

INSTITUTO UNIVERSITÁRIO EGAS MONIZ

MESTRADO INTEGRADO EM MEDICINA DENTÁRIA

TOOTH WEAR PREVALENCE AND RISK FACTORS AMONG PATIENTS FROM CLÍNICA DENTÁRIA EGAS MONIZ: AN UPDATE

Trabalho submetido por
Sofia Martins Palma Rodrigues
para a obtenção do grau de Mestre em Medicina Dentária

julho de 2024

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julho de 2024

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Abstract

Aim: This study aims to update the prevalence of tooth wear in a sample of patients seeking the Triage and Urgency appointment at Egas Moniz Dental Clinic (EMDC), correlate with risk factors and compare with the results obtained with the previous index used in the EMDC.

Material and methods: The database created with the collected information was used for descriptive and inferential statistical analysis. Data from 2266 patients, between 2021 and 2023, was analysed, as well as the presence of tooth wear, its different types and its correlation with risk factors.

Results: The prevalence of dental wear was found to be 72.1%, with attrition (35.8%) being the most prevalent lesion, and erosion (7.2%) the least prevalent, in line with the previous investigation. Involving erosion lesions, the ones involving only enamel had a prevalence of 4.8%. Concerning risk predictors, age (OR = 1.013) and VDO (OR = 1.575) were considered relevant for abrasion. Age (OR = 1.028), gender, specifically male, (OR = 1.303) and the use of drugs (OR = 1.736) were positively associated with the presence of attrition. Regarding erosion, age (OR = 1.017), VDO (OR = 1.527), dry mouth (OR = 1.538) and the intake of antacids (OR = 3.128) were considered risk factors for this condition. For NCCL only age (OR = 1.028) was significantly associated.

Conclusion: It was concluded that TW is prevalent and increases with age, underscoring the necessity for timely and accurate diagnosis to minimise its progression. Additionally, it is crucial to conduct a thorough evaluation of the risk factors involved, to implement effective preventive measures and treatment strategies.

Key-words: tooth wear; grading index scales; risk factors; prevalence

Resumo

Objetivo: Este estudo tem como objetivo atualizar a prevalência do desgaste dentário, numa amostra de pacientes que procuraram a consulta de Triagem e Urgência da Clínica Dentária Egas Moniz (EMDC), correlacionar com fatores de risco e comparar com os resultados obtidos com o índice anteriormente utilizado na EMDC.

Materiais e métodos: O banco de dados criado com as informações recolhidas foi utilizado para a análise estatística descritiva e inferencial. Foram analisados dados de 8919 pacientes, entre 2016 e 2023, bem como a presença de desgaste dentário, os seus diferentes tipos e a sua correlação com os fatores de risco.

Resultados: A prevalência do desgaste dentário foi de 72,1%, sendo a atrição (35,8%) a lesão mais prevalente e a erosão (7,2%) a menos prevalente, em concordância com a investigação anterior. Em relação às lesões de erosão, aquelas que envolvem apenas o esmalte tiveram uma prevalência de 4,8%. No que diz respeito aos fatores de risco, a idade (OR = 1,013) e a DVO (OR = 1,575) foram considerados relevantes para a abrasão. A idade (OR = 1,028), o género, especificamente masculino (OR = 1,303), e o uso de drogas (OR = 1,736) foram positivamente associados à presença de atrição. No que concerne à erosão, a idade (OR = 1,017), a DVO (OR = 1,527), a boca seca (OR = 1,538) e a ingestão de antiácidos (OR = 3,128) foram considerados significantes. Para as lesões cervicais não cariosas (NCCL), apenas a idade (OR = 1,028) obteve resultados significativos.

Conclusão: Concluiu-se que o desgaste dentário é prevalente e aumenta com a idade, sublinhando a necessidade de um diagnóstico atempado e preciso para minimizar a sua progressão. Além disso, é crucial realizar uma avaliação minuciosa dos fatores de risco envolvidos para implementar medidas preventivas eficazes e estratégias de tratamento.

Palavras-chave: desgaste dentário; índices; fatores de risco; prevalência.

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List of Abbreviations

3D - Three-dimensional

BEWE - Basic Erosive Wear Examination

BPE - Basic Periodontal Examination

CI - Confidence Intervals

EM - Egas Moniz School of Health and Science

EMDC - Egas Moniz Dental Clinic

GER - Gastroesophageal reflux

GERD - Gastroesophageal reflux disease

IOSs - Intraoral scanners

NCCL - Non-carious cervical lesion

OR - Odds ratio

TW - Tooth Wear

TWES - Tooth Wear Evaluation System

TWI - Tooth Wear Index

VDO - Vertical dimension of occlusion

1. INTRODUCTION

1.1. Tooth Wear

Tooth Wear (TW) has become more relevant over the last decades in terms of preservation of the natural dentition; on one side we have the patient's seeking advice and treatment from dentists and on the other, the clinicians are more involved in the search for knowledge to treat this condition (Hemmings et al., 2018; Wetselaar et al., 2019).

TW is a common finding that can be described as the progressive loss of dental hard tissues, including enamel and dentin, without the presence of caries or trauma (A. Algadhi, 2021; Shrestha & Rajbhandari, 2018). This process is of multifactorial aetiology and its severity is generally proportional to ageing, with unpredictable rates of tissue loss (Mehta et al., 2012; Schuurs, 2013).

This phenomenon can be classified as either physiological or pathological. Physiological wear is a natural outcome that comes along the process of ageing, involving activities such as mastication and adjustments, necessary for teeth to function properly (Bartlett & O'Toole, 2019; Warreth et al., 2020).

The daily contact between the teeth of both arcades causes a microscopical loss of tooth surface that, with time, will evolve to a macroscopical loss. A series of variants will determine the seriousness of the wear, such as food and drinks pH, intensity and duration of masticatory forces and characteristics of the saliva (Schuurs, 2013).

In its majority, these gradual physical changes don't require any restorative procedures; only when the rate of wear is so prominent and unacceptable that triggers some sort of compromise to the dentition (eg.: dental aesthetics, sensitivity, functional problems), becoming pathological (Bartlett & O'Toole, 2019; Loomans et al., 2017).

Therefore, the clinician can describe it as pathological when the wear is atypical for the age of the patient and causes any sort of undesirable complications that with time and no treatment, may increase in complexity (Loomans et al., 2017). Even though the term "pathological wear" is supported by many, it is a subjective opinion that can differ according to the specialist (Bartlett & O'Toole, 2019).

When formulating a diagnosis and structuring a treatment plan, it's essential to take into account the underlying causes, bearing in mind that tooth surface loss can result from the combination of different aetiological factors (Warreth et al., 2020). Therefore, an early examination and treatment plan can prevent more extensive damage (Tuñas et al., 2016). Each type of TW will be elaborated upon in the following sections.

1.1.1. Types of Tooth Wear

Different types of TW have been identified, namely attrition, abrasion and erosion. The term "abfraction" has been recently discouraged due to insufficient supporting evidence (Schlueter et al., 2020).

1.1.1.1 Dental Abrasion

Abrasion is the slow and progressive mechanical loss of mineralized tooth substance induced by exogenous materials, without the presence of bacterial plaque (Amaral et al., 2014; Wetselaar et al., 2019). The term “non-carious cervical lesion” (NCCL) is a more appropriate designation to describe these lesions (Al-Ani, 2023).

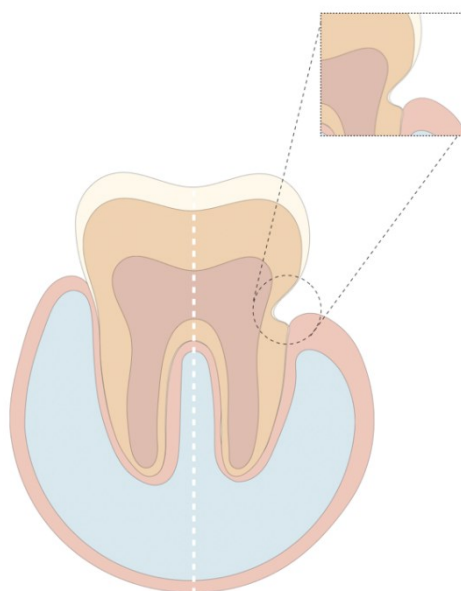


Figure 1 - Schematic representation of abrasion. Abrasion lesion (right to the dotted white line) with visible wear on the tooth surface. The affected area shows signs of mechanical wear, characterised by grooves in the cervical area of the tooth, near the gum l

There are several factors reported to cause such TW, including hard bristle toothbrushes, brushing with excessive forces, abrasive toothpaste, incorrect use of dental floss and abrasive foods (eg.: nuts and seeds); it is also indicated that certain occupations carry an associated hazard (Gonçalves & Deusdará, 2012; Kontaxopoulou & Alam, 2015; Warreth et al., 2020). Workers often exposed to abrasive particles (e.g. carbon mines or construction) tend to suffer wear on the exposed dental surfaces (Sala & García, 2013).

The clinical presentation is dependent on the aetiology, therefore presenting different wear patterns. A localised notch-like pattern in the incisal border of anterior teeth entails repeated contact with a foreign object or substance; a rounded or V-shaped groove in the buccal/labial surface of the cervical region is often due to overzealous toothbrushing, wrong hardness of the toothbrush bristles or use of abrasive pastes (Al-Ani, 2023; Hemmings et al., 2018; Mehta et al., 2012).

The lesions are located mainly near the gingival margin, in the cemento-enamel junction; the wear intensifies when there is a gingival recession and the dental tissues become exposed, sometimes creating a dentinary hypersensitivity (Sala & García, 2013). Canines, premolars, and molars are particularly susceptible, as well as dentin and cementum (Mehta et al., 2012; Tuñas et al., 2016).

1.1.1.2 Dental Attrition

Attrition is described as the mechanical wear derived from tooth-to-tooth contact, as in mastication, leading to the loss of mineralized tooth substance (Ricketts, 2011; Schlueter et al., 2020). Its more severe forms are often found in the presence of parafunctional habits where the patient executes empty-mouth grinding activity, for instance, present in cases of bruxism (Ricketts, 2011; Warreth et al., 2020).

