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INCIDENCE OF PATIENTS UNDER CORTICOSTEROIDS REPORTING FOR DENTAL EXTRACTION

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ABSTRACT:
Speech, mastication, aesthetics, and quality of life are all affected by tooth loss. Dental caries is increasingly recognised as a global oral health issue. A thorough medical history of the patient visiting the dental clinic for extraction may enable us to take precautions and limit complications. The following study is a retrospective single-center investigation. Data was gathered from a patient record system used in private dental institutions, and criteria such as gender and age of patients on corticosteroid therapy who visited a dental clinic for extraction were taken into account. Between June 2020 and January 2021, patient information was analysed, and 42 patients who met both the inclusion and exclusion criteria were included in the current study. From the study it is evident that, comparing male and female patients, male patients undergoing corticosteroids visited dental clinics for tooth extraction, with a maximum age group limit 21-40 years.

Keywords: Age, gender, corticosteroid intake, dental extraction

INTRODUCTION:

Tooth extraction is still one of the most popular treatments in underdeveloped countries. Tooth loss has major financial, quality of life, general health, and psychological implications[1–3]. Indeed, tooth loss has grown to be a major public health issue on a global scale. Despite the fact that they are avoidable, dental caries and periodontal disease continue to be the leading causes of tooth extraction, particularly in developing countries[3–6].

Oral cleanliness, education, socioeconomic status, and individual quality of life have all been connected to the causes for tooth extraction and the quantity of teeth extracted in a community. The degree of urbanisation has also been found to influence tooth extraction patterns. Furthermore, oral disease burden and its etiological variables differ between and within regions[7,8]. The number of extracted teeth can be used to determine socioeconomic status and dental hygiene. Dental caries, periodontal disease, orthodontic causes, impacted teeth, unsuccessful dental therapy, prosthetic indications, and other factors can contribute to permanent tooth extraction.To enhance oral health results, it's important to understand why teeth are pulled. A vast number of cross-sectional research in various nations have looked into tooth loss[9–11]. Although dental caries was the leading cause of tooth loss, a few studies found that periodontal disease was the leading cause of tooth extractions. In Iran, there is a scarcity of data on this subject, and more information is desperately needed. It may be possible to restrict future extractions and emphasise the importance of prevention by identifying the primary causes and predictors of tooth loss.

Anti-inflammatory and immunosuppressive therapy continue to rely on natural and manufactured glucocorticoids. They're commonly used to treat acute and chronic inflammations such rheumatoid arthritis, inflammatory bowel disease, multiple sclerosis, psoriasis, and eczema, as well as some leukemias and immunosuppressive regimes after organ transplantation.For many years, inhaled corticosteroids (ICS) have been the basis of asthma treatment due to their anti-inflammatory properties. Acute asthma exacerbations are also treated with systemic and ICS medications[12,13]. Several international asthma management guidelines support the use of systemic corticosteroids in the early stages of the treatment of moderate to severe acute asthma. ICS use in the management of acute asthma, on the other hand, has been explored in a variety of settings, with positive outcomes in some and unfavourable results in others. Corticosteroids are synthetic medications that closely resemble cortisol, a hormone produced naturally by your adrenal glands[14]. The term "steroids" is frequently used to refer to corticosteroids. Steroids come in a variety of forms that differ in terms of how quickly they dissolve and how long they stay in the body[15–18].

Steroids can be administered locally, to the exact location where a problem arises, or systemically, to the entire "system" or body.

Joint injections, eye drops, ear drops, and skin lotions are all examples of local steroid therapies. Oral drugs (taken by mouth) and medicine administered directly into a vein (intravenously or IV) or muscle are examples of systemic steroid therapies (intramuscularly). Systemic steroids go through the bloodstream to different parts of the body.

Steroids help to reduce inflammation and symptoms, but they can weaken the immune system's ability to fight infections. To limit the danger of side effects, local steroid therapies are used instead of systemic steroids wherever possible.

The study's major goal is to see how common it is for individuals on corticosteroid medication to attend dental clinics for tooth extraction.
Our team has extensive knowledge and research experience that has translate into high quality publication [19],[20],[21],[22],[23–32] [33],[34–36].[37,38]. Innovative painless extraction techniques can also minimize complications due to long term steroid use.

MATERIALS AND METHOD:

Study design:
The study was created in such a way that it includes all patients who are receiving corticosteroid therapy and are attending dental clinics for dental extraction. Patients who did not meet the research's inclusion criteria were excluded from the trial.

Sampling technique:
The study used a random sampling procedure. To avoid or minimise sample bias, all of the cases were evaluated prior to the start of the study.
Data collection and tabulation:

A patient database from a private dental institution in Chennai was used to collect data. Between June 2020 and January 2021, patient data was analysed, and 42 patients who met the inclusion criteria were enrolled in the study. Patients were divided into six groups based on how long it took them to visit a dental hospital after experiencing a stressful event. The study received ethical approval from the Institutional Review Board.
Another examiner checked and cross-verified all of the case sheets. Diagnosed cases according to criteria, medical history, chief complaints, and clinical findings were all part of the internal validity. A reviewer did cross-verification of the data.The collected data was tabulated based on the following parameters:

- Patients demographic details
- Age of corticosteroid-treated individuals who came in for extraction
- Gender of corticosteroid-treated patients who came in for extraction

Statistical analysis:
The variables were coded, and the data was imported into SPSS 20. Bar graphs were plotted for 0 categorical variables that were expressed in terms of frequency and percentage. The chi square test and pearson correlation were used to determine the statistical significance of the connections. Statistical significance was defined as a p value of less than 0.005.

