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A Descriptive study of cases of gingival recession during the second half of the year 1402 (2023-2024) at the National, Curative, and Specialized Stomatology Hospital

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Abstract

Background: Gingival recession refers to the exposure of the tooth root surface inside the oral cavity, with its first symptom being tooth sensitivity. If this pathology is not treated, it makes the tooth root susceptible to root caries.In addition, it leads to further exposure of the tooth roots, which causes the teeth to appear longer and results in an unattractive smile. These factors may lead to the patient's social isolation and a reduction in self-confidence.

Materials and Methods: This study is descriptive in nature and designed as a case series. It is conducted on all patients who visited the OPD service of the Stomatology Hospital during the second half of the year (2023/2024). The sampling method is convenience sampling, meaning that from among all the patients who were diagnosed with gingival recession and referred to hospital, 159 individuals were selected to be included in the study.

Results: In this study, 98 females (61.6%) and 61 males (38.36%) participated randomly. The prevalence of gingival recession among the participants was distributed across four age groups:

- Ages 20–30: 74 cases (46.54%)
- Ages 31–40: 35 cases (22.01%)
- Ages 41–50: 23 cases (14.46%)
- Ages 51–65: 27 cases (16.98%)

Conclusion: The findings of this study indicate a higher prevalence of gingival recession among younger adults, meaning that the prevalence of gingival recession was found to be inversely proportional to age. Additionally, the results showed a higher rate of gingival recession in females compared to males.

Keywords: Recession**,** Root exposure, Calculus

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Introduction

Gingival recession refers to the exposure of the root surface of the tooth within the oral cavity, a condition that makes the tooth root more susceptible to root caries. The further exposure of tooth roots leads to an apparent elongation of the teeth and an unattractive smile. In addition, the accumulation of calculus (tartar) on the root surface can cause *halitosis* (bad breath), which may result in the patient's social withdrawal and a loss of self-confidence.(10)

According to previous research, the prevalence of periodontal and supporting tissue diseases — especially gingival recession — is associated with various complications such as tooth sensitivity, dental caries, lengthened and unattractive teeth appearance, halitosis (bad breath), and easy loss of otherwise healthy teeth, reduced self-confidence, social isolation, and even psychological depression.

While mild cases of the disease may respond to medication, the definitive treatment of advanced gingival recession often requires costly surgical procedures, sometimes with unpredictable outcomes. Therefore, by understanding the prevalence and importance of preventing gingival recession in our country, it is possible to design low-cost and short-term preventive programs. Raising public awareness can help prevent many of the complications and consequences associated with this disease.

In the normal condition, the gingiva is attached to the tooth at the cementoenamel junction (CEJ). In pathological conditions, however, this position may shift either coronally (forming *false gingival pockets*) or apically beyond the CEJ (resulting in *gingival recession*).(11)

Definition:

Gingival recession is defined as the exposure of the root surface due to the apical migration of the marginal gingiva from its normal position at the CEJ.

Types:

There are two types of gingival recession:

1. Visible recession, which can be observed clinically.
2. Hidden (concealed) recession, which is covered by the gingiva and can only be measured using a periodontal probe.

Extent:
Gingival recession may be localized or generalized.

Position of the gingiva:
The position of the gingiva can be either actual or apparent.

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- The actual position refers to the level of epithelial attachment on the tooth surface, i.e., from the CEJ to the base of the probable pocket.
- The apparent position refers to the crest of the marginal gingiva, i.e., from the CEJ to the free gingival margin.(12)

Classification of Gingival Recession

Two classification systems are commonly used:

(1) Based on the Sullivan and Atkins classification

This system divides gingival recession into four types:

- (A) Shallow and narrow
- (B) Shallow and wide
- (C) Deep and narrow
- (D) Deep and wide

(2) Based on P.D. Miller's classification

Miller described four classes of gingival recession (Class I–IV):

- Class I:
  Marginal tissue recession that does not extend to the Mucogingival junction. In this class, there is no loss of interdental bone or soft tissue. The recession may be narrow or wide (corresponding to groups A and B in the Sullivan & Atkins classification).
- Class II:
  Marginal tissue recession that extends to or beyond the Mucogingival junction, but without loss of interdental bone or soft tissue. This type may also be narrow or wide (corresponding to groups C and D in the Sullivan & Atkins classification).
- Class III:
  Marginal tissue recession that extends to or beyond the Mucogingival junction, accompanied by loss of interdental bone or soft tissue, and/or tooth malposition.
- Class IV:
  Marginal tissue recession that extends to or beyond the Mucogingival junction, with severe loss of interdental bone and soft tissue, and/or severe tooth malposition.(13)

Note:

- Class I and II have a good to excellent prognosis.
- In Class III, only partial root coverage can be expected.
- Class IV has a poor prognosis.

