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PREVALENCE OF ASTHMA IN COMPLETELY EDENTULOUS PATIENTS - A RETROSPECTIVE STUDY

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ABSTRACT

Asthma is a serious global health problem that has steadily increased in prevalence during the past two decades. It's a condition in which a person's airway becomes inflamed, narrow and swell and produces extra mucus making it difficult to breathe. Edentulism is associated with various adverse health outcomes but treatment options in low- and middle-income countries are limited. Monitoring the occurrence of an oral "end state" such as edentulism is important because it is an indicator of population health. Data on its prevalence and its effect on mental health and overall health is lacking. A total of 35 patients with asthma and wearing completely edentulous were taken, and analysed. The results were analysed using an SPSS software version 20 by IBM. The result observed was that the prevalence of Asthma was most commonly seen in female edentulous patients which were ranging from 50-80 years. Within the limits of the study, we see that the female patients were more asthmatic which were ranging from 50-80 years.

INTRODUCTION

Asthma is a growing public health problem affecting over 300 million people worldwide. It is estimated that additional 100 million people may be diagnosed with asthma 2025. Asthma is characterized by chronic airway inflammation and increased airway hyper-responsiveness, leading to symptoms such as wheezing, coughing, chest tightness and dyspnea (ryberg, möller and ericson, 1987). It is characterized by the obstruction of the airflow which varies over a short period of time and is reversible, either spontaneously or with treatment¹. Asthma treatment has two main objectives: to control, as well as to reduce the airway inflammation, and re-open the airway. Drugs that achieve the first objective are called anti-inflammatory agents and those that achieve the second are called bronchodilators². Asthma medications fall into two categories: quick relief medication and long term control. Long term control medications include anti-inflammatory agents, long acting bronchodilators and leukotriene modifiers. Quick relief medication comprises of short acting bronchodilators. Systemic corticosteroid and anticholinergic drugs.³

Patients should be instructed to use inhalers regularly as prescribed. Inhalers which deliver these medications may be used up to 4 times a day over a long period. As the prevalence of asthma is on the rise, the problem caused by asthma medication could result in a significant worldwide dental problem. Therefore it is necessary to scrutinize the effects on asthma and its medication on oral health⁴

The tooth selection should be made during the trial insertion stage of the denture and should be confirmed through consultation with the patient for any suturing so that infection to oral cavity will be prevented and patient who are prone for asthma attack will be reduced⁵. Removable acrylic resin partial dentures tend to adversely affect periodontal parameters when teeth are in contact with resin base, it is recommended to keep the dentures well relieved from the gingival margin so that infection will be prevented and less respiratory illness.⁶

Microgap at the implant-abutment interface at the platform level at the external, middle, and internal points for both original abutments and non original abutments prevent infection. Novel fifth generation cephalosporins, including ceftaroline fosamate and ceftobiprole medocaril has shown their efficacy in the treatment of acute bacterial skin and soft tissue infections and asthma attack⁷

Resin cements exhibited a greater reduction in the marginal discrepancy than the resin modified glass ionomer following luting in all ceramic complete veneer crowns preferred so infection prone for asthma will be prevented⁸, effect of abutment surface modifications on the retention of cement-retained restorations subjected to cyclic fatigue loads prevent infection asthma⁹

Aloe Vera is known for its soothing and healing effects on burn and other wounds, authenticating its use in treatment of oral lesions and asthma frequency is reduced.¹⁰ The bacteria most commonly involved are streptococci and Staphylococcus aureus. When left untreated it affects the

lymphatic vessels and reaches the circulation causing serious conditions. The borders of the area of redness are generally not sharp and the skin may be swollen. Lymphatic vessels may occasionally be involved. This review deals about the infection spread, symptoms, investigations and treatment in cellulitis, preventing major respiratory illness¹¹

The implant–abutment joint is a dynamic system that exhibits changes continuously. The internal surface of the implant undergoes a series of changes with fabrication of restoration oral and respiratory infection is prevented.^{12,13} veneers fabricated using leucite reinforced lithium disilicate exhibited the least marginal discrepancy followed by lithium disilicate ceramic, aluminous porcelain, and zirconia-based ceramics very good result and upper respiratory infections are prevented¹⁴

Moderate awareness in rural populations. All ceramic restorations are mainly preferred for aesthetics. The dental practitioners should have an updated knowledge about the advancement in restorative materials and explain the patients so that the patients will be benefited with recent advances.¹⁵ Lip bumpers are nonsurgical method of managing bony defects in anterior region.¹⁶ Prosthetic camouflaging of facial defects and use of silicone maxillofacial material are the alternatives to the surgical retreatment.