RESULTS:

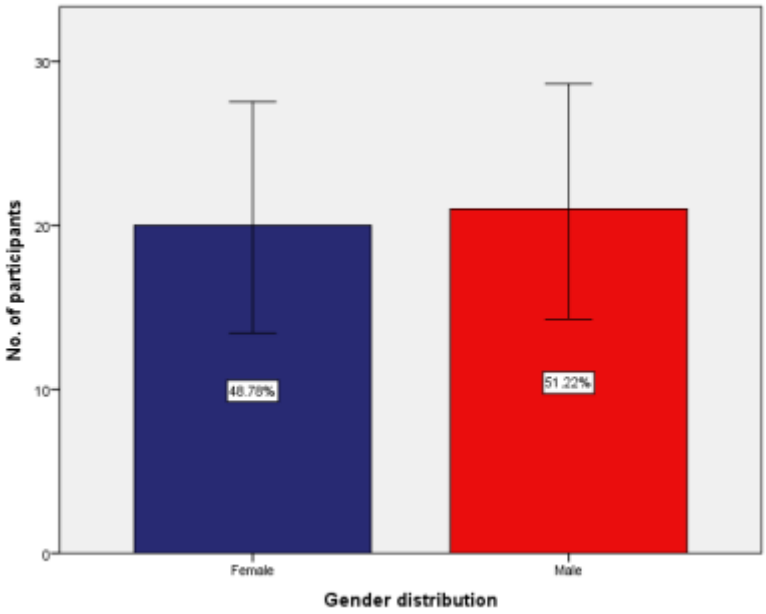

Figure 1:The gender distribution of patients undergoing corticosteroid medication and visiting dental clinics for dental tooth extraction is depicted in a bar graph. The number of participants is plotted against the Y axis, while their gender is plotted against the X axis. Females are represented by blue, while males are represented by red.

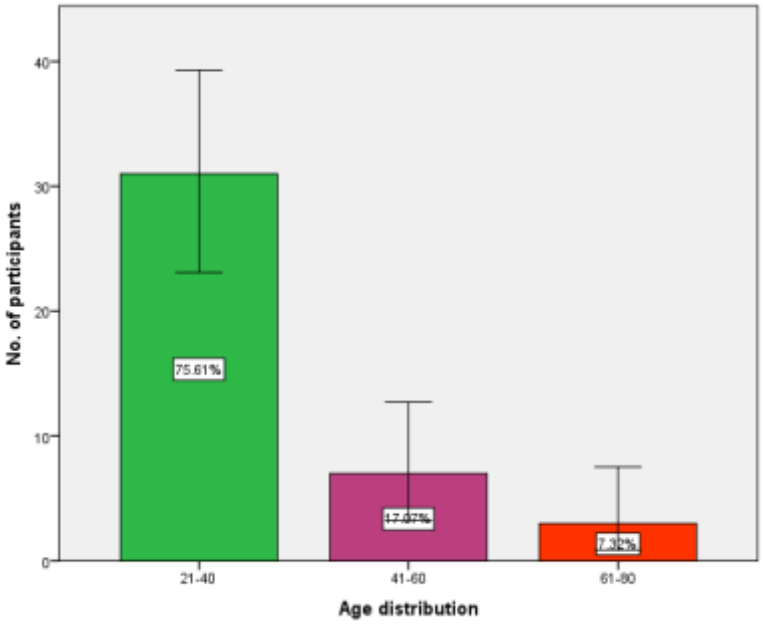

Figure 2: The age distribution of patients on corticosteroid therapy who attend dental clinics for dental tooth extraction is depicted in a bar graph. The number of participants is plotted against the Y axis, while the population's age distribution is plotted against the X axis. Green represents the age group 21-40 years, purple represents the age group 41-60 years, and orange represents the age group 61-80 years.

