study the impact of oral health on the quality of life of the geriatric patient in different contexts of autonomy.

Material and Methods: A systematic literature review was carried out of which the selection of articles, with publication date between 2008 and 2020 was conducted through computer platforms. The studies were analyzed and evaluated respecting the previously established inclusion criteria. The review corpus consisted of 16 articles, which presented methodological quality.

Results: Oral health has an impact on the quality of life of the elderly, both in the context of institutionalization and at a community level. Oral health has an effect on the quality of life of the elderly, namely in the dimensions of physical pain, physical disability, psychological discomfort, functional limitation, psychological and social disability. The higher the level of dependency the lower the oral health which has the greatest impact on quality of life. The presence of periodontitis, dental caries, edentulism, oral lesions and unsuitable dental prostheses result in a worse perception of quality of life.

Conclusion: The evidence found in this study reveals that the state of oral health among the elderly influences their quality of life, regardless of the context of autonomy, indicating the need for oral health policies aimed at this specific population.

KEYWORDS:

Oral health; Quality of life; Aged; Health of the elderly; Personal autonomy; Frailty.

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RESUMEN:

Fundamento: El estado de salud bucal juega un papel importante en el concepto de fragilidad entre los ancianos, ya que tienden a padecer de malas condiciones de salud bucal.

Objetivo: El objetivo de nuestra revisión sistemática es estudiar el impacto de la salud bucal en la calidad de vida del paciente geriátrico en diferentes contextos de autonomía.

Material y Métodos: Se realizó una revisión sistemática de la literatura, se seleccionó artículos con fecha de publicación entre 2008 y 2020 a través de plataformas informáticas. Los estudios fueron analizados y evaluados respetando los criterios de inclusión previamente establecidos. El corpus de revisión estuvo compuesto por 16 artículos, que presentaron calidad metodológica.

Resultados: La salud bucal tiene impacto en la calidad de vida de los ancianos, tanto en el contexto de institucionalización como a nivel comunitario. La salud bucal tiene un efecto sobre la calidad de vida de los ancianos, concretamente en las dimensiones de dolor físico, discapacidad física, malestar psicológico, limitación funcional, discapacidad psicológica y social. Cuanto mayor es el nivel de dependencia, menor es la salud bucal, lo que tiene un mayor impacto en la calidad de vida. La presencia de periodontitis, caries dental, edentulismo, lesiones bucales y prótesis dentales inadecuadas redundan en una peor percepción de la calidad de vida.

Conclusión: Las evidencias encontradas en este estudio revelan que el estado de salud bucal de los ancianos influye en su calidad de vida, independientemente del contexto de autonomía, indicando la necesidad de políticas de salud bucal dirigidas a esa población específica.

PALABRAS CLAVE:

Salud bucal; Calidad de vida; Anciano; Salud del anciano; Autonomía personal; Fragilidad.

INTRODUCTION.

Portugal, like other European countries, has registered significant demographic changes in the last decades mainly due to the increase in longevity and the elderly population, with a decrease in the birth rate and the number of young people.[1]

Aging is characterized as a natural and progressive course with susceptibility to result in limitations and transformations in terms of functioning of the organism, which results in higher vulnerability of the elderly to diseases and a higher level of dependency.[2] Additionally, several studies also show that the level of autonomy and dependence of the geriatric patient is related to access to medical and dental services, oral health status, dental care and diet adequacy. In this sense, the oral cavity often reflects consequences resulting from the change in the degree of dependence of the geriatric patient and changes that occur at the systemic level.

This situation also has an impact on the quality of life, since oral problems are not only a source of pain, but also a cause of physical and emotional illness. Data on the oral health of the elderly reflects a worrying situation, with a high prevalence of dental caries, pe-riodontal disease and frequent edentulism. There is clear evidence that periodontitis is a risk factor for certain systemic diseases and impaired oral health has been associated with highly negative effects on the quality of life of the elderly.[3]

Health-Related Quality of Life (HRQoL) is part of a broader concept called "general well-being", being synonymous with "quality of life".[4,5] Therefore, based on the premise that HRQoL affects a person's general well-being and that oral health is an integral component of ge-neral health, it can be said that oral health is partly responsible for the state of general wellbeing, particularly important among the elderly.