While researchers have previously suggested that occlusal interferences and sleep disturbances could be potential causes, it is widely agreed that chronic "stress" or "distress" are the primary catalysts. Bruxism manifests as a coping mechanism and can alternate between active and inactive phases (Kaidonis, 2012; Kontaxopoulou & Alam, 2015).

This variety of TW can result in a reduction of vertical dimension of occlusion (VDO) (Kontaxopoulou & Alam, 2015). Even though it is more often on the cusps and incisal edges, that appear flattened, it can also be seen interproximal, caused by lateral movements that with time produce extensive interproximal contacts (Sala & García, 2013; Rees & Somi, 2018). Additionally, chips or fractures may be present on these surfaces, providing clues about the cause of the TW (Kontaxopoulou & Alam, 2015).

Incisors and molars are the most compromised teeth, both maxillary and mandibular, in an antagonistic manner (Sala & García, 2013; Tuñas et al., 2016).

The early clinical signs of wear include the emergence of minor polished facets on the cusp or ridge or a subtle flattening of the incisal border; as it progresses there's a tendency for a decrease in cusp height and the flattening of the inclined planes on the occlusal surfaces (Mehta et al., 2012). It is also distinguished by equal wear and matching facets in opposing teeth (Shellis & Addi, 2024).

Besides the TW and marked wear facets (there can be dentin exposure, and in extreme cases pulp exposure), there is a list of signs that can be present in cases of attrition: traumatic ulcers, linea alba, tooth mobility and fractures (natural teeth or restorations), tongue indentations and masseter and temporalis muscles hypertrophy (Mehta et al., 2012; Rees & Somi, 2018).

1.1.1.3 Dental Erosion

Erosion primarily occurs due to the demineralisation of hard tissues caused by acidic substances, not derived from oral bacteria (Huysmans et al., 2011; Schlueter et al., 2020).

This form of wear is a process where a material superficial structure weakens due to a chemical agent, rendering it more vulnerable to both chemical and mechanical forces (Huysmans et al., 2011; Shellis & Addy, 2014). This interactive process includes demineralisation, potentially leading to tissue loss, while mechanical wear like attrition or abrasion is heightened by the initial demineralisation (Shellis & Addy, 2014).

The acids responsible stem from either intrinsic factors, hydrochloric acid originating from certain conditions, such as gastric reflux (GERD) and eating disorders, or exogenous sources, including acidic foods and drinks, occupational exposure to acidic elements in the environment, and certain medications (Pineau, 1994).

Common indicators of enamel erosion include the emergence of a smooth, silky, shiny enamel, or in some cases dull enamel, without perikymata, yet with preserved enamel along the gingival margin (Kaidonis, 2012; Lussi et al., 2011). As occlusal erosion progresses, it results in the rounding of cusps, and restorations may elevate above the adjacent tooth surfaces and in severe instances, the entire occlusal morphology may vanish (Carvalho et al., 2015). Additionally, enamel loss can expose dentine and the surface may become sensitive to temperature variations and tactile stimulation (Lussi et al., 2011).

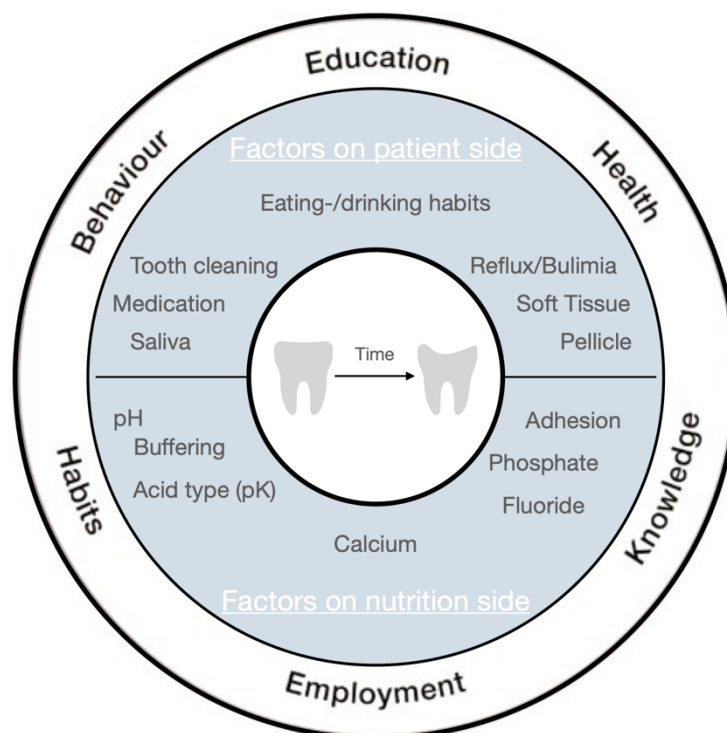


Figure 2 - Factors related to patients and nutrition influencing the development of erosion. (adapted from Lussi et al. 2011).

1.1.1.3.1 Extrinsic Erosion

Exogenous erosion occurs in the presence of acids from external sources, like acidic diets, work environment and/or medication (Schlueter et al., 2020). The intake of

acidic foods and drinks has multiplied over the years, with one of the reasons being the ongoing trend of leading a healthy lifestyle (Hemmings et al., 2018).

The exaggerated consumption of certain beverages containing citrus fruits has, consequently, increased erosion; it is also known that carbonated drinks have this effect on dentition (A. Algadhi, 2021; Hemmings et al., 2018). Increased risk of erosion is not solely linked to the acidity of beverages; habits such as frequent consumption, swishing, sipping, or holding drinks in the mouth can exacerbate this risk (Schlueter & Luka, 2018). These habits relate to erosive potential or erosivity, where the host and exposure parameters determine if the potential turns into tooth material loss due to dental erosion (Schlueter et al., 2020).

Work environment is also one of the possible aetiologies, namely working in an industry such as wine tasting and industrial processes (battery, galvanization, mineral) can lead to high exposure to acidic liquids and vapours (A. Algadhi, 2021; Tuñas et al., 2016). Other factors responsible for exogenous erosion are activities like professional swimming as a result of the pH of the swimming pool water (Hemmings et al., 2018; Tuñas et al., 2016).

Although alcohol addiction can relate to both intrinsic and extrinsic erosion, we will consider in the scope of this thesis alcohol itself as an exogenous source of acid that can potentiate erosion (A. Algadhi, 2021). Illegal and legal drugs and medications can also be related to the presence of extrinsic erosive wear (Schlueter & Luka, 2018).

This subtype of erosion can impact all teeth, but it is mainly on the vestibular and occlusal surfaces of posterior teeth and the vestibular surface of anterior teeth of the mandibula (Al-Salehi, 2014).

1.1.1.3.2 Intrinsic Erosion

Intrinsic factors leading to dental erosion stem from the exposure of teeth to gastric acid entering the oral cavity through processes such as GERD or vomiting, linked with certain disorders, addictions or morning sickness during pregnancy (Carvalho et al., 2015).

The clinical signs of dental erosion typically become apparent after the regular and prolonged impact of gastric acid on the dental hard tissues, occurring over several years (Scheutzel, 1996). In cases of intrinsic erosion, the clinical manifestations are typically seen on the palatal sides of the maxillary teeth and on the occlusal and buccal sides of the mandibular teeth (Al-Salehi, 2014).

Gastroesophageal reflux (GER) is a normal physiological occurrence that can happen multiple times a day in individuals, without symptoms or complications, after substantial meals. As a pathology, GERD is identified by recurrent gastric reflux leading to bothersome symptoms, such as heartburn, heightened risk of esophageal adenocarcinoma and tooth wear (Jordão et al., 2020).

GERD is the regurgitation of acid into the oesophagus, and in some patients into the mouth. It removes the protective biofilm of the teeth, creating pathological erosive patterns on the surfaces of the teeth (Nota et al., 2022; Spolarich & Panagako, 2017). Dentists might be the first to suspect the presence of GERD, especially when witnessing unexplained tooth erosion lesions (Spolarich & Panagako, 2017).

The observed appearance often involves smoothing of the tooth surface and potential exposure of underlying dentin, even in areas where no opposing teeth make contact. Existing dental restorations, particularly amalgam fillings, remain unaffected by acid exposure, appearing as raised islands above the eroded surrounding tooth surface (Spolarich & Panagako, 2017).

When we address the intrinsic erosion side of chronic alcoholism, it leads to various pathological changes, causing the reflux of gastric contents and inflammation in the oesophagus and stomach (A. Algadhi, 2021; Scheutzel, 1996). This can progress to chronic esophagitis and gastritis, resulting in persistent gastroesophageal reflux (Scheutzel, 1996).

Another form of exposure of the oral cavity to hydrochloric acid is eating disorders, serious mental and behavioural conditions, that present negative effects on oral health, including dental erosion (Nijakowski et al., 2023). The two most common forms are anorexia nervosa and bulimia nervosa, both with episodes of self-induced vomiting resulting in lesions on the palatal surfaces of the anterior teeth (Kisely et al., 2015).

Research suggests that brushing promptly after consuming acidic nourishments or emesis can lead to increased erosive wear of tooth surfaces. Additionally, brushing right after expelling stomach contents might remove the external layer of the tooth, uncovering the decalcified layer, which needs incremental remineralisation (Nijakowski et al., 2023).

Experiencing nausea and vomiting throughout pregnancy is common and women tend to avoid their oral health routine, for fear of initiating another episode. It has the potential to cause significant erosion of tooth surfaces, contributing to a decline in oral health (Enabulele & Ibhawoh, 2014).

1.1.2. Risk Factors for Tooth Wear

As previously stated, TW is multifactorial including erosion, abrasion and attrition, and each of these subtypes has its own set of risk factors (table 1).

Table 1 - Risk factors for tooth wear (adapted from A.Algadhi, 2021; Kontaxopoulou & Alam, 2015; Nadiger, 2012; Oudkerk et al., 2023).

Risk Factors		Abrasion	Attrition	Erosion
Socio-demographic factors	Age	x	x	x
	Gender (Male)	x	x	x
Medical history	GERD			x
	Saliva			x
	Vomiting			x
	Medication			x
	Eating disorders		x	x
	Alcoholism			x
	Drugs		x	x
Dietary habits	Drinks - Beverages			x
	Drinking behaviour			x

	Acidic food			x
	Coarse diet	x	x	x
Oral hygiene habits	Frequency	x		
	Type of toothbrush	x		
	Technique	x		
	Toothpaste	x		
Occlusal factors	Number of teeth		x	
Bruxism			x	

1.2. TOOTH WEAR MANAGEMENT

1.2.1. Preventing Tooth Wear

TW is known for being an increasing problem that affects individuals, rather than a community. Therefore, it is difficult to predict which ones are going to be affected, making the primary prevention challenging to attain (Mehta et al., 2012). Depending on the aetiology, there are different routes that the dental practitioner can choose from to take preventive measures.

