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**Tooth wear in relation to Temporomandibular joint disorders and other selected risk factors among institutionalized older adults in Baghdad city \Iraq
(Cross-sectional study)**

A thesis

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Abstract

Back ground: Elderly people suffer from many chronic diseases and substantial disabilities that could impair oral care, this situation lead to development of oral diseases such as dental caries, periodontal diseases and oral cancer, as well as they suffer from accumulative tooth surface loss which called tooth wear which is a condition that encompasses attrition, abrasion and erosion and has a multifactorial etiology that affects aesthetic, function and longevity of human dentition.

Aim of the study: This investigation was designed to evaluate the prevalence of tooth wear and its severity regarding subject, teeth and surfaces and to study differences of tooth wear between age groups, gender and selected risk factors. In addition the exploration of the relation between tooth wear, number of missing teeth and temporomandibular joint disorders.

Materials and Methods: A sample of 156 institutionalized older adults aged 50-89 years old (77 males and 79 females) were examined. They were distributed into three private and one governmental institutions in Baghdad city. An interview was performed regarding aspirin, smoking, soft drink consumption, gastro-esophageal reflux, oral hygiene and bruxism status. The criteria of Smith and Knight (1984) index was followed for diagnosis and recording of tooth wear, while criteria of clinical dysfunction of Helkimo index (1974a) were followed for diagnosis of temporomandibular joint disorders.

Results: All the 123 examined subjects found to be affected by tooth wear with a mean (30.79 ± 19.39) and median (28). The highest grade of tooth wear recorded was grade 2 (56.9%), followed by grade 3 (26%), grade 4 (17.1%). Results reported that the highest number of subjects was those having incisal tooth wear (97.6%); while the lowest ones was those with tooth wear in the lingual surface (8.1%). Overall percentage of wear by surfaces was 27.54%. Tooth wear values were higher in mandibular arch than those of the maxillary

one and differences were found to be statistically significant ($P < 0.05$). The mean of percentage of wear by grades of severity in the anterior teeth (incisors and canines) in both maxillary and mandibular arches as their values were (10.6, 69.6, 16.7, 3.2) % for G1, G2, G3, and G4 respectively which were mostly greater than that of the posterior teeth (premolars and molars) as their values were (35.5, 51.3, 11.2, 1.8) % for G1, G2, G3, and G4 respectively. Canines and premolars were the most affected teeth by wear; the highest grade of wear recorded in teeth was grade 2.

In this study, although there was no statistically significant difference of total tooth wear among age groups ($P > 0.05$), a statistically significant difference was seen regarding the severity of tooth wear among different age groups; for grade 2 and grade 4 ($P < 0.05$), while a statistically highly significant difference recorded for both grade 1 and grade 3. A statistically highly significant difference of the total tooth wear was recorded between the total males and females ($P < 0.01$). For all grades of wear severity, a statistically significant difference was also seen between the two genders ($P < 0.05$), except for grade 4, it was statistically not significant ($P > 0.05$).

Results recorded a statistically not significant differences of tooth wear; regarding aspirin and soft drink consumption, gastro-esophageal reflux and smoking status ($P > 0.05$), except those with hygiene and those with bruxism, as statistically highly significant differences were recorded ($P < 0.01$). In the current study, results indicated that a presence of a strong positive highly significant correlation coefficient between total tooth wear and missing teeth ($R = 0.706$, $P = 0.000$). Results illustrated that there were no associations between tooth wear and all temporomandibular joint disorders ($P > 0.05$).

Conclusion: The prevalence of tooth wear among institutionalized subjects is high and some of risk factors could be related to it thus there is a need for preventive, promotion strategies and restorative treatment for this group of population.