Silicone elastomers provide more options to clinicians for customization of the facial prosthesis which is simple, esthetically good when coupled with bio magnets for retention.¹⁷ Knitted cords impregnated with Aluminium Chloride show superior results in terms of hemostasis and gingival inflammation. Potassium Aluminium Sulphate to produce minimal gingival inflammatory changes good and asthma attack is prevented.¹⁸

Provide oral health education for pregnant women since it is during the time of pregnancy that chances of infection increases and it may also affect the developing foetus, there is a link between oral hygiene and pregnancy outcomes complication side effects prevented during asthma attack¹⁹ Our study shows the prevalence of asthma is on the rise, the problem caused by asthma medication and infection could result in a significant worldwide dental problem. Therefore it is necessary to scrutinize the effects on asthma and its medication on oral health

MATERIALS AND METHOD

The study was done under a university setting. The study was approved by the institutional ethics board. Two reviewers are involved in the study. The samples were taken from patients who checked in the clinical from June 2019 –March 2020. Records of the patient and their history were obtained. Data of patients with complete dentures and the history was taken. Chief complaint of each patient, History of presenting illness and statistical analysis was done.

The data collection was imported to the SPSS variable definition process and was done using tables and graphical illustration. By using the statistical software IBM SPSS version 20. Statistical tests like descriptive statistics tests

and inferential statistics were done keeping demographics. Such as age, gender as independent variable and asthma dependent variables. The data was reviewed by one external reviewer, the data was imported to SPSS and variables defined. Chi square was done on the data obtained the type of analysis that was done was correlation and association.

RESULT AND DISCUSSION

The data collected from the patients management software were tabulated in SPSS and descriptive statistics were obtained. Out of 35 patients of total, 21 were female patients and 14 were male patients. In which they were ranging from 50 years to 80 years in age.

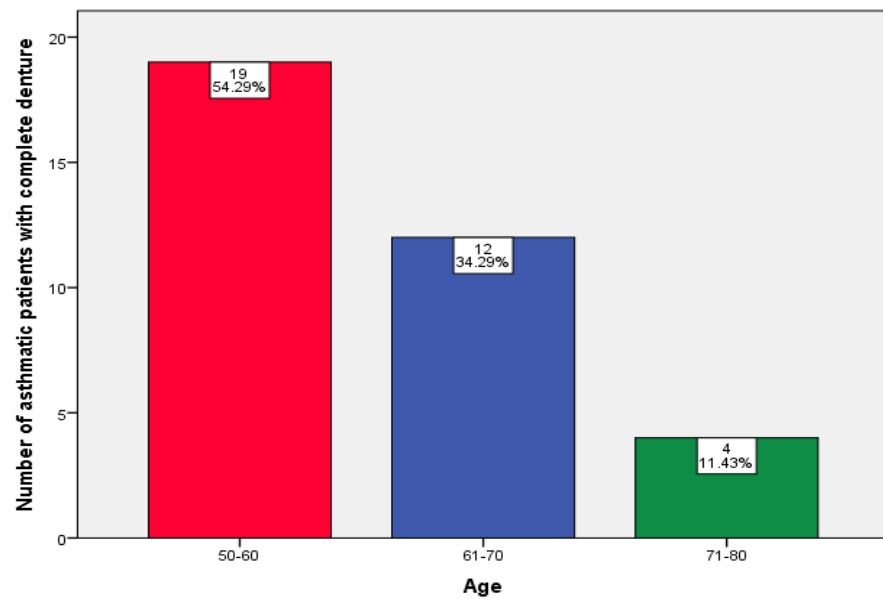


Figure 1 : The graph shows the age distribution of asthmatic completely edentulous patients. X axis shows the age groups and Y axis shows the number of patients with asthma. 54.29% were in age range 50-60 years (red), 34.29% were in age range 61-70 years (blue) and 11.43% were in age range 71-80 years (green).

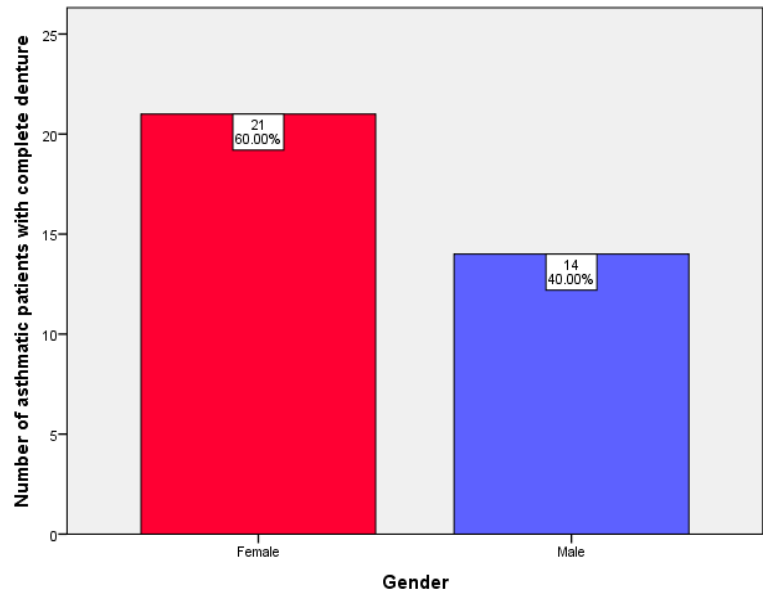


Figure 2 : The graph shows gender distribution of asthmatic completely edentulous patients. X Axis shows the gender of asthmatic completely edentulous patients and Y axis shows the number of affected patients. 60% of patients were females (red) and 40% were males (blue) .