Causes of Gingival Recession

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Among the primary etiological factors responsible for gingival recession, gingival inflammation due to the presence of plaque is the most common. Another major cause is improper tooth brushing technique.

The contributing or secondary factors of gingival recession can be broadly categorized as follows:

(a) Anatomical factors
(b) Habits
(c) Iatrogenic factors (those caused by dental procedures or treatments)
(d) Physiological factors(14)

Anatomical Factors

1. Tooth displacement or position in the dental arch
   When a tooth is positioned labially, the periodontium on the labial side becomes thin. When this thin periodontal area is exposed to any form of trauma or frictional force, it may result in gingival recession.
2. Presence of fenestration and dehiscence
   these are anatomical defects in the alveolar bone that can predispose the gingiva to recession.
3. Gingival ablation — separation of the gingiva from adjacent soft tissues such as the cheek, lips, or other mucosal structures, which may contribute to gingival recession.
4. Root–bone angle and Mesiodistal curvature of the tooth surface
   In rotated or facially displaced teeth, the alveolar plates may be thin or short, leading to gingival recession as a result of repeated trauma to the delicate periodontal tissues.

b) Habits

Improper tooth brushing techniques — especially vigorous brushing or using hard-bristled brushes — can lead to gingival recession.
Recent studies have also identified a direct relationship between smoking and gingival recession, although the exact mechanism has not yet been clearly reported.

c) Iatrogenic Factors

Primary trauma from occlusion has been reported as a potential causative factor in gingival recession.

Other iatrogenic factors include:

- Harmful habits, such as applying pressure with foreign objects (e.g., fingernails, pencils, or hairpins).
- Partial dentures with poorly designed clasps or mandibular bars.
- Prolonged orthodontic treatment and improper dental restorations, both of which may contribute to gingival recession.

d) Physiological Factors

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It was once believed that gingival recession was a physiological process associated with aging. However, this view has been rejected due to the lack of convincing evidence supporting a physiological shift in gingival attachment with age.(15)

Research question

1. What is the Prevalence of Gingival Rescession among OPD Patients in Stomatology Hospital?
2. What is the most common age affected by Gingival Rescission among OPD Patient in Stomatology Hospital?
3.

Objectives (Scope)

The determination of the frequency and pattern of gingival recession cases according to age, gender, and place of residence among patients attending the OPD service at the Stomatology Hospital during the second half of the year 1402.

Literature Review

In a descriptive study conducted in Mangalore, India, by Arunkumar and Shanker Rajesh at Yenepoya Dental College during the second half of 2011 to 2012, a total of 710 OPD patients from the Department of Periodontology, aged between 15 and 60 years, were examined.
The prevalence of gingival recession was found to be 26.9% in the 15–25-year age group, 41.5% in the 25–35-year group, 66.1% in the 35–45-year group, and 70.3% in the 45–60-year group, indicating that the incidence of gingival recession increases directly with advancing age.
In this study, the highest prevalence of gingival recession was observed among males (60.5%), compared to females (39.5%). (3)
In late 2011, another study was conducted by Nikolaos Andreas, an oral and maxillofacial surgeon at a military hospital in Athens, to determine the prevalence and severity of gingival recession. The research included 165 male and 179 female patients aged 18 to 68 years.
The study found that the highest prevalence of gingival recession occurred among male patients. Furthermore, according to Miller's classification, the majority of participants were found to have Miller's Class I gingival recession. (4)
In another descriptive study conducted in Tamar, Yemen, located in southern Saudi Arabia, by Dr. Mansour "Ali" and Ata in 2010 at the Faculty of Dentistry, Tamar University, a total of 602 patients aged 20 years and older were randomly selected.
The study found that 60.5% of the population were affected by gingival recession, of which approximately 33.6% were female and 26.9% were male. (5)
This indicates that females showed the highest prevalence of the condition. Furthermore, in the above-mentioned study, Miller's Class I gingival recession, with a prevalence of 30.5%**,** was the most frequently observed type across all age groups.
In Iran, a study was conducted by Dr. Ardeshir "Lafzi" in 2006 to assess the severity and prevalence of gingival recession. The study included 246 patients, aged 10 to 70 years, attending the Faculty of Dentistry, Tabriz University.
The results indicated that the prevalence of gingival recession increased with age. Regarding gender, the prevalence was higher among males (50%) compared to females (43.4%).
Furthermore, according to Miller's classification, Class I gingival recession was the most frequently observed type. (6)

