

Age and Condition of Dentures: Insights from Lebanese Denture Wearers

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Abstract: ***Background:** Dentures play a crucial role in restoring functionality and aesthetics for individuals with tooth loss. In order to maintain oral health, dentures need periodic replacement. This study evaluates the age of dentures in a Lebanese sample population. **Material and Methods:** Two hundred ninety (161 females, 129 males; age range 40-80 years) were selected for this study, and the age of their dentures was ranked in three categories: a) rank 1: denture's age between 1 and 4 years; b) rank 2: denture's age between 4 and 8 years; and c) rank 3: denture's age above 8 years. Descriptive statistics for patient age and gender and denture's age were calculated, and percent distributions were reported. **Results:** In our sample of 290 patients, 254 (87.59%) were divided between those with dentures aged 1-4 years (168, 57.93%) and those with dentures aged 4-8 years (86, 29.65%); only 36 patients (12.41%) wore the same denture for more than 8 years. **Conclusion:** Of the 290 participants, the majority wore dentures aged less than 8 years, indicating adherence to normal replacement intervals. Findings highlight the importance of regular denture evaluation to prevent complications and maintain oral health.*

Keywords: denture age, Lebanese population, oral health, prosthetic dentistry, acrylic dentures

1. Introduction

Edentulism is a chronic disorder that impairs a person's ability to eat, communicate, and interact with others. For some people, these difficulties may result in worsening social and psychological problems [1,2]. Physical effects of teeth loss also include decreased biting force, weakened facial muscle support, and loss of alveolar tissue support.

Dentures are removable oral appliances used by patients to replace missing teeth, thus improving their overall quality of life by addressing the impairment caused by edentulism [1-5].

Worn-out dentures can cause several problems, including:

- Alveolar ridge resorption-induced looseness, which can eventually disrupt mastication and cause overall discomfort [6].
- Inflammatory changes of the denture-bearing mucosa as a result of the denture bacterial and fungal contamination [6-8].
- Denture discoloration resulting from the microfissures and cracks within the acrylic resin, making it more susceptible to staining [6].

This study aimed to evaluate the age of dentures in a sample of the Lebanese denture wearers. It provides valuable insights into the lifespan of dentures, contributing to better oral health management strategies for aging populations.

2. Materials And Methods

This study was carried out in compliance with the Helsinki Agreement on Human Research. All patients gave their agreement after being told that their information might one day be utilized anonymously for research.

Participants aged over 40 years who had been using acrylic dentures for at least one year were included in this study. 290 patients (161 females and 129 males) who met the inclusion criteria were selected and divided into 2 categories:

- 1) Patients aged between 40 and 60 years
- 2) Patients older than 60 years

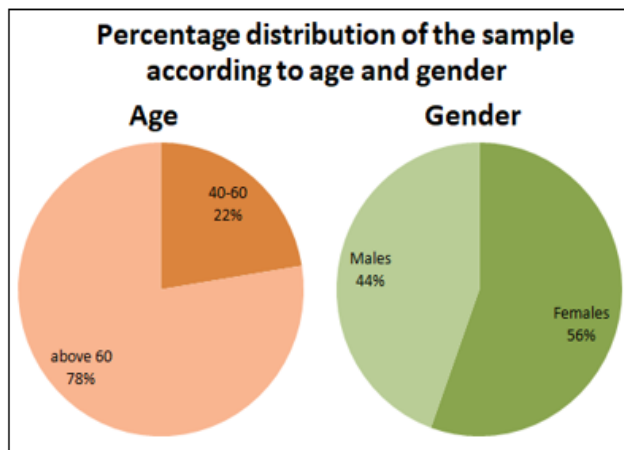
Additionally, the age of each patient's denture was noted and classified into 3 ranks:

- Rank 1: between 1 and 4 years.
- Rank 2: between 4 and 8 years.
- Rank 3: more than 8 years.

Percent distributions were provided for patient age, gender, and denture's age.

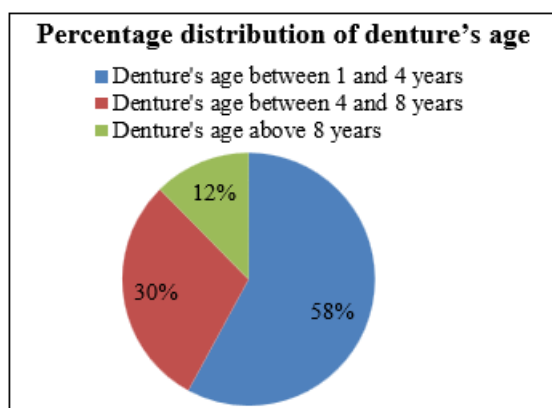
3. Results

Our sample of the Lebanese population consisted of 290 patients wearing acrylic maxillary dentures (161 females, 55.51%; 129 males, 44.48%). With a mean age of 64.25 years, all participants were older than 40 years; of the 290 patients, 65 (22.41%) were between 40 and 60 years old, while the remaining 225 (77.58%) were over 60 years old (Graph 1).