The initial step in effectively managing TW over the long term involves establishing a comprehensive differential diagnosis, implementing rigorous preventive measures, continuously monitoring the condition, and considering active treatment only when necessary, becoming imperative the knowledge of the risk factors associated for successful prevention and intervention (Nadiger, 2012; Oudkerk et al., 2023).

In patients with a bruxism habit, splint therapy, a plastic occlusal splint or a soft mouthguard, will be useful in protecting both the teeth and any restoration or crowns that might be present (Ricketts, 2011). Thus, accurate diagnosis of the underlying cause of bruxism, especially if it is breathing-related, requires a comprehensive sleep study (Spolarich & Panagako, 2017).

Another approach involves attempting to modify the patients' habits, whether by teaching them how to brush with proper force, encouraging them to change to a softer toothbrush or using a less abrasive toothpaste (Gonçalves & Deusdará, 2012). Clinically, the dentist can also resort to less abrasive polishing and prophylaxis pastes and address and reinforce regularly the brushing technique in the appointments (Gonçalves & Deusdará, 2012; Spolarich & Panagako, 2017).

Applying topical sodium fluoride, through mouth rinse or gel, can help protect and prevent further TW after exposure to acid, especially in cases where the dentin is already exposed (A. Algadhi, 2021; Mehta et al., 2012; Spolarich & Panagako, 2017).

Dental health providers are often the first to notice oral changes and play a crucial role in initiating help (Spolarich & Panagako, 2017). Collaboration between clinicians, patients, and medical providers is essential for identifying and addressing the systemic conditions underlying a patient's health issues; if GERD or bulimia is suspected, it is advisable to refer the cases to a specialist doctor (A. Algadhi, 2021; Hemmings et al., 2018; Mehta et al., 2012).

To prevent ongoing dental damage, the focus is on balancing or counteracting acidic occurrences, such as advising patients to rinse with water immediately after vomiting and suggesting the addition of baking soda to neutralise the acid. Toothbrushing should be avoided for at least one hour after vomiting. Individuals with bulimia are encouraged to limit low-pH drink intake and use a straw when consuming such beverages (Spolarich & Panagako, 2017).

Beverage modification and dietary counselling are essential preventive measures; advising patients to reduce the quantity and frequency of consuming acidic substances, including fruits, fruit juices, and carbonated drinks, is beneficial (Mehta et al., 2012). Consuming hard cheese or dairy products after acidic beverage ingestion is suggested to promote enamel re-hardening (Mehta et al., 2012; O'Toole & Mullan, 2018; Spolarich & Panagako, 2017).

Chewing sugar-free gum, including varieties with carbamide, serves a dual purpose by stimulating salivary flow, which enhances oral clearance and has been demonstrated in the laboratory to reduce wear from erosion. The presence of carbamide

in gum can rapidly elevate salivary pH, further contributing to the potential reduction of erosive effects (Mehta et al., 2012; O'Tootle & Mullan, 2018).

Dental practitioners may be the first line to help a patient who is going through bulimia or GERD, for instance, and should make a referral to a specialist medical practitioner (Mehta et al., 2012).

1.2.2. Diagnosing and Monitoring Tooth Wear progression

Due to its multifactorial causes, TW can present in various forms, posing challenges in both diagnosis and management (Hemmings et al., 2018; Wetselaar et al., 2016; Wetselaar & Lobbezoo, 2016).

Documenting a comprehensive history of the primary complaint is essential. It's equally important to accurately record the patient's medical history, including clinical signs, symptoms, and the distribution of wear (generalised or localised), to aid in diagnosis (Hemmings et al., 2018).

Regular monitoring is crucial to achieve less invasive treatments and should be standard practice. After implementing preventive measures or other treatments, follow-up assessments are necessary to evaluate their effectiveness. Monitoring involves a reassessment of all the information gathered, allowing the observation of improvement or decline in the patient's case (Kaidonis, 2012).

There is a clear demand, both in clinical practice and scientific research, for methods to measure and monitor TW (Lopez-Frias et al., 2012; O'Toole et al., 2023). The available literature offers numerous approaches, which can be categorised broadly into quantitative and qualitative methods (Gkantidis et al., 2020; Lopez-Frias et al., 2012; O'Toole et al., 2023).

Qualitative monitoring relies on the subjective evaluation of patient data, often resulting in a binary outcome of either yes or no. However, if a scale is employed, such as one found in a clinical index, it turns into a semi-quantitative approach. Conversely, quantitative monitoring involves precisely measuring changes in patient data, providing

a numeric representation of wear progression, for instance, scanning with an intraoral scanner (O'Toole et al., 2023).

1.2.2.1 Clinical indices

TW indices aim to categorise and document the extent of TW or dental erosion in studies focused on prevalence and incidence (Bartlett et al., 2008).

A well-designed index should possess simplicity in comprehension and application, alongside clearly defined scoring criteria and demonstrated reproducibility. Its use should prove valuable for investigating the causes, prevention, and monitoring of a condition, essentially functioning as an essential tool for both epidemiological and clinical purposes (Lopez-Frias et al., 2012; Wetselaar et al., 2016).

Recommended indices in the European Consensus Statement include the Basic Erosive Wear Examination (BEWE), the Tooth Wear Index (TWI), and the Tooth Wear Evaluation System (TWES) (Wetselaar et al., 2020).

The TWI still is frequently utilised, as per Smith and Knight, and distinguishes wear on the incisal edge, occlusal surfaces, and cervical area of the teeth, categorising severity according to the extent of dentine and secondary dentin involvement (Morozova et al., 2016; Ramesh et al., 2022).

The BEWE is based on the principles of Basic Periodontal Examination (BPE); it divides teeth into six sextants and encompasses an assessment of the buccal, lingual/palatal, and occlusal surfaces of each tooth. Subsequently, only the highest value per sextant is marked giving a sum score (Bartlett et al., 2008; Morozova et al., 2016).

The TWES assesses TW through a multi-stage sequential method; it encompasses ten modules, divided into four for basic diagnostics, three for extended diagnostics, and three for management and treatment (Wetselaar et al., 2020).

Overall, making use of clinical indices, like the BEWE, TWI or TWES, as a screening tool, complemented by clinical photographs and study models, is an efficient and economical method for identifying and documenting wear patterns during clinical

practice, as well as monitoring its progression (Al-Seelawi et al., 2024; O'Toole et al., 2023).

Although several indices have been proposed, none is universally accepted, showing a lack of standardisation, and complicating comparisons between studies (Lopez-Frias et al., 2012; Ramesh et al., 2022). Current indices may not accurately measure wear rates or suit both research and clinical needs. Developing an applicable, simple index remains a challenge and further research is needed (Lopez-Frias et al., 2012).

1.2.2.2 Intra Oral Scans

Intraoral scanners (IOSs) are advanced medical tools equipped with three-dimensional (3D) measurement systems (Angelone et al., 2023). They capture detailed information about the shape and dimensions of dental arches, producing 3D models of teeth and soft tissues in the oral cavity (Angelone et al., 2023; Mangano et al., 2017).

This device enables the meticulous quantification and tracking of TW progression in the submillimeter range through the superimposition of successive digital models. This innovative approach presents notable advantages over traditional visual observation methods, including clinical assessments, photographic analysis, or model-based evaluations (Schlenz et al., 2023).

IOSs offer significant advantages compared to conventional impressions, notably reducing patient discomfort while streamlining clinical procedures for dentists; it facilitates communication with both dental technicians and patients. Nonetheless, IOS does have its limitations, such as difficulty in detecting deep margin lines, a learning curve associated with its use and high management and purchase costs (Mangano et al., 2017).

1.3. TOOTH WEAR PREVALENCE

TW is a frequently encountered issue that is directly proportional to the process of ageing (Huysmans et al., 2011). From this standpoint, the ageing population has been experiencing a gradual increase over the past decade, and with individuals retaining a

greater number of teeth for longer durations throughout their lives, TW appears to be following a similar upward trajectory (Pereira Cenci et al., 2023).

In recent reviews of erosive wear prevalence worldwide, it has been observed as a common phenomenon among the general population in developed nations, suggesting prevalence rates ranging from 30% to 50% in deciduous teeth and from 20% to 45% in permanent teeth (Schlueter & Luka, 2018).

Systematic reviews confirm the prevalence of the condition in both definitive dentition in adults and deciduous teeth in children (Huysmans et al., 2011). There also appears to be a tendency for erosion to be more prevalent in males compared to females, one of the reasons being higher forces during mastication, and in those who are frequent beverage consumers (Pereira Cenci et al., 2023; Schlueter & Luka, 2018).

While many individuals may not find the gradual changes in appearance and shape problematic, others may experience significant wear or severity, needing intervention. In such instances, preventive measures and ongoing monitoring are commonly advised, while more advanced cases may require restorative procedures such as composite fillings or dental crowns (Bartlett & O'Toole, 2019).

In light of the information presented above, it becomes essential to further investigate the prevalence and related risk factors concerning TW. Such initiative serves as a means to thoroughly address this common dental concern and implement effective strategies for management and prevention.

2. OBJECTIVES

This study aims to update the prevalence of TW in a sample of patients seeking the Screening and Urgency appointment at EMDC, correlate with risk factors and compare with the results obtained with the previous index used in the EMDC.

Hypothesis

H0: The prevalence values measured with the new method for data collection and classification of TW lesions are similar to those measured with the previous index.

H1: The prevalence values measured with the new method for data collection and classification of TW lesions are different from those measured with the previous index.

3. MATERIALS AND METHODS

3.1. Study design

This observational Cross-Sectional study was conducted in EMDC, at Egas Moniz School of Health and Science (EM), from April 2021 to November 2023, and approved by the Ethics Committee of Egas Moniz School of Health and Science (nº 1349).

Informed Consent Forms were previously signed voluntarily by each participant before data processing. For each participant, a code was assigned, and a database was created with the collected information, which was used solely for statistical analysis and always maintaining anonymity regarding the identification of the patients under study.