In this context, emerges the concept of Oral He-

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alth-Related Quality of Life (OHRQoL), which is also a multidimensional concept that includes a subjective assessment of the individual about his oral health, functional and emotional well-being, expectations and satisfaction with care and self-sense, being an integral part of general health and well-being.[6]

In Portugal, in the National Program for The Promotion of Oral Health,[7] it is stated that oral health contributes to the physical, mental and social well-being, allowing the full use of the opportunities that life provides, emphasizing the relationship with talking, eating, without pain or discomfort.

It is also stated that oral health is an integral part of general health, justifying a cross-cutting intervention, meeting the principles of the Liverpool Declaration which aims to promote oral health in the 21st century, recommending that countries should ensure access to Primary Health Care with emphasis on prevention and health promotion, im-proving the quality of life of the elderly.

A systematic review of the literature was carried out with the objective of systematizing the current knowledge about the impact of oral health on the quality of life of geriatric patients in different contexts of autonomy, with the guiding PICO question: What is the impact of oral health on the quality of life of geriatric patients in different contexts of autonomy?

MATERIALS AND METHODS.

Study design

Aiming at the systematization of current knowledge about the impact of oral health on the quality of life of geriatric patients in different contexts of autonomy, a systematic review of the literature was conducted, based on PRISMA.[8]

Study eligibility criteria

In order to limit the articles under study, which will be part of this systematic review, more specific selection criteria were defined and applied (Table 1).

Resources used in the current study

For the identification of relevant studies in accordance with the defined criteria, research was carried out that included studies dating from January 2008 to June 2020, in Portuguese, Spanish and English, using the following electronic database platforms: CINAHL Complete; MEDLINE Complete; Nursing & Allied Health Collection: Comprehensive; Cochrane Central Register of Controlled Trials; Cochrane Database of Systematic Reviews; Cochrane Metho-dology Register; Library, Information Science & Technology Abstracts; MedicLatina, via EBSCOhost; Academic Google; PubMed, B-On e SCIELO, (Table 1).

The option for the 12-year period was due to the fact that it was necessary to extend the time period of the publication of studies, since there are few studies that simultaneously associate oral health and the quality of life of the elderly in terms of their contexts of autonomy.

Search strategy

The following Medical Subject Headings (MeSH) terms were used to search for articles: “Oral Health”, “Quality of Life”, “Patients”, “Institutionalization”, “Aged”, “Personal Autonomy”, “Activities of Daily Living”. We also used “Elderly”, “Homes for the Aged” and “Housing for the Elderly” as they are Entry Term(s). The identified MeSH synonyms of each of these terms were also used in conjunction with the Boolean operators as follows: “Oral Health” [MeSH Major Topic] AND ("Quality of Life" [MeSH Terms] AND "Patients; Aged" [MeSH Terms]); OR ([Elderly]) AND ("Institutionalization" [MeSH Major Topic] OR ([“Homes for the Aged; Housing for the Elderly”]) AND "Quality of Life" [MeSH Major Topic] AND "Personal Autonomy" [MeSH Major Topic] OR "Activities of Daily Living" [MeSH Major Topic]. These descriptors were used, in Portuguese, Spanish and English, in the aforementioned scientific search engines, in order to carry out a more in-depth search and obtain the full articles.

Study selection

The research in the databases resulted in the identification of 256 articles. Thus, in the first phase, studies that were duplicated in the databases (n=141) were removed. In a second phase, and after analysis of the articles (n=115) through their titles and abstracts, 79 were excluded by the date of publication, by the absence of full text or by the

type of language, and 36 full-text articles were eligible. Of these, 20 were excluded because they did not meet the inclusion criteria. A total of 16 articles were included in the study.

In Figure 1, it is possible to observe the PRISMA flowchart for the 4 stages of selection of the articles: identification, selection, eligibility and inclusion.

The next step consists of a narrative summary describing the objectives or purposes of the articles included in the analysis corpus, adopted concepts and results related to the starting point of the systematic review.

RESULTS.

Characteristics of the studies

The following table shows the results such as: distribution of studies by title, author(s) and publication year (Table 2).

Figure 1. PRISMA flowchart.