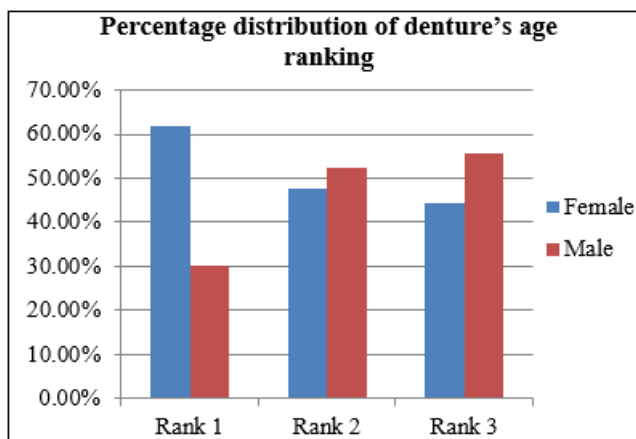
Graph 1: Percentage distribution of sample according to age and gender

Two hundred fifty-four patients (87.58%) of the examined population were divided between those with dentures aged 1-4 years (168, 57.93%) and those with dentures aged 4-8 years (86, 29.65%); only 36 patients (12.41%) wore the same denture for over 8 years (Graph 2).



Graph 2: Percentage distribution of denture's age

In terms of gender, women made up 61.90% (104 out of 168) of the patients in rank 1, 47.67% (41 out of 86) in rank 2, and 44.44% (16 out of 36) in rank 3 (Graph 3).



Graph 3: Percentage distribution of denture's age ranking

4. Discussion

Dentures that rely on the underlying tissues for support need to be maintained in optimal condition since preventive

dentistry and overall health care are essential for edentulous patients. It is widely acknowledged that dentures worn for five to ten years can cause tissue changes and inflammatory alterations in the mucosa that bears the denture. They can also make the mucosa less resistant to mechanical and microbiological aggressions [7,9-11]. For that, patients should be instructed to check on their dentures on a regular basis and replace them when they start to cause functional, medical, or aesthetic problems in order to maintain the surrounding tissues healthy.

Our study, which aims to assess the age of the denture in a sample of the Lebanese denture wearers, has limitations. Due to the relatively small sample, definitive conclusions should be reserved until further research can confirm our findings.

5. Conclusion

This study reveals that the majority of Lebanese denture wearers replace their dentures within 8 years, aligning with recommended practices. Regular evaluation and timely replacement of dentures are essential for maintaining oral health and functionality.

References

- [1] Pisulkar SK, Agrawal R, Belkhode V, Nimonkar S, Borle A, Godbole SR. Perception of buccal corridor space on smile aesthetics among specialty dentist and layperson. *J Int Soc Prev Community Dent.* 2019;9(5):499-504.
- [2] Satishkumar CSC, Nair SJ, Joseph AM, Suresh S, Muthupandian I, Kumaresan S, et al. Relationship between perceived chewing ability, oral health related quality of life and depressive symptoms among completely edentulous individuals. *Indian J Dent Res.* 2021;32(2):211-5.
- [3] AlSaggaf AU, Alqutub A, Almasri Z, Khalifah F, Khuzaee F, Aljuaid A, et al. Oral health-related quality of life improvement after treatment with fixed and removable dental prostheses. *Cureus.* 2024;16(10):e71013.
- [4] Chiddarwar R, Bhojar A, Dubey SA, Dhamande MM, Khubchandani SR. Refining complete dentures: optimizing results with enhanced phonetics and esthetics. *Cureus.* 2024;16(6):e62938.
- [5] Singh H, Sharma S, Singh S, Wazir N, Raina R. Problems faced by complete denture-wearing elderly people living in jammu district. *J Clin Diagn Res.* 2014;8(12):ZC25-7.
- [6] Aoun G, Cassia A, Berberi A. Effectiveness of a chlorhexidine digluconate 0.12% and cetylpyridinium chloride 0.05% solution in eliminating *Candida albicans* colonizing dentures: a randomized clinical in vivo study. *J Contemp Dent Pract.* 2015;16(6):433-6.
- [7] Aoun G, Cassia A. Evaluation of denture-related factors predisposing to denture stomatitis in a lebanese population. *Mater Sociomed.* 2016;28(5):392-6.
- [8] Navabi N, Gholamhoseinian A, Baghaei B, Hashemipour MA. Risk factors associated with denture stomatitis in healthy subjects attending a dental school

- in southeast iran. Sultan Qaboos Univ Med J. 2013;13(4):574-80.
- [9] Tautin FS. Should dentures be worn continuously? J Prosthet Dent. 1978;39(4):372-4.
- [10] Kossioni AE. The prevalence of denture stomatitis and its predisposing conditions in an older Greek population. Gerodontology. 2011;28(2):85-90.
- [11] Sahebjamee M, Basir Shabestari S, Asadi G, Neishabouri K. Predisposing factors associated with denture induced stomatitis in complete denture wearers. Shiraz Univ Dent J. 2011;11: 35-9.