For the period of 2021-2023, the same criteria were employed for the inclusion of eligible patients as in the previous study (Capela, 2021) , and state as the follow:

Inclusion criteria:

- Informed Consent forms, previously accepted by the Ethics Committee of Egas Moniz School of Health and Science, voluntarily signed authorising the utilization of the collected data at the Screening and Emergency appointments;
- Filled tooth wear index at the Screening and Emergency appointment;

Exclusion Criteria:

- Incomplete data in the Informed Consent form;
- Non-signed Informed Consent form;

The data was collected through a Screening form, filled with the patient's information and observation conducted by the students and supervised by the dentists responsible for the department.

Different screening forms were used to collect the data in the two observational periods. Direct comparisons will be performed between the data, in order to assess any

improvement in the screening method. Additionally, the WHO (World Health Organization) Oral Health Assessment Form for Adults (Petersen et al., 2013) was used to grade the severity of erosion lesions when present.

3.2. Statistical analysis

The presence or absence of TW and the different wear types (erosion, attrition and abrasion) were considered the dependable variables in the statistical analysis. The independent variables are described in the following table (table 2).

Table 2 - Independent Variables (Biological and Behavioural).

Biological Variables	Behavioural Variables
Age	Consumption of alcohol
Gender	Drugs use
Bronchodilators	Consumption of beverages
Antacids	Consumption of fresh fruits
Mastication difficulties	Tooth brushing frequency
Dry mouth	Mouthwash
	Appearance complaints

Data analysis was performed using IBM SPSS Statistics version 29.0 (IBM Corp., Armonk, NY, USA). Descriptive and inferential statistics methodologies were applied. Further, logistic regression analysis was used to model the relationship between TW and

several risk indicators. Preliminary analyses were performed using univariate models. Next, multivariate models were constructed for each of the outcome clinical variables (abrasion, attrition, erosion and presence of non-carious cervical lesions), via a stepwise procedure. Only predictor variables showing a significance $p \leq 0.05$ in the univariate model were included in the multivariate logistic regression procedure. The contribution of each variable to the model was evaluated by Wald statistics. Interactions were also analysed for all tested variables. A final reduced model for each of the considered clinical outcome was obtained, based on the significant predictor variable categories. Odds Ratio (OR) along with correspondent 95% Confidence Intervals (95% CI) were calculated for both univariate (crude OR) and multivariate analyses (adjusted OR). The level of statistical significance was set at 5%.

4. RESULTS

4.1. Patient's Characteristics

Data from the first period evaluated (2016-2019) are described in the previous study (Capela, 2021). For the period between 2021 and 2023, the research sample consisted of 2266 patients that underwent the Screening and Emergency appointment at EMDC and were considered eligible for inclusion in this study (table 3). 936 were males with a mean age of 42.85 years (± 19.7 years) and 1330 were females with a mean age of 42.52 (± 19.6 years).

Table 3 - Patient's Characteristics.

N		Gender N (%)	Age Mean (years)
2266	Male	936 (41.3)	42.85 (± 19.7)
	Female	1330 (58.7)	42.52 (± 19.6)

4.2. Tooth Wear Prevalence

Regarding the different forms of TW, males presented for all forms a higher prevalence of TW (77%) in both individual and combined lesions of TW (Table 4).

Also, attrition (39,6% and 33,2% in male and female gender, respectively) was considered the most prevalent TW lesion when evaluating the different types of TW (Table 4). The least prevalent was erosion (7.4% and 7.1% for male and female gender, respectively).

Within the combined lesions, the most common was attrition and NCCL (3.3% and 3.4% for males and females, respectively), with Erosion and NCCL being the least common (0.4% and 0.8% for males and females, respectively). In both genders, 633 (27.9%) patients did not present any type of TW.

Table 4 - Prevalence of the different types of Tooth Wear, Erosion, Attrition and NCCL (Noncarious cervical lesions) and the combination between them.

Tooth Wear	Male N(%)	Female N(%)
Erosion	69 (7.4)	95 (7.1)
Attrition	371 (39.6)	441 (33.2)
NCCL	215 (23)	285 (21.4)
Erosion +Attrition+NCCL	7 (0.7)	8 (0.6)
Erosion+Attrition	24 (2.6)	28 (2.1)
Erosion+NCCL	4 (0.4)	10 (0.8)
Attrition+NCCL	31 (3.3)	45 (3.4)
No Wear	215 (23)	418 (31.4)
Total	936	1330

Using the WHO Classification System for erosion, table 5 indicates its prevalence categorised by severity. No lesion of erosion (92.7%) was the most prevalent; as the severity increases, the prevalence decreases. Thus, lesions only on enamel were observed in 4.8% of the observed subjects, lesions on enamel and dentin in 2.2% and pulp involvement only in 0.3% of the sample.

Table 5 - Prevalence of erosion according to the WHO Classification System.

		N (%)
WHO Erosion Classification	0	2102 (92.7)
	1	108 (4.8)
	2	50 (2.2)
	3	6 (0.3)

0 - No lesion; 1 - Lesion involving only enamel; 2 - Lesion involving enamel and dentin; 3 - Pulp involvement.

4.3. Risk Factors

The most common risk factor was the use of mouthwash (39,2% in both males and females) (table 6). Decreased VDO (22,2% in males and 22,9% in females) and mastication difficulties (16,6% in males and 21,3% in females) also showed high levels of commonness in the population studied.

The risk factors least encountered were the consumption of carbonated drinks (0,3% in males and 0,1% in females), Sjögren's Syndrome (0,1% in males and 0,5% in females) and the intake of antacids (1% in males and 0,9% in females).

Table 6 - Prevalence of the different risk factors evaluated.

Risk Factors	Male N (%)	Female N (%)
Sjögren's Syndrome	1 (0.1)	6 (0.5)
Bronchodilator	16 (1.7)	22 (1.7)
Antacids	9 (1)	29 (2.2)
Alcohol intake	140 (15)	57 (4.3)
Narcotics	50 (5.3)	18 (1.4)
Fruits (2-3 times a day)	9 (1)	29 (2.2)
Soda (2-3 times a day)	3 (0.3)	1 (0.1)
Brushing (+3 times a day)	37 (4)	61 (4.6)
Mouthwash	367 (39.2)	586 (39.2)
Listerine	222 (23.7)	303 (22.8)
Mastication difficulties	155 (16.6)	283 (21.3)
Ashamed to smile	95 (10.1)	231 (17.4)
Frequent dry mouth	89 (9.5)	176 (13.2)
Decreased VDO	208 (22.2)	304 (22.9)

All factors measured were univariately and multivariately tested for association with the prevalence of different types of TW, and only the ones proven significant are exhibited in tables 7, 8, 9 and 10.

4.3.1. Abrasion

The prevalence of Abrasion (table 7) was significantly associated with Age ($p = 0.002$, OR = 1.013, 95% CI = 1.005-1.021) and VDO ($p = 0.007$, OR = 1.575, 95% CI = 1.132-2.192).

Table 7 - Results (p values, ORs and CIs) of the univariate and multivariate logistic regression analysis for factors associated with the prevalence of abrasive tooth wear with $p \leq 0,05$.

Abrasion		Univariate		Multivariate (*)	
Predictor variables		OR (95% CI)	p	OR (95% CI)	p
Age (years)		1.017 (1.010-1.1025)	< 0.001	1.013 (1.005-1.021)	0.002
VDO	Yes	2.024 (1.511-2.712)	< 0.001	1.575 (1.132-2.192)	0.007
	No	1	-	1	-

VDO - Vertical Dimension of Occlusion

(*) final reduced model obtained through a forward (Wald) stepwise procedure. The model was statistically significant, $\chi^2(2) = 30.740$, $p < 0.001$, with Nagelkerke $R^2 = 0.028$ and correctly classified 90.0% of the cases.

4.3.2. Attrition

Age ($p < 0.001$, OR = 1.028, 95% CI = 1.023-1.033), Gender, specifically Male, ($p = 0.004$, OR = 1.303, 95% CI = 1.088-1.562) and the use of Drugs ($p = 0.033$, OR = 1.736, 95% CI = 1.047-2.878) were positively associated with the preponderance of Attrition (table 8).

Table 8 - Results (p values, ORs and CIs) of the univariate and multivariate logistic regression analysis for factors associated with the prevalence of attritive tooth wear, with $p \leq 0,05$.

Attrition		Univariate		Multivariate (*)	
Predictor variables		OR (95% CI)	p	OR (95% CI)	p
Age (years)		1.027 (1.023-1.032)	< 0.001	1.028 (1.023-1.033)	< 0.001
Gender	Male	1.324 (1.113-1.575)	0.002	1.303 (1.088-1.562)	0.004
	Female	1	-	1	-
Drug use	Yes	1.263 (0.773-2.062)	0.351	1.736 (1.047-2.878)	0.033
	No	1	-	1	-

(*) final reduced model obtained through a forward (Wald) stepwise procedure. The model was statistically significant, $\chi^2(3) = 153.483$, $p < 0.001$, with Nagelkerke $R^2 = 0.090$ and correctly classified 64.8% of the cases.

4.3.3. Erosion

Of the models with the interaction between Erosion and the Predictor variables (table 9), Age ($p < 0.001$, OR = 1.017, 95% CI = 1.008-1.027), VDO ($p = 0.028$, OR = 1.527, 95% CI = 1.027-2.228), Dry mouth ($p = 0.027$, OR = 1.538, 95% CI = 1.005-2.353) and the intake of Antacids ($p = 0.046$, OR = 3.128, 95% CI = 1.018-9.614) showed a significant added risk.

Table 9 - Results (p values, ORs and CIs) of the univariate and multivariate logistic regression analysis for factors associated with the prevalence of erosive tooth wear, with $p \leq 0,05$.