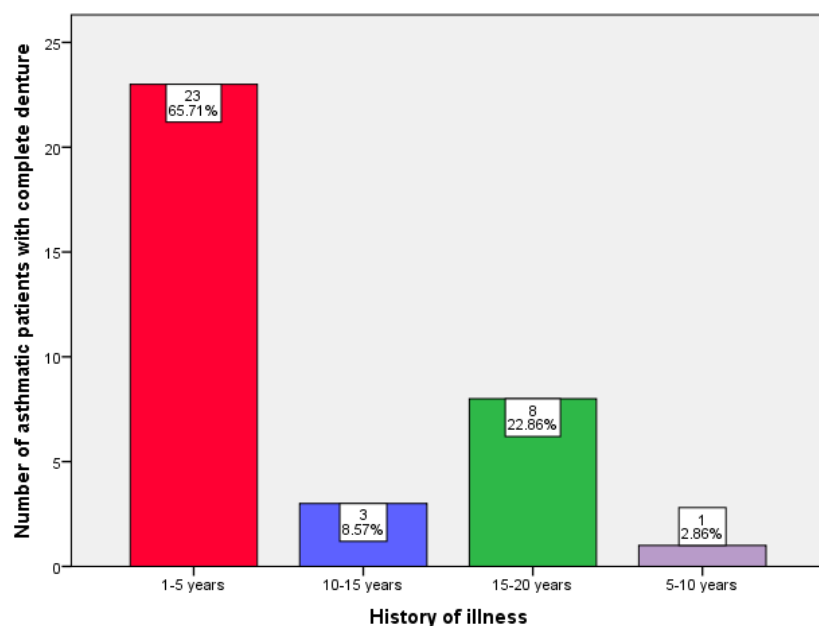


Figure 3 :The graph shows duration of asthmatic illness in completely edentulous patients .X axis shows duration of asthmatic illness and Y axis shows number of affected patients. 65.7% have illness for the past 1-5 years, (red) 2.86% have illness for the past 5-10 years (purple). 8.57% have illness for the past 10-15 years (blue), 22.86% have illness for the past 15-20 years (green) .

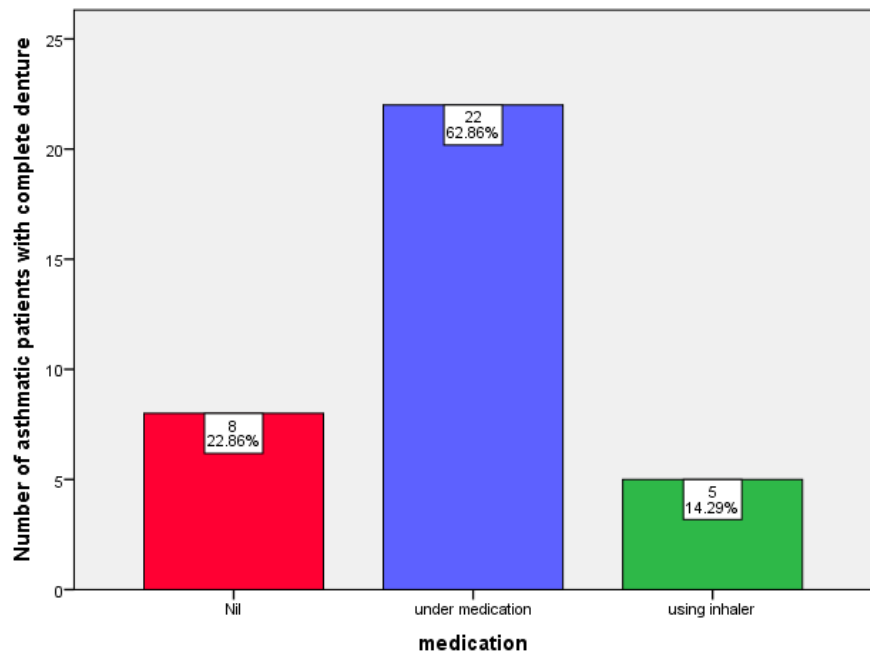


Figure 4 : The graph shows the medication used for asthma in completely edentulous patients .X axis shows medical intervention methods and Y axis shows number of affected patients. 62.86 % of patients were under medication (blue) , 14.29% were using inhalers (green) .