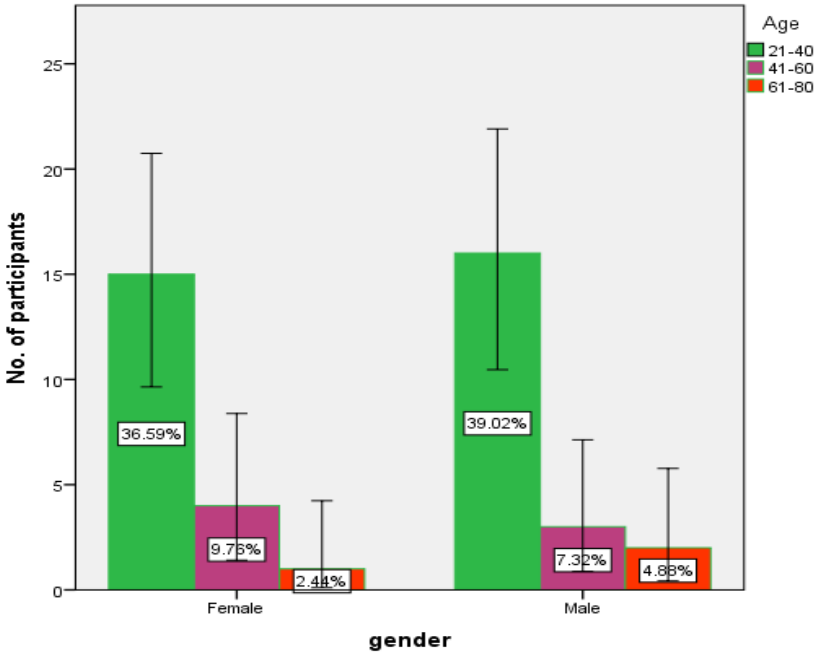

Figure 3: Bar graph depicting correlation of gender distribution and age distribution of patients undergoing corticosteroid therapy visiting dental clinics for dental tooth extraction. P value is 0.34> 0.05, which is not significant.

From figure 1, it is evident that 51.22% of male and 48.78% of male patients undergoing corticosteroid therapy visited a dental clinic for dental extraction. From figure 2, it is observed that on comparison with age group of patient visiting dental clinic, 75.61% of the patient are under age group 21-40 years of age, 17.07% of the patient are under age group 41-60 years of age and 7.32% of patient are under age group 61-80 years of age. Comparing male and female patients under corticosteroid therapy visiting dental clinics for surgery. Male frequency is slightly higher than female frequency. In comparison with age limits. It is concluded that patients under 21-40 of age treated under corticosteroid reported for surgical treatment of which 36.59% are females and 39.02% are males

Factors related to tooth loss include smoking, diet and oral hygiene practices. In periodontal diseases, smoking is implicated as a risk factor [39]. Socioeconomic status of less wealth, lower income, less education can lead to poor oral hygiene. Oral health habits like brushing and flossing play an important role in oral hygiene. It was found that women use floss and brush in comparison to men [40,41]. In menopausal women, oestrogen may protect against tooth loss, whereas testosterone may be linked to periodontal health in hypogonadotropic men. Estrogen and androgen, which are produced during coitus, have a direct effect on the periodontium through modulating immunological processes. 69 percent of adults between the ages of 35 and 44 had lost at least one permanent teeth. By the age of 50, the average American has lost 12 teeth (including wisdom teeth). And 26% of those aged 65 to 74 have lost all of their teeth. The fashionable dental implants are surgical-grade root bias that support an unlimited number of teeth prosthesis that are built to last a lifetime. The artificial roots are bonded to the jaw by being anchored in the bone beneath the epoxies. For a long-lasting and natural-looking grin, a crown is placed on top of the implant. Dental implants are preferred by many dentists and patients because they provide the same function as natural teeth while also preventing jaw bone atrophy. They can be used to reconstruct a full smile or to replace a single missing or damaged tooth.Lifestyle is measured by dietary habits, smoking habits and physical activity. Women have better lifestyles than men as they are more concerned about general and oral health, esthetics and are very sensitive to illness.[21]; [22,23]; [24]. Men have worse habits like consuming more processed meat, fat-containing items, excessive alcohol, smoking and less fruits, vegetables and milk,[25].
Though steroids are used for suppressing inflammation, it also reduces the immunity, promoting infections in the body. For every increase of 5 mg in the diurnal cure of prednisolone, threat of infection increased by 13 percent. Threat of infection also increased the longer the steroids were specified. After just one dose, the risk of infection substantially increased for people consuming advanced boluses (25 mg per day or more). Many of the original events of a seditious reaction are inhibited by glucocorticoids. They also promote inflammation resolution, however the mechanisms by which they do so have received less attention than those linked to the suppression of the initial reaction. Acutely, glucocorticoids reduce leukocyte migration into inflamed areas, goods that bear new protein aggregation, and they limit vasodilation and increased vascular permeability that occur as a result of seditious personality. They also affect leukocyte dispersion, trafficking, mortality, and survival, as well as cellular isolation programmes, all of which shape the subsequent response.In case of adrenal insufficiency, adrenocortical repression should be suspected if a case has entered glucocorticosteroid remedy through " Rule of two". The lozenge of 20 mg or further of cortisone or its original via oral or parenteral route for a nonstop period of at least two weeks, within two times of dental remedy.

CONCLUSION:

Increased understanding of the etiological and clinical aspects of emergency dental trauma has a good possibility of assisting us in treating and preventing them. Within the scope of this study, it is clear that, when comparing male and female patients, male patients on corticosteroids went to dental clinics for tooth extraction, with a maximum age range of 21-40 years.

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CONFLICTS OF INTEREST:

There were no conflicts of interest in this work, according to the authors.

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