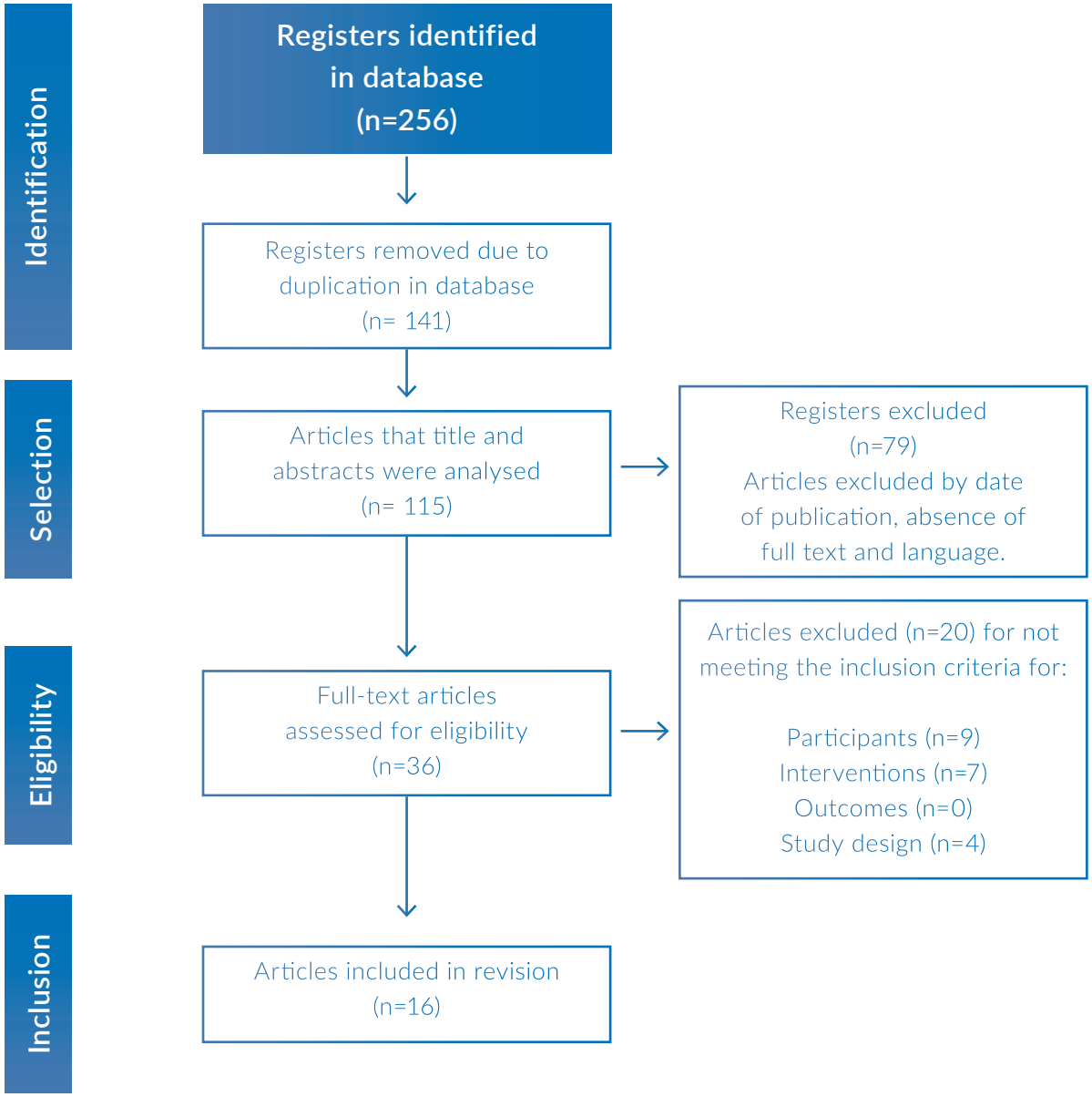

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Table 1. Inclusion and exclusion criteria for studies.