Materials and Methods:

This study is descriptive in nature and designed as a case series. It is conducted on all patients who

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visited the OPD service of the Stomatology Hospital during the second half of the year 1402 (2023/2024). The sampling method is convenience sampling, meaning that from among all the patients who were diagnosed with gingival recession and referred to the hospital, 159 individuals were selected to be included in the study.

Inclusion criteria

1. Patients aged between 20 and 65 years were included in the study.
2. Additionally, patients who had not undergone periodontal treatment, scaling, or root planing in the past six months were included.

Exclusion criteria
Patients who are smokers or have systemic diseases, such as hematological disorders or diabetes, were excluded from the study.
This study was approved by reseach committee of Stomatology Hospital. And statistical analysis were performed using SPSS (Statistical package for social science).

Results
Results: In this study, 98 females (61.6%) and 61 males (38.36%) participated.

The prevalence of gingival recession among the participants across four age groups was as follows:

- Ages 20–30: 74 cases (46.54%)
- Ages 31–40: 35 cases (22.01%)
- Ages 41–50: 23 cases (14.46%)
- Ages 51–65: 27 cases (16.98**%**)

Age

The following bar chart and table show the distribution of the study participants by age during the second half of the year 1402 at the Stomatology Hospital.

Age

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	20-30	۷۴	۴۶.۵۴	۴۶.۵۴	۴۶.۵۴
	31-41	۳۵	۲۲.۰۱	۲۲.۰۱	68.55
	41-50	۲۳	۱۴.۴۶	۱۴.۴۶	83.01
	51-65	۲۷	۱۶.۹۸	۱۶.۹۸	100.0
	Total	۱۵۹	100.0	100.0	

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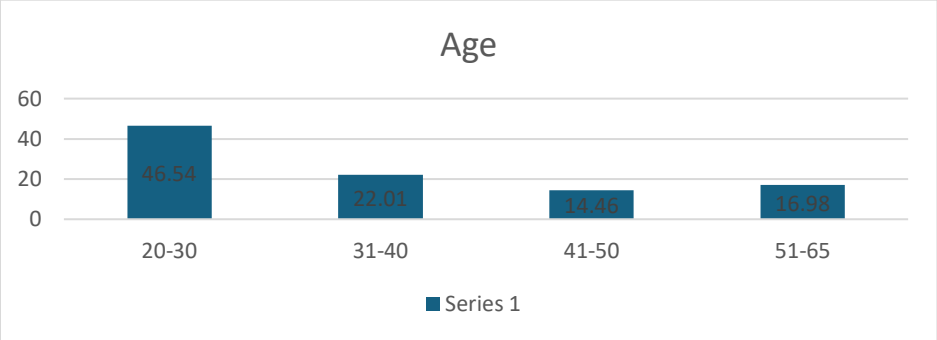
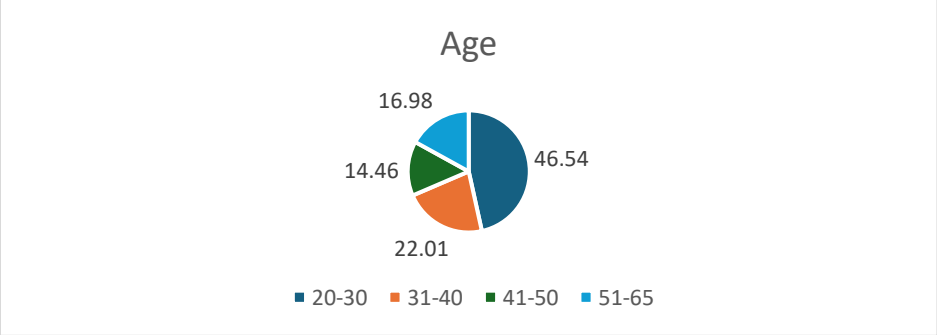
The above table shows a remarkably high and notable figure in the 20–30-year age group.