Erosion		Univariate		Multivariate (*)	
Predictor variables		OR (95% CI)	<i>p</i>	OR (95% CI)	<i>p</i>
Age (years)		1.023 (1.015-1.032)	< 0.001	1.017 (1.008-1.027)	< 0.001
VDO	Yes	2.231 (1.600-3.111)	< 0.001	1.527 (1.047-2.228)	0.028
	No	1	-	1	-
Dry mouth	Yes	1.861 (1.230-2.815)	0.003	1.538 (1.005-2.353)	0.047
	No	1	-	1	-
Antacids	Yes	3.066 (1.020-9.220)	0.046	3.128 (1.018-9.614)	0.046
	No	1	-	1	-

VDO - Vertical Dimension of Occlusion

(*) final reduced model obtained through a forward (Wald) stepwise procedure. The model was statistically significant, $\chi^2(4) = 43.083$, $p < 0.001$, with Nagelkerke $R^2 = 0.047$ and correctly classified 92.8% of the cases.

4.3.4. NCCL

Of the evaluated risk factors, only Age was significantly associated with the prevalence of NCCL ($p < 0.001$, OR = 1.028, 95% CI = 1.023-1.033) (table 10).

Table 10 - Results (p values, ORs and CIs) of the univariate and multivariate logistic regression analysis for factors associated with the prevalence of NCCL, with $p \leq 0,05$.

NCCL	Univariate		Multivariate (*)	
Predictor variables	OR (95% CI)	<i>p</i>	OR (95% CI)	<i>p</i>
Age (years)	1.028 (1.023-1.033)	< 0.001	1.028 (1.023-1.033)	< 0.001

NCCL – Non-Carious Cervical Lesion

(*) final reduced model obtained through a forward (Wald) stepwise procedure. Only one predictor included (age). The model was statistically significant, $\chi^2(1) = 109.685$, $p < 0.001$, with Nagelkerke $R^2 = 0.073$ and correctly classified 77.7% of the cases.

5. DISCUSSION

The primary objective of this study was to evaluate the occurrence of TW among individuals attending the Screening and Emergency consultation at EMDC. Overall, the prevalence of TW was 72.1%, with attrition (35.8%) being the most prevalent, similar to results seen in studies such as Al-Ani (2019), Hedge et al. (2018) and Hemmings et al. (2018), followed by NCCL (22.1%) and Erosion (7.2%).

The evaluation system applied from 2016 to 2019 was composed by dichotomic answer (present or not present), while from 2021 to 2022 a system developed by the WHO was also used, in where erosion was classified according to the following scheme: 0 = no lesion, 1 = lesion involving only enamel, 2 = lesion involving enamel and dentin, 3 = pulp involvement. The prevalence results were inversely proportional to the severity of the erosive lesions being the most common lesions involving only enamel (4.8%).

Dental hard tissues loss, resulting in TW, is a matter of growing significance; this is particularly true as people live longer and are able to maintain their natural teeth into old age (Atalay & Ozgunaltay, 2018; Awad et al. 2019; Nadiger, 2012). TW can be caused by a range of factors, including chemical, biological, behavioural, medications, gastrointestinal problems, and acid regurgitation (Atalay & Ozgunaltay, 2018; Awad et al. 2019). Documenting a comprehensive history of the primary complaint and finding the aetiology is important to manage the associated risk factors, preventing further structure loss and allowing monitoring of the associated symptoms (Kontaxopoulou & Alam, 2015).

Of the risk factors documented, mouthwash (42.1%) was a popular element included in the patients' oral hygiene habits. Nonetheless, its abuse can cause dental erosion, one of the most reported side effects, not only because of the pH, but also due to its viscosity (Radzki et al., 2022). Factors such as decreased VDO (22.6%), mastication difficulties (19.3%) and frequent dry mouth (11.7%) also displayed moderate prevalence percentages.

Additional to the primary objective, we aimed to explore any potential associations between TW and various risk factors, updating the results from a previous study (Capela, 2021).

In the original investigation, age, alcohol consumption, teeth brushing, fresh fruit and soft drinks were considered risk factors for TW (Capela, 2021). These analysis models were consistent in determining the existence or nonexistence of dental wear, but they didn't allow the analysis of risks for each type of wear (Capela, 2021). In the present research, with the available data we were able to determine the prevalence of each type of wear in correlation with the risk factors.

The prevalence of TW seems to have increased from 2016-2019 (53.9%) to 2021-2023 (72.1%), which may be due to a real increase in prevalence or to a better diagnostic tool to identify TW lesions, as the old system used in the previous study only allowed to record the presence or absence of TW lesions and when more than one lesion was present, the one considered as most relevant was the one chosen to record as present.

Concerning risk predictors, age (OR = 1.013) and VDO (OR = 1.575) were considered relevant for abrasion. Age (OR = 1.028), gender, specifically male, (OR = 1.303) and the use of drugs (OR = 1.736) were positively associated with the presence of attrition. Regarding erosion, age (OR = 1.017), VDO (OR = 1.527), dry mouth (OR = 1.538) and the intake of antacids (OR = 3.128) were considered risk factors for this condition. For NCCL only age (OR = 1.028) was significantly associated.

In accordance with this investigation, age has demonstrated itself to be a common significant result when associated with TW, seen in works such as Shrestha & Rajbhandari (2018), Sun et al. (2017), Van 't Spijker et al. (2009), Wei et al. (2016). Considering gender, Wei et al. (2016) and Zhang et al. (2015) concluded that there was no distinction in prevalence between gender. Nevertheless, our results indicate a higher prevalence of TW in male gender (77%), aligning with the previous investigation (24.2%) (Capela, 2021). Despite this, our uni- and multivariable analyses did not reveal a positive association between TW and gender.

Also, our study observed no correlation between tooth wear and how often individuals brush their teeth, which is consistent with the findings of Sadaf et al. (2014), and Bartlett et al. (2013). On the other hand, research by Wei et al. (2016) demonstrated a significant correlation between these variables.

Among patients who frequently consume acidic foods and soft drinks, this investigation found no increase in TW similar to the findings in studies conducted on

Chinese adults (Wei et al. 2016). In contrast, research conducted in China, Poland, and Europe demonstrated a significant association between frequent consumption of these items and increased TW (Bartlett et al. 2013; Struzycka et al., 2017; Wei et al. 2016).

Concerning the interaction of attrition with drug use there were substantial findings. This might be explained by the presence of bruxism as a result of drug-induced hyperactivity (Donaldson & Goodchild, 2006; Shetty et al., 2010). Erosion is also common in cases of substance abuse, supported by Donaldson & Goodchild (2006); Shetty et al., (2010), which doesn't go in line with our results.

Intrinsic acid from conditions such as GERD, anorexia, and bulimia can also lead to erosive TW, as demonstrated by other studies (Bartlett et al. 2013; Struzycka et al., 2017; Sun et al., 2017; Wei et al. 2016); in the present study there weren't similar significative results. Interestingly, the intake of antacids (OR = 3.128) was proven significant when correlated with erosion, which leads us to think that some patients may exhibit signs of erosion due to other pathologies treated with such medication, rather than GERD, or that GERD was not correctly diagnosed

Maintaining the topic of erosion, the frequent sensation of dry mouth was considered significantly associated with this type of tooth wear. This is corroborated by results of Sun et al. (2017) and Zwier et al. (2017), where low salivary flow was identified as a strong risk factor for TW and concluded that saliva is essential in the oral environment, helping in preventing dental erosion (Sun et al., 2017; Zwier et al., 2013).

The present investigation pertains to a retrospective study, thus it possesses certain limitations, such as incomplete information regarding exposure to causal agents. Furthermore, since the data is derived from screening questions asked by students rather than calibrated researchers, there is a higher margin of error. Another limitation is the difficulty to distinguish between erosion, attrition, and abrasion, since these conditions frequently coexist and overlap (Nadiger, 2012).

With this study, it was understood that the students can distinguish between presence and absence of wear. However, in most cases, can't classify it, as multiple types of wear are typically present, consistent with the previous research findings. It is important to highlight that studying different populations will yield different results due

to their lifestyle habits and unequal access to goods, as well as the age of participants in the sample.

Even though the introduction of the new method for recording TW allowed us to record more than one type of wear in the same patient, unlike the previous study, it still is necessary to find an enhanced, standardised, and as mentioned before, calibrated tool to diagnose and monitor TW more efficiently. The WHO Oral Health Assessment Form for Adults gives us more information about the severeness of erosion. However, it is not recommended by the European Consensus, disregards the other types of TW and does not have the appropriate tools to clarify the underlying mechanism associated with TW.

For future studies to be conducted with greater accuracy it is imperative the calibration of the dentists executing the screening appointment when diagnosing the various types of TW, ensuring more consistent results with less bias.

In a future approach, the classification used should allow recording more than one type of TW, be recommended by the European Consensus and the questionnaires assessing risk factors should be validated to avoid ambiguity in responses. For more precise results, intraoral scanners may be used to quantify and monitor dental wear and differentiate between physiological and pathological TW.

6. CONCLUSION

In this study, the prevalence of dental wear was found to be 72.1%, with attrition (35.8%) being the most frequent lesion, in line with the previous investigation.

A positive relationship was found between dental wear and age. Gender was also identified as a risk factor, with males being more prone to dental wear. Even though the results are in accordance with the previous study, there is an increase in the prevalence of tooth wear, leading to the rejection of H0 and acceptance of H1, that indicates that the prevalence values measured with the new method for data collection and classification of TW lesions are different from those measured with the previous index.

Concerning the results obtained, age and VDO were considered risk factors for abrasion. Age, gender, specifically male, and the use of drugs were positively associated with the presence of attrition. Regarding erosion, age, VDO, dry mouth and the intake of antacids were considered risk factors. For NCCL, only age was significantly associated.

The former research identified challenges in lesion diagnosis, observer calibration, and the lack of protocols for recording various types of dental wear, that unfortunately still persist in the second research period. Previously, only the relationship of different risk factors with the presence or absence of dental wear could be studied, not their relationship with each type of dental wear. This limitation was overcome in our study.

It is concluded that further studies should be conducted to delve deeper into the reasons behind the findings and to formulate less ambiguous questions for better understanding of patients. This study underscores the need for implementing validated questionnaires and observer calibration. Additional prospective studies could confirm the consistency of these results.

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Appendix 1. Approval of the Egas Moniz Ethics Committee.



Comissão de Ética EGAS MONIZ

Plataforma: PT-507/23
Processo Interno nº 1349

Ex.ma Senhora
Sofia Martins Palma Rodrigues

Monte de Caparica, 25 de janeiro de 2024.

