

Proceeding Paper

Mouth Breathing and Atypical Swallowing in Adult Orthodontic Patients at Egas Moniz Dental Clinic: A Pilot Study [†]

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Abstract: Background: Mouth breathing and atypical swallowing are myofunctional problems, emerging as a pathological adaptation. This exploratory study was aimed to investigate the possible relation between breathing and swallowing patterns in adults. Methods: A total of 58 patients referred to the Orthodontic Department at Egas Moniz Dental Clinic were enrolled. Results: Atypical swallowing was more prevalent in women (78.0%) than in men (47.1%). A significantly higher proportion of patients exhibiting both mouth breathing and atypical swallowing were identified (46.6%). Swallowing pattern was found to be significantly associated with gender and breathing pattern.



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Keywords: mouth-breathing; atypical swallowing; myofunctional problems; adults

1. Introduction

Physiological swallowing and breathing are often affected by anatomic or functional problems [1,2]. Most breathing is nasal, and mouth breathing can be thought of like a pathological adaptation, as it can lead to a series of changes that are often irreversible for the growth and development of a child [3]. Atypical swallowing is a functional problem that consists in an altered tongue position during the act of swallowing [4]. The high incidence in population, multifactorial etiology, and the recurring connection with the presence of malocclusions made it a topic of strong interest in the literature. Mouth breathing and atypical swallowing are myofunctional problems that can be found, emerging as a pathological adaptation, that often produce irreversible changes in growth and development [5,6]. This study was aimed to investigate the possible relation between breathing and swallowing patterns in adults.

2. Materials and Methods

A total of 58 patients—41 females (70.7%) and 17 males (29.3%)—referred to the of Orthodontic Department at Egas Moniz Dental Clinic (EMDC) between January 2018 and February 2019, participated in this study. The study was approved by the Ethics Committee of Egas Moniz. Inclusion criteria were being adult with no previous orthodontic treatment or craniofacial anomalies, having a clinical record at EMDC, along with the correspondent informed consent signed. The method used to assess breathing and swallowing patterns was adapted by Marchesan [7]. Data were analyzed by using descriptive and inferential methodologies. A significance level of 5% was set in the latter case.

3. Results and Discussion

A relatively high prevalence of patients exhibiting both mouth breathing and atypical swallowing ($n = 27$, 46.6% from total) was observed (Table 1). However, the value was inferior to the one reported in a similar study (97.2%) [8]. A higher prevalence of mouth-breathers was found in women ($n = 23$, 56.1%) than in men ($n = 7$, 41.2%). Atypical swallowing was also more prevalent in women ($n = 32$, 78.0%) than in men ($n = 8$, 47.1%). Conversely to what was found in the study by Maspero et al. [2], the association between breathing pattern and swallowing pattern was found to be significant ($p < 0.001$). Moreover, swallowing pattern was found to be significantly associated with gender ($p = 0.020$). Further studies are mandatory to clarify these findings.

Table 1. Distribution of breathing and swallowing patterns, presented as n (% from total M|F).

		Swallowing		
		Correct	Incorrect	Total
		M F	M F	M F
Breathing	Nasal	7 (70.0) 8 (44.4)	3 (30.0) 10 (55.6)	10 18
	Oral	2 (28.6) 1 (4.3)	5 (71.4) 22 (95.7)	7 23
	Total	9 (52.9) 9 (22.0)	8 (47.1) 32 (78.0)	17 41

Institutional Review Board Statement: The study was conducted according to the guidelines of the Declaration of Helsinki, and approved by the Ethics Committee of Egas Moniz Higher Education Cooperative (protocol code 600).

Informed Consent Statement: Informed consent was obtained from all subjects involved in the study. Written informed consent has been obtained from the patient(s) to publish this paper.

Data Availability Statement: MDPI Research Data Policies.

Conflicts of Interest: The authors declare no conflict of interest.

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