The above bar chart indicates that the incidence of gingival recession is highest in the 20–30-year age group. Additionally, on average, a similar prevalence of cases is observed between the 31–40 and 41–50-year age groups.



The above pie chart illustrates the high prevalence of gingival recession according to age.

Gender
The following bar chart and table show the distribution of the study participants by gender during the second half of the year 1402 at the Stomatology Hospital.

Gender

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	female	98	61.6	61.6	61.6
	male	61	38.36	38.36	100.0
	Total	100	100.0	100.0	

Overall, the above table shows a higher prevalence of gingival recession among females compared to males.

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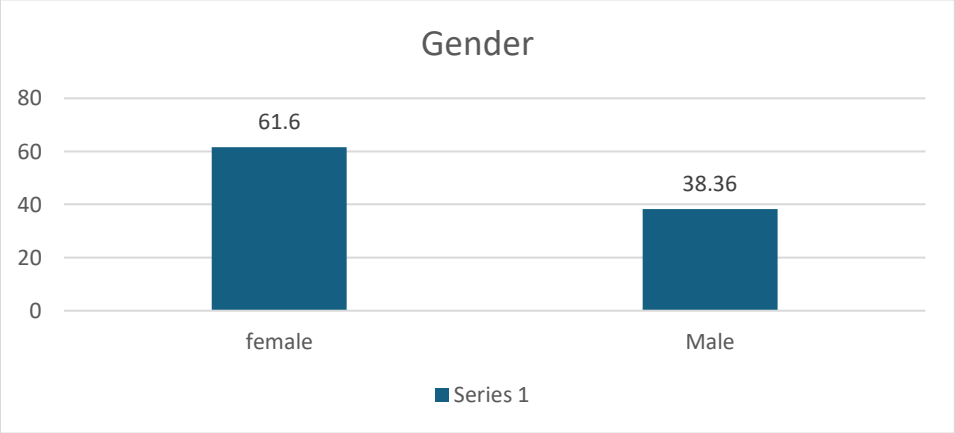
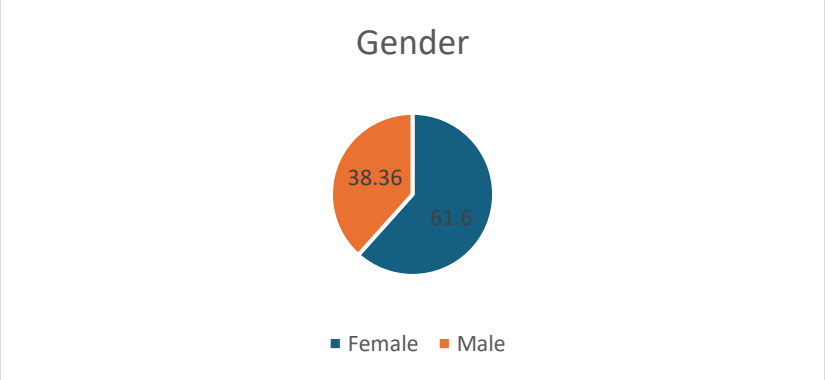
In the table, the prevalence among females is 98 cases (61.6%), whereas among males it is 61 cases (38.36%).



The above bar chart overall shows a higher incidence of gingival recession in females and a lower incidence in males.
The chart reflects approximately 98 cases in females and 61 cases in males, indicating that females are more commonly affected.



The above pie chart illustrates the higher prevalence of gingival recession among females compared to males.

From the conducted studies, it was found that the similarities and differences in the prevalence of gingival recession between Afghanistan and other countries may be influenced by factors such as socioeconomic status, level of education and technology, public awareness, geographical location, and cultural habits and traditions.