SELECTION CRITERIA	INCLUSION CRITERIA	EXCLUSION CRITERIA
Participants	> 60 years Institutionalized and non-institutionalized elderly	Age <60 years
Interventions	Studies that assess oral health and quality of life in different contexts of autonomy	Studies that do not analyse the inclusion variables
Comparisons	Institutionalized and non-institutionalized elderly	
"Outcomes"	Influence of institutionalization/ deinstitutionalization on the impact of oral health on the quality of life of the elderly	Studies that do not assess the influence of different contexts of autonomy
Study types	Experimental, quasi-experimental, cross-sectional analytical studies, randomized, controlled clinical trials, exploratory, controlled trials.	Other outlines besides inclusion
Publication date	2008-2020	Studies before 2008
Languages	Portuguese, Spanish, English	Other foreign languages
Article availability	Full-text	Abstract only

Table 2. Summary table of articles' characterization.

CODE	TITLE	AUTHOR(S)	PUBLICATION YEAR
A01	The Effect of Oral Health on Quality of Life in an Under privileged Homebound and Non-Homebound Elderly Population in Jerusalem	Zini *et al.*[9]	2008
A02	Self-perception of oral health and impact on quality of life among the elderly: a quantitative-qualitative approach	Haikal *et al.*[10]	2011
A03	Oral health-related quality of life among adults 68-77 years old in Nord-Trøndelag, Norway	Dahl *et al.*[11]	2011
A04	Self-perceived oral health and associated factors among the elderly in Campinas, Southeastern Brazil, 2008-2009.	Silva *et al.*[12]	2011
A05	Relationship between oral impacts on daily performance and chewing ability among indepen dent elders residing in Daejeon City, Korea	Hwang *et al.*[13]	2012
A06	Oral Health-Related Quality of Life in institutionalized elderly in Barcelona (Spain)	Cornejo *et al.*[14]	2013
A07	Relationships between higher-level functional capacity and dental health behaviors in community-dwelling older adults	Moriya *et al.*[15]	2013
A08	Oral health conditions and quality of life of elderly users of the Unified National Health System	Mestriner *et al.*[16]	2014
A09	The impact of oral health on the quality of life of nursing home residents	Porter *et al.*[17]	2015
A10	Self-perceived oral health among the elderly: a household-based study	Nogueira *et al.*[18]	2017
A11	Influence of oral health on the quality of life of institutionalized and noninstitutionalized elderly people	Saliba *et al.*[19]	2018
A12	Impact of Oral Health Promotion Project on Periodontal Condition and Life Quality of the Eld erly in Long-Term Care Institutions	Li *et al.*[20]	2018
A13	Oral health-related quality of life in older adults-Longitudinal study	Echeverria *et al.*[21]	2018
A14	Correlation between oral health and quality of life among the elderly in Southwest China from 2013 to 2015	Sheng *et al.*[22]	2018
A15	Functional capacity and oral health-related quality of life in elderly	Foger *et al.*[24]	2019
A16	Older People Living in Nursing Homes: An Oral Health Screening Survey in Florence, Italy	Chiesi *et al.*[25]	2019

Table 3. Summary of results from selected articles.

STUDIES	AIM	USED TOOLS	PARTICIPANTS	OHRQOL IMPACT	AFFECTED DIMENSIONS	INFLUENCE OF ORAL HEALTH ON QOL [NEGATIVE (-), POSITIVE (+)]
Zini *et al.*[9]	Assess the effect of oral health on the quality of life of institutionalized and non-institutionalized elderly.	**QoL:** Oral Health Impact Profile (OHIP-14) **Intra-oral examination.**	344 institutionalized and non-institutiona lized elderly.	Yes	Physical pain Physical disability	Functional disability (-)
Haikal *et al.*[10]	To know the relationships between self-perception of oral health, impact of oral health on quality of life and oral clinical status of the elderly.	**QoL:** Not applicable. **Intra-oral examination.** **Other:** semi-structured interviews, photographic images	45 institutionalized elderly.	Only evaluates oral health self-perception	Not applicable	DMFT: the smaller the average number of teeth present and the higher the average DMFT values, the more negative was the self-perception of oral
Dahl *et al.*[11]	To study the relationship between oral health assessment and quality of life in the elderly.	**QoL:** Oral Health Impact Profile (OHIP-14). **Intra-oral examination.**	151 non-institutionalized elderly.	Yes	Physical pain Psychological discomfort, Psychological disability	Low self-perception of oral health (-)
Silva *et al.*[12]	Describe self-perceived oralhealth among the elderly and assess the clinical status of their oral health.	**QoL:** Not applicable. **Intra-oral examination.** **Other:** Interview with caregivers and using the institution's records	876 institutionalized elderly.	Not applicable	Not applicable	Partial or total tooth loss (-) Use of removable prosthesis (+) Oral mucosa problems (-)
Hwang *et al.*[13]	Assess the association between quality of life related to oral health.	**QoL:** Oral Impacts on Daily Performances (OIDP). **Intra-oral examination**	634 non-institutionalized elderly.	Yes	Daily performance	Insufficient chewing capacity (-) Total chewing capacity (+)
Cornejo *et al.*[14]	To study the impact of oral health on the quality of life of institutionalized elderlyOther: Sociodemographic and oral health questionnaire.	**QoL:** Geriatric Oral Health Assessment Index (GOHAI).	194 non-institutionalized elderly.	Yes	Physical domain	Teeth or gum problems (-) Negative perception about teeth/gums /prosthesis (-) Functional edentulism (-)
Moriya *et al.*[15]	To assess the relationship between higher-level functional capacity and oral health behaviors in the elderly in the community.	**QoL:** Tokyo Metropolitan Institute of Gerontology Index of Competence (TMIG-index)) **Other:** assessment of oral health behaviors.	338 non-institutionalized elderly.	Yes	Functional disability for performing ADLs	Decreased intellectual disability (-) Lack of regular visits to the dentist (-) Absence of daily tooth brushing (-) Absence of prosthesis hygiene (-)