Ex.ma Senhora,

Em resposta ao Pedido de Parecer que submeteu à apreciação da Comissão de Ética da Egas Moniz, com o tema denominado **“Prevalência do desgaste dentário e fatores de risco numa amostra de pacientes da Clínica Dentária Egas Moniz: uma atualização”**, foi aprovado.

A Presidente da Comissão de Ética da Egas Moniz

Profª Doutora Cidália de Castro

Appendix 2. Informed Consent of the Egas Moniz Dental Clinic Database.



Clínica Egas Moniz - História Clínica

Base de Dados de Saúde Oral de Adultos Egas Moniz

AUTORIZAÇÃO

Original (Arquivo)

Número do Processo: _____

Eu, _____ ☐ AUTORIZO ☐ NÃO AUTORIZO
a utilização dos meus dados registados no processo de triagem para a Base de Dados de Saúde Oral de Adultos Egas Moniz de acordo com os
termos e condições indicados a seguir, pelo período indicado a seguir: ☐ até ao final deste projeto ☐ 4 anos ☐ 3 anos ☐ 2 anos ☐ 1 ano

1. Natureza da Base de Dados de Saúde Oral de Adultos Egas Moniz

Segundo a Organização Mundial de Saúde, "para o novo milénio, são urgentes novos objetivos de Saúde Oral de forma a fortalecer o controlo: da cárie dentária, das condições de saúde periodontal, das lesões da mucosa oral, das lesões pré-cancerígenas e cancerígenas orais, do trauma craniofacial, da dor e da qualidade de vida baseada na Saúde Oral", que têm um grande impacto na população.

A Clínica Dentária Egas Moniz é uma referência nacional de Saúde Oral, desempenhando uma dupla ação, de serviço à comunidade e evolução do conhecimento científico.

A Base de Dados de Saúde Oral (B.D.S.O.) de Adultos Egas Moniz nasce com o propósito de conhecer a população tratada, recolher e tratar informação adequada com vista à construção do conhecimento baseado, e cumprir duas das missões da Clínica Dentária Egas Moniz, o dever de prestação de serviços à comunidade e de contribuição para a melhoria dos indicadores de Saúde Pública da população.

2. Direitos do(a) participante na Base de Dados

Pode autorizar ou recusar, livremente, a cedência de dados para a Base de Dados de Saúde Oral de Adultos Egas Moniz.

Pode, a qualquer momento, solicitar o acesso aos seus dados, pedir que os mesmos sejam excluídos ou colocar restrições sobre estes dados.

Caso decida alterar as condições desta autorização, poderá preencher o "Formulário de alteração das condições de autorização da B.D.S.O. de Adultos Egas Moniz" na Clínica Dentária Egas Moniz.

3. Regras de acesso, contacto e uso futuro da Base de Dados

Os seus dados clínicos não serão usados com fins lucrativos. Qualquer estudo/investigação que venha a usar estes dados será previamente submetido à Direção Clínica da Clínica Dentária Egas Moniz, Comissão Científica do IUEM e à Comissão de Ética Egas Moniz.

Se desejar, o(a) participante poderá consultar os seus dados armazenados na Base de Dados de Saúde Oral, para tal basta dirigir-se a clínica universitária com um documento de identificação.

4. Confidencialidade

Será mantida a estrita confidencialidade de todas as informações obtidas.

5. Objetivos Científicos da B.D.S.O. de Adultos Egas Moniz

Os dados serão utilizados para:

- 5.1. Objetivos Académicos e Científicos (teses, estudos epidemiológicos, ensaios clínicos);
- 5.2. Objetivos Clínicos (monitorização dos cuidados de saúde, saúde pública);
- 5.3. Objetivos Administrativos (seguros de saúde, indicadores de qualidade);
- 5.4. Objetivos Financeiros (otimização de recursos, stocks, gestão de recursos humanos).

Eu li as informações, ou foram-me lidas. Tive a oportunidade de fazer perguntas e as minhas perguntas foram respondidas satisfatoriamente. Eu consinto voluntariamente que os meus dados sejam armazenados da forma e com o propósito indicados acima.

Data Assinatura

Appendix 3. Informed Consent on the Deprivation and Protection of Personal Data.



INFORMAÇÃO SOBRE O TRATAMENTO DE DADOS NA PRESTAÇÃO DOS SERVIÇOS DE SAÚDE - PRIVACIDADE E PROTEÇÃO DE DADOS PESSOAIS

As Unidades de Saúde Egas Moniz, entidades pertencentes à Egas Moniz – Cooperativa de Ensino Superior, CRL, onde lhe são prestados cuidados de saúde, preocupam-se em proteger a sua privacidade e irão processar e armazenar os seus dados pessoais, enquanto responsáveis pelo tratamento dos mesmos. No âmbito de algumas especialidades clínicas, as suas unidades de saúde Egas Moniz poderão tratar os seus dados conjuntamente com outras entidades, enquanto corresponsáveis pelo tratamento, como sucede no caso da realização de análises de patologia clínica e/ou reenvio de informação clínica para outra unidade hospitalar. Para obter informação completa acerca dessas entidades, poderá solicitar informação nas respetivas unidades.

Os dados pessoais recolhidos, incluindo direta ou indiretamente relacionados com a sua saúde, serão tratados pelas unidades de Saúde Egas Moniz para efeitos de prestação de cuidados de saúde integrados, incluindo para a gestão dos sistemas e serviços das unidades de saúde da Egas Moniz, auditoria e melhoria contínua dos mesmos. Neste contexto, os seus dados poderão ser transmitidos a entidades subcontratadas para prestação de serviços, nos termos dos contratos celebrados com as mesmas, podendo ainda ser comunicados a entidades terceiras para as finalidades aqui previstas e para efeitos de cumprimento de obrigações legais das unidades de saúde Egas Moniz, de acordo com a deliberação da Comissão Nacional de Proteção de Dados ou de outra autoridade de controlo relevante, de uma ordem judicial, para proteção de interesses vitais dos clientes ou para efeitos de certificação, avaliação e medição dos níveis de serviço das unidades de saúde Egas Moniz.

Os dados relacionados com a sua saúde apenas serão tratados por ou sob a responsabilidade de profissionais obrigados a sigilo e na medida do necessário à prestação de cuidados de saúde, podendo ser comunicados aos seus familiares, apenas nas circunstâncias expressamente previstas na Lei em vigor.

Caso pretenda que os serviços prestados pelas Unidades de Saúde Egas Moniz sejam abrangidos pelo seu seguro ou subsistema de saúde, os seus dados pessoais, incluindo os dados de saúde relacionados com tais serviços, poderão ser comunicados à Companhia de Seguros ou ao subsistema de saúde de que seja beneficiário, sendo que estes são obrigados a sigilo. A não aceitação do atras referido, inviabiliza a faturação no âmbito do seguro de saúde ou subsistema de que é portador.

No caso de o cliente ser menor de 16 anos ou incapaz, caberá ao titular da responsabilidade parental ou da tutoria a junção ao processo administrativo do menor ou incapaz de documento comprovativo, nos termos legalmente admissíveis, dessa titularidade. Feita essa prova, cabe ao referido titular das responsabilidades parentais ou tutoria assinar o presente documento e dar o consentimento para o tratamento dos dados do menor ou incapaz, quando aplicável.

Os dados pessoais necessários à prestação dos cuidados de saúde serão conservados nos termos da legislação aplicável ao arquivo da documentação hospitalar ou similar e pelos prazos aí definidos.

Poderá solicitar, a qualquer momento, o acesso aos dados pessoais que lhe digam respeito, bem como a sua retificação, eliminação ou a limitação do seu tratamento, a portabilidade dos seus dados, ou opor-se ao seu tratamento telefonicamente ou mediante contacto presencial com as Unidades de Saúde Egas Moniz. No caso de dados relativos à sua saúde, o direito de acesso à informação de saúde por parte do titular (ou de terceiros com o seu consentimento ou nos termos da lei) pode ser exercido diretamente, ou por intermédio de um médico se o titular da informação o solicitar, mediante pedido escrito dirigido a clinica@egasmoniz.edu.pt.

Appendix 3. (continuation)



Para obter mais informações sobre os termos do tratamento de dados pelas Unidades de Saúde Egas Moniz, por favor consulte a nossa Política de Privacidade em www.egasmoniz.com.pt ou solicite informação nas Unidades de Saúde – a assinatura deste documento pressupõe o conhecimento da referida Política. Poderá ainda contactar o nosso Encarregado de Proteção de Dados. Assiste-lhe, ainda, o direito a apresentar uma reclamação à CNPD ou a outra autoridade de controlo competente nos termos da lei, caso entenda que o tratamento dos seus dados pela unidade de saúde Egas Moniz viola o regime legal em vigor a cada momento.

Tomei conhecimento: _____

Assinatura em _____ (data)

CONSENTIMENTO PARA OUTRAS FINALIDADES DE TRATAMENTO DE DADOS

Mediante o seu consentimento (assinalando em cada uma das opções pretendidas) e tendo em conta a informação acima prestada, os seus dados pessoais poderão ainda ser tratados para:

- ☐ Envio de comunicações informativas e de marketing que sejam considerados relevantes para a promoção da sua saúde e para a prestação de um serviço de excelência nas Unidades de Saúde Egas Moniz, através dos diferentes canais de comunicação, quer físicos, quer digitais, nomeadamente notificações eletrónicas, carta, SMS ou email, ajustadas aos seus interesses e preferências, apurados com base no seu perfil de utilizador. O seu perfil será criado com base nomeadamente em variáveis demográficas como idade e sexo, zona de residência, preferências pessoais por si indicadas, assim como os serviços disponibilizados nas unidades de saúde Egas Moniz que habitualmente frequenta.
- ☐ Realização de inquéritos de avaliação da satisfação dos clientes para nos ajudar a melhorar a prestação de serviços nas unidades de saúde Egas Moniz.

Nos termos da lei, é-lhe garantido o direito de, através dos meios anteriormente referidos, retirar o seu consentimento para o tratamento dos dados para as finalidades referidas, o que não invalida, no entanto, o tratamento dos dados efetuados até essa data com base no consentimento previamente dado. Os dados utilizados para o efeito de envio de comunicações informativas e marketing e para realização de inquéritos de avaliação de satisfação serão conservadas até retirada do seu consentimento.

Autorizo o tratamento dos meus dados pessoais para as finalidades por mim assinaladas, nos termos acima referidos.