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Location

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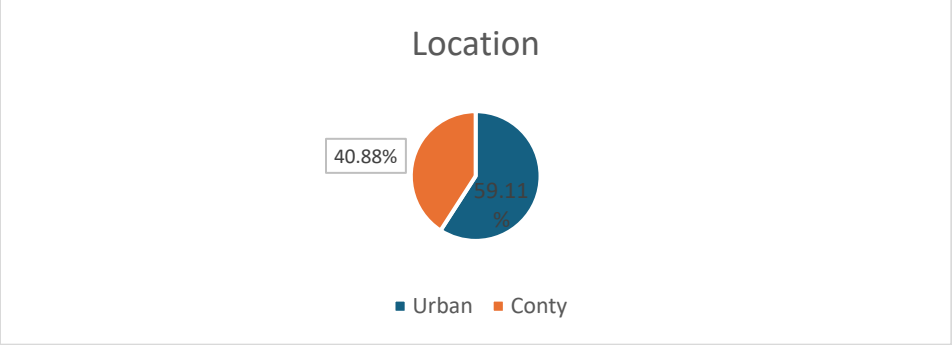
Valid	Frequency	Percent	Valid Percent	Cumulative Percent
Urban	94	59.11	59.11	59.11
Conty	65	40.88	40.88	100.0
Total	100	100.0	100.0	

Overall, the above table shows the distribution of gingival recession according to place of residence.

In the table, the prevalence among urban patients is 94 cases (59.11%), whereas among rural patients it is 65 cases (40.88%)



The above pie chart illustrates the distribution of gingival recession cases according to place of residence.

Discussion:

The study shows that gingival recession is most common in the 20–30-year age group, which is unusual since recession generally increases with age. This high rate in younger adults may be related to aggressive brushing habits, limited oral-health awareness, or lifestyle factors. The 31–40 and 41–50 age groups show similar moderate levels, while the 51–65 group shows a slightly higher but expected age-related increase.
Females showed a higher prevalence (61.6%) than males (38.36%), which may be due to differences in oral-health behavior, hormonal factors, or greater health-seeking activity among women. Urban residents also had a higher prevalence than rural residents, possibly because of increased access to diagnosis, lifestyle factors, or differences in hygiene practices.
Overall, differences in prevalence compared to other regions may be influenced by socioeconomic conditions, education, cultural habits, and public awareness.

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Conclusion:

The findings of this study indicate a higher prevalence of gingival recession among younger adults, meaning that the prevalence of gingival recession was found to be inversely proportional to age. Additionally, the results showed a higher rate of gingival recession in females compared to males.

Recommendations

1. Increase the public's level of education and trust in healthcare personnel and their programs.
2. Raise public awareness and knowledge regarding oral hygiene practices according to international health standards**,** in collaboration with relevant institutions and mass media.
3. Conduct more research and studies on various aspects of gingival recession within the country.
4. Establish centers for oral hygiene education and proper tooth-brushing techniques nationwide, and create a research center within the Specialized Stomatology Hospital.
5. Organize national seminars and symposiums to inform and familiarize stomatology personnel about the types of gingival recession, preventive strategies, pharmacological treatments, and advanced surgical procedures.
6. Create dedicated research units in hospitals to address the challenges faced by trainees and faculty in research, and to implement research programs that improve and refine treatment and preventive methods for dental, oral, maxillofacial, and other stomatology-related issues across all departments.

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Conflict of Interest

The author declares that there are no conflicts of interest regarding the publication of this study.

Ethics Approval

Ethical approval for this study was obtained from the Research Committee of the National Curative and Specialized Stomatology Hospital before the commencement of the research. The study was conducted in accordance with the ethical principles of the Declaration of Helsinki. Patient confidentiality and privacy were strictly maintained throughout the study, and no personally identifiable information was collected or reported.

Informed Consent

As this study was based on the review of hospital records and routinely collected clinical data, individual informed consent was waived by the Research Committee of the National Curative and Specialized Stomatology Hospital. All data were anonymized before analysis to ensure participant confidentiality.

Data Availability

The dataset generated and analyzed during the current study is available from the corresponding author upon reasonable request. The data are not publicly available because they contain confidential clinical information obtained from hospital records.

Author Contributions

Mujeeb Hakimi Conceptualization, study design, literature review, data collection, statistical analysis, interpretation of results, manuscript preparation, critical revision, and final approval of the manuscript. The author read and approved the final version of the manuscript and accepts full responsibility for the integrity and accuracy of the work.

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