QoL: Quality of Life. DMFT: Decayed, Missing, and Filled Teeth. ADL: Activities of Daily Living.

[Continue to Table 3 on the next page.]

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AIM	USED TOOLS	PARTICIPANTS	OHRQOL	AFFECTED IMPACT	INFLUENCE OF ORAL DIMENSIONS	HEALTH ON QOL [NEGATIVE (-), POSITIVE (+)]
Mestriner *et al.*[16]	To analyze the oral and socio-economic health conditions of elderly users of the Unified Health System in the reference unit of the Ribeirão Preto School of Dentistry, University of São Paulo; evaluate its relationship with a subjective indicator of impacts of oral health conditions on quality of life.	**QoL:** Oral Health Impact Profile - OHIP-14. **Other:** collection of secondary data obtained from patient records.	76 non-institutionalized elderly	Yes	Physical pain Psychological discomfort Social disability	Edentulism (-) Feeding discomfort (-) Difficulty in chewing (-)
Porter *et al.*[17]	To evaluate clinical and subjective oral health, including oral health-related quality of life and the association of oral symptoms with health-related quality of life in elderly people living in nursing homes.	**QoL:** Oral Impacts on Daily Performances (OIDP). **Intra-oral examination.** **Other:** surveyed the directors of the home and caregivers of the elderly.	325 institutionalized elderly	Yes	Not applicable	Sensitive teeth (-) Toothache (-) Bleeding gums (-) Dry mouth (-) Fractured natural teeth (-) Poorly adjusted prostheses (-)
Nogueira *et al.*[18]	Investigate the self-perception of oral health in the elderly andits relation ship with self-care measures, use of prostheses and dental services, as well as dental complaints and the impact on daily life.	**QoL:** Not applicable. **Other:** Mini Mental State Examination (MMSE); verbal questionnaires during dental home visits.	95 non-institutionalized elderly	Only assesses oral health self-perception	Difficulties in performing ADLs	Low self-perception of oral health (-)
Saliba *et al.*[19]	Determine the perception of institutionalized (G1) and non- institutionalized (G2) elderly people about their oral health and quality of life (QoL).	**QoL:** Geriatric Oral Health Assessment Index (GOHAI) *World Health Organization* QOL-Bref (WHOQOL-BREF).	150 institutionalized elderly and 80 non-institutionalized elderly	Partially	Physical domain	Reduced access to health care and quality information (-)
Li *et al.*[19]	Assess the impact of a project to promote oral health on periodontal condition and quality of life of elderly people in nursing homes in Wuhan City.	**QoL:** Geriatric Oral Health Assessment Index (GOHAI). **Intra-oral examination.** Oral Hygiene Index simplified (OHI-S), Gingival Index (GI); Bleeding on Probing (BOP).	322 institutionalized elderly	Yes	Difficulties in performing ADLs	Oral health programs (+)

QoL: Quality of Life. DMFT: Decayed, Missing, and Filled Teeth. ADL: Activities of Daily Living.