_____ Assinatura em (data)

História Clínica - Clínica Universitária Egas Moniz

* Indica uma pergunta obrigatória

1. Nº de Processo *

2. Tem seguro de saúde?

Entende-se por seguro de saúde, Média, Multicare, ADSE, Medicare, etc....

Marcar apenas uma oval.

☐ Sim

☐ Não

3. Data de Nascimento do paciente *

Exemplo: 7 de janeiro de 2019

4. Género *

Marcar apenas uma oval.

☐ Masculino

☐ Feminino

☐ Outra:

5. Idade

6. Grupo Etário *

Marcar apenas uma oval.

☐ 18-24

☐ 25-44

☐ 45-64

☐ +65

Motivo da Consulta

Descreva por palavras do paciente o que motivou o paciente a procurar os nossos serviços. Em como podemos ajudar o paciente?

7. O que motivou o paciente a vir à nossa consulta? *

8. Aonde vive?

Marcar apenas uma oval.

☐ Lar ou Casa de Repouso Avançar para a pergunta 10

☐ Em casa Avançar para a pergunta 9

9. Se vive em casa

Marcar apenas uma oval.

☐ Tem apoio domiciliário?

☐ Frequenta um centro de dia?

☐ Ambos

☐ Nenhum

Antecedentes Pessoais

10. Esteve internado no Hospital no último ano? *

Marcar apenas uma oval.

☐ Sim Avançar para a pergunta 11

☐ Não Avançar para a pergunta 12

Qual o motivo pelo qual esteve internado no hospital?

11. Qual o motivo pelo qual esteve internado no hospital?

Está em tratamento médico?

Appendix 4. (continuation)

12. Está em tratamento médico? * Marcar apenas uma oval. ☐ Sim Avançar para a pergunta 13 ☐ Não Avançar para a pergunta 14 Para que doença está a fazer tratamento Médico?	16. Está a tomar algum outro medicamento que não esteja indicado anteriormente? _____ _____ _____ _____ _____
13. Para que doença está a fazer tratamento Médico? _____ _____ _____ _____ _____	17. Por favor introduza o nome dos medicamentos que o paciente está a tomar _____ _____ _____ _____ _____
Atualmente toma de forma regular algum medicamento? 14. Atualmente toma de forma regular algum medicamento? Marcar apenas uma oval. ☐ Sim Avançar para a pergunta 15 ☐ Não Avançar para a pergunta 21 Que tipo de medicamento está a tomar?	Bifosfonatos 18. Está a tomar bifosfonatos? Em Portugal estão aprovados 6 bifosfonatos, constando todos eles na Base de Dados de Medicamentos do Infarmed: Ácido Alendronico (Alendronato), Ácido Clodronico (Clodronato), Ácido Ibandronico (Ibandronato), Ácido Zoledronico (Zoledronato), Pamidronato de Sódio e Risedronato de Sódio. Marcar apenas uma oval. ☐ Sim Avançar para a pergunta 21 ☐ Não Avançar para a pergunta 21 ☐ Não sabe Avançar para a pergunta 21
15. Que tipo de medicamento está a tomar? Marcar tudo o que for aplicável. ☐ Anti-Hipertensores ☐ Broncodilatadores ☐ Anti-Depressores ☐ Anti-Ácidos ☐ Estatinas ☐ Anti-Diabéticos ☐ Analgésicos ☐ Anti-coagulantes ☐ Anti-Agregantes ☐ Anti- Psicóticos ☐ Anti-Parkinsonianos ☐ Anti-Alzheimer	Consumo de Bifosfonatos 19. De que forma está a fazer a toma dos mesmos? Marcar apenas uma oval. ☐ Oral ☐ Injetável ☐ Oral e Injetável

Appendix 4. (continuation)

20. Há quanto tempo o está ou terminou de fazer o consumo de bifosfonatos? Marcar apenas uma oval. ☐ Atualmente ☐ Terminada há menos de 6 meses ☐ Terminada entre 6 meses e 1 ano ☐ Terminada entre 12 meses e 18 meses ☐ Terminada entre 18 meses e 24 meses ☐ Terminada entre 2 e 3 anos ☐ Terminada entre 3 e 5 anos ☐ Terminada há mais de 5 anos	24. Está grávida? Marcar apenas uma oval. ☐ sim Avançar para a pergunta 25 ☐ não Avançar para a pergunta 26 Período de Gravidez 25. Período de Gravidez Marcar apenas uma oval. ☐ 1º Trimestre ☐ 2º Trimestre ☐ 3º Trimestre ☐ Outra: _____
21. Tem alergia a algum medicamento? Marcar apenas uma oval. ☐ Sim Avançar para a pergunta 22 ☐ Não Avançar para a pergunta 23	Alguma vez teve hemorragias excessivas que exigiu tratamento? 26. Alguma vez teve hemorragias excessivas que exigiu tratamento? Marcar apenas uma oval. ☐ sim ☐ não
Alergia a que medicamento? 22. Alergia a que medicamento? Marcar tudo o que for aplicável. ☐ Penicilina ☐ Outra: _____	Morbilidades Assinale as doenças que o paciente tem ou teve
Toma a pílula? 23. Toma a pílula? Marcar apenas uma oval. ☐ Sim Avançar para a pergunta 24 ☐ Não Avançar para a pergunta 24	

Appendix 4. (continuation)

33. É fumador?

Marcar apenas uma oval.

☐ Sim

☐ Não

Avançar para a pergunta 35

34. Quantos cigarros fuma por dia?

Marcar apenas uma oval.

☐ menos de 10

☐ 10 a 20

☐ 20 a 40

☐ mais de 40

35. Costuma ingerir bebidas alcoólicas?

Marcar apenas uma oval.

☐ sim

☐ não

Avançar para a pergunta 37

36. Em que ocasiões?

Marcar apenas uma oval.

☐ Em festas e convívios

☐ Diariamente nas refeições

☐ Ambas as situações

37. É consumidor de estupefacientes?

Marcar apenas uma oval.

☐ sim

☐ não

Hábitos Alimentares

Quantas vezes come ou bebe os alimentos em baixo indicados, mesmo que sejam em pequenas quantidades?

38. *

Marcar apenas uma oval por linha.

	Diariamente, 1 vez	Diariamente, 2 a 3 vezes	Diariamente, mais de 3 vezes	Semanalmente, 1 a 3 vezes	Semanalmente, mais de 3 vezes	Nunca
Fruta Fresca	☐	☐	☐	☐	☐	☐
Biscoitos, bolos, bolos com creme	☐	☐	☐	☐	☐	☐
Gelada e mel	☐	☐	☐	☐	☐	☐
Pastilhas com açúcar	☐	☐	☐	☐	☐	☐
Pastilhas SEM açúcar ou com Xilitol	☐	☐	☐	☐	☐	☐
Doces	☐	☐	☐	☐	☐	☐
Limonada, coca-cola ou outros refrigerantes	☐	☐	☐	☐	☐	☐
Chá com açúcar	☐	☐	☐	☐	☐	☐
Chá sem açúcar	☐	☐	☐	☐	☐	☐
Café com açúcar	☐	☐	☐	☐	☐	☐
Café sem açúcar	☐	☐	☐	☐	☐	☐

Hábitos de Higiene Oral

Appendix 4. (continuation)

39. Quantas vezes escova os seus dentes? Marcar apenas uma oval. ☐ Diariamente, 1 vez ☐ Diariamente, 2 a 3 vezes ☐ Diariamente, mais de 3 vezes ☐ Semanalmente, 1 a 3 vezes ☐ Semanalmente, mais de 3 vezes ☐ Nunca	43. Na última semana com que frequência usou o fio ou escovillão dentário? Marcar apenas uma oval. ☐ 1 a 3 vezes ☐ 4 a 7 vezes ☐ Mais de 7 vezes
40. Qual o tipo de dentífrico/ marca que usa? Marcar apenas uma oval. ☐ Colgate ☐ Sensodyne ☐ Parodontax ☐ OralB ☐ Elgydium ☐ WTIIS ☐ Outra: _____	44. Costuma usar colúrio ou elixir? Marcar apenas uma oval. ☐ Sim ☐ Não Avançar para a pergunta 46
41. Usa algum destes utensílios na sua higiene oral? Marcar tudo o que for aplicável. ☐ Escova de dentes manual ☐ Escova de dentes elétrica ☐ Palitos de Madeira ☐ Palitos de Plástico ☐ Equipamento com Jato de Água ☐ Fio Dentário ☐ Fita Dentária ☐ Raspador de Língua ☐ Escovillão ☐ Colúrio ☐ Escova ultrasónica ☐ Outra: _____	45. Que tipo de Colúrio usa? Marcar apenas uma oval. ☐ Listerine ☐ ELUDRIL ☐ Perio-AID ☐ Beident gengivas ☐ KEMPHOR ☐ Outra: _____
42. Costuma usar com frequência fio ou escovillão dentário? Marcar apenas uma oval. ☐ Sim ☐ Não Avançar para a pergunta 44	Utilização de Prótese Dentária 46. Usa prótese dentária Marcar apenas uma oval. ☐ Sim ☐ Não Avançar para a pergunta 49 Que tipo de Prótese?

Appendix 4. (continuation)

47. Que tipo de Prótese?

Marcar tudo o que for aplicável.

	Arçada Superior	Arçada Inferior
Fixa sobre dentes	☐	☐
Fixa sobre implantes	☐	☐
Prótese Parcial Removível Esquelética	☐	☐
Prótese Parcial Removível Acrílica	☐	☐
Prótese Parcial Removível Flexível	☐	☐
Prótese Total Removível	☐	☐
Prótese Total Fixa (titânio)	☐	☐
Sobredentadura	☐	☐

48. Há quanto tempo usa prótese?

Marcar apenas uma oval.

☐ Menos de 6 meses

☐ de 6 meses a 1 ano

☐ 1 ano a 3 anos

☐ 3 anos a 5 anos

☐ 5 anos a 7 anos

☐ 7 anos a 9 anos

☐ 9 anos a 11 anos

☐ 11 anos a 13 anos

☐ 13 anos a 15 anos

☐ mais de 15 anos

49. Como considera o estado dos seus dentes?

Marcar apenas uma oval.

☐ Excelente

☐ Muito bom

☐ Bom

☐ Fraco

☐ Muito Fraco

☐ Desdentado Total

50. Como considera o estado das suas gengivas?

Marcar apenas uma oval.