[Continue to Table 3 on the next page.]

STUDIES	AIM	USED TOOLS	PARTICIPANTS	OHRQOL IMPACT	AFFECTED DIMENSIONS	INFLUENCE OF ORAL HEALTH ON QOL [NEGATIVE (-), POSITIVE (+)]
Echeverria *et al.*[21]	Evaluate the quality related to oral health and determine as-sociations with demographic, socioeconomic factors and oral health variables in the elderly.	**QoL:** Oral Health Impact Profile - OHIP-14 **Intra-oral exami-nation.**	61 non-institutionali-zed elderly	Yes	Psychological discomfor	Tooth loss (-) Keeping the teeth natural (+)
Sheng *et al.*[22]	Assess oral health am-ong people in southwest China and analyze the correlation between common oral diseases and quality of life in the same population.	**QoL:** Oral Health Impact Profile - OHIP-14. **Intra-oral examination.** Community Perio-dontal Index (CPI). Oral health exams and diagnostics.	687 non-institutiona-lized elderly	Yes	Physical disa-bility Social disability	Severe chronic periodontitis (-) Dental defects (-)
Foger *et al.*[24]	Analyze the correlation between functional capacity and quality of life related to oral health in the elderly at home.	**QoL:** Oral Health Impact Profile (OHIP-14) **Other:** Katz Index	238 non-institutiona-lized elderly	Yes	Functional disability Physical pain	Edentulism (-) Poorly adapted prostheses (-)
Chiesi *et al.*[25]	Assess the state of oral health in the elderly in a nursing home; to evaluate the potential association of oral health with cognitive status, the degree of functional autonomy and the risk of malnutrition.	**Intra-oral Exam** **Other:** Malnutrition Universal Scree-ning Tool, Pfeiffer test, the Minimum Data Set-Long Form	176 institutionalized elderly	Not applicable	Not applicable	Poor oral hygiene condition (-) Edentulism (-) Poorly adapted prostheses (-) Decreased cognitive function (-)

QoL: Quality of Life. DMFT: Decayed, Missing, and Filled Teeth. ADL: Activities of Daily Living.

DISCUSSION.

The analyzed studies are unanimous regarding the impact of oral health on the quality of life of the elderly, both in the context of institutionalization and at the community level, demonstrating that good oral health is associated with better quality of life and health in general.

The most used instrument to assess the impact of oral health problems in daily life was the Oral Health Impact Profile (OHIP-14),[9,11,16,21,22,24] followed by the Geriatric Oral Health Assessment Index (GOHAI)[14,19,20] and the Oral Impacts on Daily Performances (OIDP).[13,17] In most studies, clinical oral health examinations were performed.

Studies in different regions have associated the deterioration of oral health with health problems in adults, a critical issue since the systemic condition worsens with age.[25,26] It has been shown that oral health has an effect on the quality of life of insti-tutionalized elderly, namely in the dimension of physical pain and disability,[9] however, the evidence also reveals physical pain, accompanied

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by psychological discomfort in elderly residents in the community,[11,16,24,27] thus confirming that oral problems are not only a source of pain, but also a cause of physical and emotional illness.

The impact on the psychological discomfort domain is also reported in the longitudinal study by Echeverria *et al.*,[21] (28.8% in 2009 and 22.9% in 2015).

It has been shown that the lower the average number of teeth and the higher the DMFT values, the more negative is the self-perception of oral health and OHRQoL.[10] An example of this is the study by Echeverria *et al.*,[21] in which tooth loss it is assumed in itself as a variable with an impact on quality of life, having increased the average OHIP-14 score by 4.8 points (95% CI: 0.11–9.49) in the elderly who suffered tooth loss compared to those who maintained the same number of teeth, revealing that the oral health status of elderly residents in the community influences their quality of life, a similar result to the one found in other studies with institutionalized elderly.[25,27]

It should be noted that elderly people living in the community with dental and oral problems also have, sometimes, reports of social disability.[16, 22] Another result highlights an association between the use of adequate dental prostheses and a better quality of life, with the elderly with adapted dental prostheses and functional dentition showing better oral health.[12,17,23-25]

The loss of teeth and problems in the oral mucosa are negatively related to nutrition, social impact and appearance, interfering in the quality of life of institutionalized elderly.[11]

Likewise, in a sample of elderly residents in the community with affected chewing capacity, there was a higher impact of oral health on daily performance compared to those with total chewing capacity.[13] Also in the study by Porter *et al.*,[17] the presence of poorly adjusted prostheses was strongly associated with a higher negative impact on the quality of life. Other studies also confirm this issue.[23,25]

Another problem associated with physical disability and, consequently, with the quality of life of the elderly, is chronic periodontitis, with impaired nutrition and the need to interrupt meals. Periodontitis has considerable negative effects on the quality of life of elderly residents in the community.[22]

These results are also corroborated by the data of Wong *et al.*,[23] in a population of institutionalized dependent people, which reveal that the presence of periodontitis, dental caries, edentulism, oral lesions and inadequate dental prostheses result in worse perception of quality of life.

This is of particular importance since, with advancing age, the elderly become more susceptible to chronic diseases and oral diseases, with an increased risk of cavities and periodontal diseases.[28]

It was also demonstrated that there is a significant correlation between the low index of 'intellectual activity' with the lack of regular visits to the dentist, the lack of daily tooth brushing and the non-cleaning of dentures. Low intellectual activity and a high level of functional incapacity for performing ADLs are predictors of oral health behavior in elderly residents in the community.[15]

These results are corroborated by Foger *et al.*,[24] whose data reveal that the greater the functional disability for ADLs, the greater the negative impact on oral health on the quality of life of the elderly living in the community.

In addition, dependent elderly people also have limited oral hygiene activities and skills.[15] In the study by Chiesi *et al.*,[25] in institutionalized elderly people, it was found that a worse oral health status was significantly associated ($p<0.05$) with a worse cognitive state and a greater dependence on ADLs.

In fact, it appears that oral health is associated with cognitive ability and the degree of autonomy in performing ADLs: a lower cognitive function is associated with poor oral hygiene, edentulism and poorly adjusted prostheses. The level of dependence for performing ADLs was shown to be significantly associated with oral health conditions, with impaired functional capacity and a high level of dependence, increasing the risk of oral disease and tooth loss, as well as reducing elderly people's ability to manage their oral hygiene.

Similarly, in the study by Nogueira *et al.*,[18] the elderly with worse oral health had difficulties in performing ADLs, with an association between the median number of dental complaints and self-perceived oral health (p<0.001), that is, the greater the number of dental complaints and the impact of oral health on daily life, the poorer self-perception of oral health among the elderly residents in the community. Still in this study, a third of the elderly (n=29; 30.5%) realized that oral health had an impact on their daily lives.

Of these, a third (n=29; 30.5%) felt ashamed when smiling or talking; 12 (12.6%) stopped living with quality; 7 (7.4%) reported nervousness or irritation and 6 (6.3%) slept poorly. Li *et al.*,[20] implemented an oral health promotion program in institutionalized elderly, having seen significant improvements, with better scores in the GOHAI and OHI-S indices in the intervention group, compared to the control group (p<0.05).

Portella *et al.*,[27] describe how an oral health educational program for both the elderly and caregivers can have a positive impact on health conditions in institutionalized elderly people. Pronych *et al.*,[29] suggest the implementation of oral health programs for the elderly, providing strategies and resources to guarantee the daily oral hygiene of the elderly, which will translate into better oral health and, consequently, maximizing their quality of life.

In summary, the results found in the present systematic review corroborates with previous other studies, whose evidences reveals that: partial or total tooth loss; problems in the oral mucosa;[12,21] the precarious chewing capacity;[13,16] problems with teeth or gums are associated with negative perceptions by the elderly;[15,24] the absence of regular dental appointments, the lack of daily brushing and the hygiene of the dentures;[15] the presence of sensitive teeth, toothache, bleeding gums, dry mouth, fractured natural teeth and poorly adjusted prostheses;[17,23-25] and severe chronic periodontitis,[22,23] are negative influences on the oral health and on the quality of life of the elderly regardless of their autonomy context.

However, it should also be noted that, although there are institutionalized elderly people with negative oral health conditions, elderly residents in the community reveal more negative conditions, which can be justified by the fact that institutionalized elderly people have greater support from caregivers, who are more aware about this dimension and because they already have routines (protocols) of obligation of brushing and oral hygiene care.