☐ Excelente

☐ Muito bom

☐ Bom

☐ Fraco

☐ Muito Fraco

51. Dificuldade em moer alimentos

Marcar apenas uma oval.

☐ Com frequência (muitas vezes)

☐ Ocasionalmente (poucas vezes)

☐ Nunca

52. Dificuldade de mastigação

Marcar apenas uma oval.

☐ Com frequência (muitas vezes)

☐ Ocasionalmente (poucas vezes)

☐ Nunca

49. Como considera o estado dos seus dentes?

Marcar apenas uma oval.

☐ Excelente

☐ Muito bom

☐ Bom

☐ Fraco

☐ Muito Fraco

☐ Desdentado Total

50. Como considera o estado das suas gengivas?

Marcar apenas uma oval.

☐ Excelente

☐ Muito bom

☐ Bom

☐ Fraco

☐ Muito Fraco

51. Dificuldade em moer alimentos

Marcar apenas uma oval.

☐ Com frequência (muitas vezes)

☐ Ocasionalmente (poucas vezes)

☐ Nunca

52. Dificuldade de mastigação

Marcar apenas uma oval.

☐ Com frequência (muitas vezes)

☐ Ocasionalmente (poucas vezes)

☐ Nunca

Devido ao estado dos seus dentes ou boca, qual(is) desta(s) situações já experienciou durante os últimos 12 meses?

Appendix 4. (continuation)

53. Dificuldade de fala Marcar apenas uma oval. ☐ Com frequência (muitas vezes) ☐ Ocasionalmente (poucas vezes) ☐ Nunca	58. Faltar ao trabalho Marcar apenas uma oval. ☐ Com frequência (muitas vezes) ☐ Ocasionalmente (poucas vezes) ☐ Nunca
54. Sentir-se embaraçado com a sua aparência Marcar apenas uma oval. ☐ Com frequência (muitas vezes) ☐ Ocasionalmente (poucas vezes) ☐ Nunca	59. Dificuldade em realizar tarefas diárias Marcar apenas uma oval. ☐ Com frequência (muitas vezes) ☐ Ocasionalmente (poucas vezes) ☐ Nunca
55. Sentir-se tenso pelos problemas dentários Marcar apenas uma oval. ☐ Com frequência (muitas vezes) ☐ Ocasionalmente (poucas vezes) ☐ Nunca	60. Falta de tolerância com as pessoas mais próximas Marcar apenas uma oval. ☐ Com frequência (muitas vezes) ☐ Ocasionalmente (poucas vezes) ☐ Nunca
56. Vergonha de sorrir Marcar apenas uma oval. ☐ Com frequência (muitas vezes) ☐ Ocasionalmente (poucas vezes) ☐ Nunca	61. Redução da participação na vida social Marcar apenas uma oval. ☐ Com frequência (muitas vezes) ☐ Ocasionalmente (poucas vezes) ☐ Nunca
57. Interrupções no sono Marcar apenas uma oval. ☐ Com frequência (muitas vezes) ☐ Ocasionalmente (poucas vezes) ☐ Nunca	Xerostomia 62. Com que frequência sente a boca seca? Marcar apenas uma oval. ☐ Nunca ☐ Ocasionalmente ☐ Com frequência ☐ Sempre

Appendix 4. (continuation)

63. Com que frequência sente a boca seca durante as refeições? <i>Marcar apenas uma oval.</i> ☐ Nunca ☐ Ocasionalmente ☐ Com frequência ☐ Sempre	67. Já fez alguma vez utilizou aparelho ortodôntico? <i>Marcar apenas uma oval.</i> ☐ Não <i>Avançar para a pergunta 69</i> ☐ Sim, utilizei um aparelho removível ☐ Sim, utilizei um aparelho ortodôntico fixo ☐ Sim, utilizei um aparelho ortodôntico removível e fixo ☐ Sim, Estou a usar aparelho fixo ☐ Sim, estou a usar alinhadores
64. Com que frequência sente dificuldade em comer alimentos secos? <i>Marcar apenas uma oval.</i> ☐ Nunca ☐ Ocasionalmente ☐ Com frequência ☐ Sempre	Há quanto tempo? 68. Há quanto tempo? <i>Marcar apenas uma oval.</i> ☐ Menos de 6 meses ☐ De 6 meses a 1 ano ☐ 2 anos ☐ há mais de 3 anos
65. Com que frequência sente dificuldade em engolir certos alimentos? <i>Marcar apenas uma oval.</i> ☐ Nunca ☐ Ocasionalmente ☐ Com frequência ☐ Sempre	Quando foi a sua última consulta de Medicina Dentária? 69. Quando foi a sua última consulta de Medicina Dentária? <i>Marcar apenas uma oval.</i> ☐ Menos de 6 meses ☐ 6 a 12 meses ☐ mais do que 1 ano e menos que 2 anos ☐ mais do que 2 anos e menos que 5 anos ☐ 5 anos ou mais ☐ Nunca fui ao dentista
66. Com que frequência sente os lábios secos? <i>Marcar apenas uma oval.</i> ☐ Nunca ☐ Ocasionalmente ☐ Com frequência ☐ Sempre	Qual o motivo da última consulta de Medicina Dentária?
Já fez alguma vez utilizou aparelho ortodôntico?	

Appendix 4. (continuation)

77. Estiver sentido na sala de espera para um tratamento? Marcar apenas uma oval. ☐ Sem ansiedade ☐ Levemente ansioso ☐ Razoavelmente ansioso ☐ Muito ansioso ☐ Extremamente ansioso	81. Estiver prestes a levar uma anestesia local na gengiva? Marcar apenas uma oval. ☐ Sem ansiedade ☐ Levemente ansioso ☐ Razoavelmente ansioso ☐ Muito ansioso ☐ Extremamente ansioso
78. Estiver prestes a tratar uma cárie? Marcar apenas uma oval. ☐ Sem ansiedade ☐ Levemente ansioso ☐ Razoavelmente ansioso ☐ Muito ansioso ☐ Extremamente ansioso	Clinica Universitária Egas Moniz 82. Saiba o que é uma Clínica Universitária? Marcar apenas uma oval. ☐ Sim ☐ Não ☐ Tenho uma ideia
79. Estiver prestes a tratar uma limpeza dentária? Marcar apenas uma oval. ☐ Sem ansiedade ☐ Levemente ansioso ☐ Razoavelmente ansioso ☐ Muito ansioso ☐ Extremamente ansioso	83. Porque escolheu a nossa clínica? Marcar tudo o que for aplicável. ☐ Por indicação ☐ Localização ☐ Custo ☐ Publicidade ☐ Qualidade dos tratamentos Formação e Emprego
80. Estiver prestes a extrair um dente? Marcar apenas uma oval. ☐ Sem ansiedade ☐ Levemente ansioso ☐ Razoavelmente ansioso ☐ Muito ansioso ☐ Extremamente ansioso	84. Qual é o seu nível de escolaridade? Marcar apenas uma oval. ☐ Sem escolaridade ☐ Ensino Básico ☐ Ensino Secundário ☐ Ensino Universitário

85. Qual o seu estado de empregabilidade?

Marcar apenas uma oval:

☐ Estudante
☐ Empregado
☐ Desempregado
☐ Reformado

86. Qual o seu escalão de rendimento anual? facultativa

Marcar apenas uma oval:

☐ até 7.000 euros anuais
☐ + de 7.000 euros anuais e menos de 20.000 euros
☐ + de 20.000 euros anuais e menos de 40.000 euros
☐ + de 40.000 euros anuais e menos de 80.000 euros
☐ + de 80 mil euros anuais

87. Foi enviado por quem?

Marcar apenas uma oval:

☐ Pai/ Mãe
☐ Avô/ Avó
☐ Tio/ Tia
☐ Irmão/ Irmã
☐ Primo/ Prima
☐ Sobrinho/ Sobrinha
☐ Neto/ Neta
☐ Amigo/ Amiga
☐ Médico de Família
☐ Assistente Social
☐ Hospital
☐ Médico Dentista
☐ Clínica Egas Moniz - Almada
☐ Filho/ Filha
☐ Iniciativa Própria
☐ Outra: _____

88. Altura

89. Peso

90. TA Sistólica

91. TA Diastólica

Exame Extra-Oral

92. Configuração Craniofacial *

Marcar apenas uma oval:

☐ Braquifacial


☐ Dolicofacial


☐ Mesofacial


93. Assimetrias ou alterações locais?

Marcar apenas uma oval:

☐ Sim
☐ Não

Appendix 4. (continuation)

94. Dimensão Vertical Marcar apenas uma oval. ☐ Aumentada ☐ Diminuída ☐ Mentida	100. Hemorragia gengival? Marcar apenas uma oval. ☐ sim ☐ não
95. Limitação dos movimentos mandibulares? Marcar apenas uma oval. ☐ Sem limitação de movimentos ☐ Limitação de movimentos para o lado esquerdo ☐ Limitação de movimentos para o lado direito	101. Mobilidade Dentária Marcar apenas uma oval. ☐ Sim ☐ Não
96. Presença de sons articulares? Marcar tudo o que for aplicável. ☐ Sem sons articulares ☐ Sons articulares do lado esquerdo ☐ Sons articulares do lado direito	102. Alterações de Estruturas dentárias? Marcar tudo o que for aplicável. ☐ Não ☐ Atorção ☐ Erosão ☐ Abração ☐ Abfração
97. Sintomatologia dolorosa da ATM? Marcar tudo o que for aplicável. ☐ Sem sintomatologia ☐ Sintomatologia no lado esquerdo ☐ Sintomatologia no lado direito	103. Qual o nível de severidade da Erosão Dentária? Marcar apenas uma oval. ☐ Sem sinal de erosão ☐ Lesão em Esmalte ☐ Lesão em Dentina ☐ Envolvimento Pulpar
Exame Intraoral	
98. Alterações de tecidos moles? Marcar apenas uma oval. ☐ Sim ☐ Não	104. Fluorose Dentária Marcar apenas uma oval. ☐ Ausente ☐ Questionável ☐ Muito Leve ☐ Leve ☐ Normal ☐ Moderada ☐ Severa
99. Presença de placa bacteriana visível? Marcar apenas uma oval. ☐ Sim ☐ Não	