In turn, many elderly residents in the community, being more independent, have no one to supervise their oral hygiene habits, which results in a higher negative impact on their quality of life. It is important to note that throughout this research, limitations were found, including the difficulty in finding studies that addressed the impact of oral health on the quality of life of the geriatric patient in different contexts of autonomy, which resulted in the widening of the timeline of the date of publication of the studies that formed the sample corpus of this systematic review. However, it's considered a common limitation of other researchers.

It is also suggested to carry out a randomized controlled study, where it is possible to compare the impact of oral health on the quality of life of the geriatric patient in different contexts of autonomy, in samples of institutionalized elderly people and residents in the community.

It is expected that the results of this systematic review will strengthen dental care in the elderly, so that they can guarantee the necessary oral health con-ditions in order to increase their quality of life in this phase of their own lives. It is essential to design and implement oral health policies specifically focused on improving the quality of life in this population.

It is urgent to study and implement strategies in the elderly population that easily allow them not to continue to reach such advanced ages without great quality of life and in poor quality of oral health. So, it is essential and urgent to reinforce and adopt a higher interaction between the family doctor and the dentist, resorting to the expansion and promotion of the dental check-up appointment in these age groups, providing a greater number of dentists in the Health Centers, improving the accessibility of

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users to oral health care and reducing the barriers to accessibility to oral health care (such as economic issues).

It is suggested that more studies in Portugal should be developed in an attempt to investigate the forms and factors of aging, both among institutionalized and non-institutionalized elderly, and how their degree of dependency interferes with their oral health and quality of life. This could certainly contribute so that chronic and degenerative diseases do not affect our elderly people so early, allowing improvements in the quality of life.

There is an urgent need for more comparative studies to emerge between institutionalized and non-institutionalized elderly people who can assess how the OHRQoL and QoL are related to the aging process. In addition, it will be important to identify the factors that are involved here, so that healthier aging strategies and community and public health programs are implemented.

CONCLUSION.

This systematic review of the literature made it possible to respond to the formulated objective, verifying that oral health has an impact on the quality of life of the elderly, both in the context of institutionalization and at the community level.

It was also possible to conclude the following: oral health has an impact on the quality of life of institutionalized elderly people especially in the physical pain and physical disability dimensions; oral health has a greater impact on the quality of life of elderly residents in the community in the physical pain and psychological discomfort dimensions; oral problems are not only a source of pain, but also a cause of physical and emotional illness; the smaller the average number of teeth present and the higher the CPOD values, the more negative is the self-perception of oral health and the OHRQoL regardless of the context of autonomy.

There was an association between the use of dental prostheses and the quality of life, and the elderly who use adapted dental prostheses and with functional dentition have a better quality of life regardless of the context of autonomy; edentulism and oral problems interfere with the quality of nutrition, social life and appearance, with an influence on the quality of life of the elderly.

The presence of chronic periodontitis negatively affects oral health and quality of life for institutionalized and non-institutionalized elderly; a low intellectual activity and a high level of functional incapacity for performing ADLs are predictors of oral health behavior in the elderly, with the elderly dependent on their limited oral hygiene activities and capacities. Thus, it appears that a worse state of oral health is significantly associated with a worse cognitive state and with high levels of dependence in ADLs.

The presence of partial or total tooth loss, problems with the oral mucosa, poor chewing capacity, problems with teeth or gums associated with negative perception of them, the absence of regular appointments with the dentist, the non-brushing of teeth, non-cleaning of dentures, the presence of sensitive teeth, toothache, bleeding gums, dry mouth, fractured natural teeth and poorly adjusted dentures are negative influences of oral health on the quality of life of the elderly regard-less of their autonomy context.

It is important to restate the importance of implementing oral health promotion and prevention programs in the elderly population, as well as informal caregivers, which should be done in a contextualized way with the place where they live and with their sociodemographic and health characteristics in general.

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No conflict of interests exists among any of the authors.

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Authors' contributions:

Conceived and designed the study: Veiga N. Data collection: Abrantes G, Couto P. Analyzed the data: Abrantes G, Couto P. Contributed analysis tools: Abrantes G, PC, Veiga N. Wrote the paper: Abrantes G, Couto P, Veiga N.

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