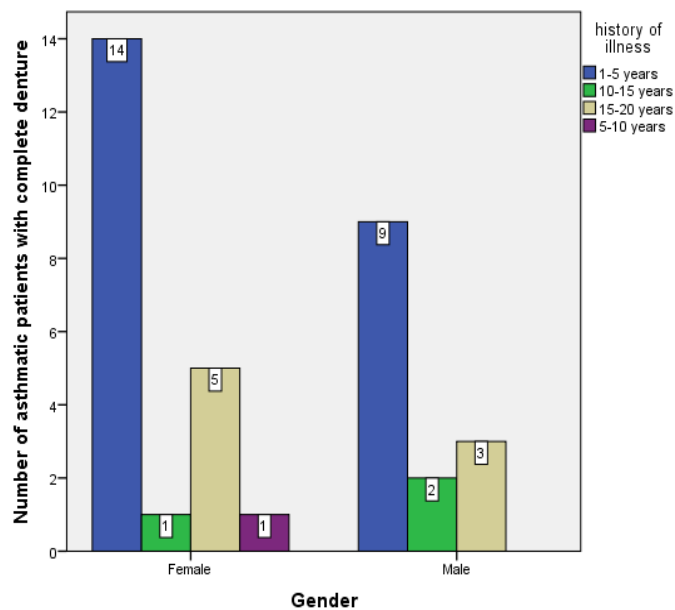


Figure 5 : Bar Graph showing association between gender and history of illness . X axis gives the gender and Y - axis represents the number of completely edentulous patients with asthmatic illness . Female (60%) completely edentulous patients were more prevalent to asthma than male (40%) completely edentulous patients with a statistically significant difference $p=0.01(p<0.05)$ (Pearson Chi square Test).

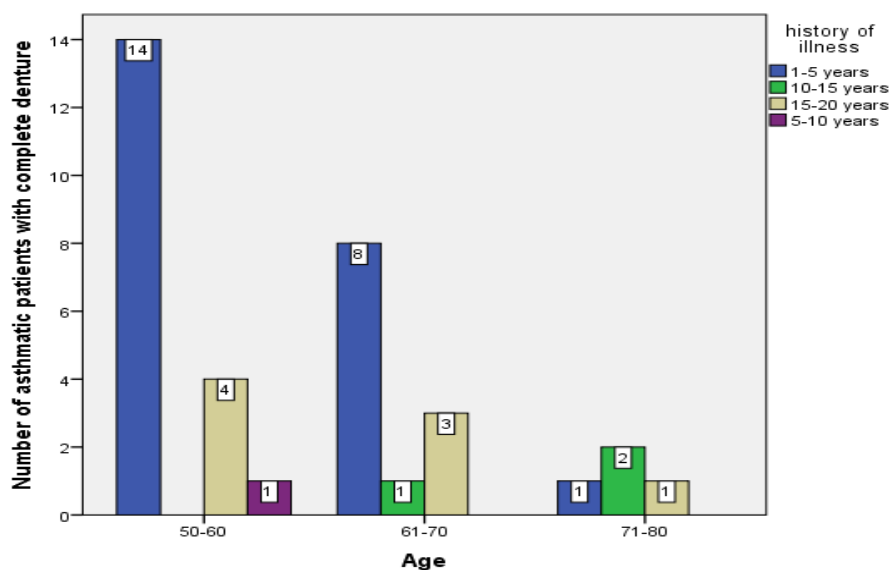


Figure 6 : Bar Graph showing association between age and history of illness . X axis gives the age of completely edentulous patients and Y - axis represents the number of completely edentulous patients with asthmatic illness . The age group more prevalent to asthma were ranging from 50 years to 60 years of age (54.29%) compared to other age groups with a statistically significant difference, $p=0.01, p<0.05$ (Pearson Chi square Test).

The study size was 35 patients among which 21 were – male patients and 14 were – female patients. Prevalence of asthma in completely edentulous patients in this study was less compared to previous study analysis. Patients were found to be asthmatic from the age 50- 80 years. Similar results were observed by A.N Aggarwal et al, which says that most cases of asthmatic patient had age ranging from (40-50 years) ²⁰

Another study by N. Abdulla Mardan et al, stated that most asthmatic cases were at the range of 65 years ²¹ It was also found that female patients with complete denture had a higher incidence of asthma than male edentulous patients. A study by benedicte leynartt had stated asthma was 20% more frequent in women

This prevalence of these morbidities in asthmatics is too high to be simply due to the chance development of chronic conditions while aging but these associations do not imply causality. The etiology of asthma comorbidities may be linked to asthma itself, other morbidities, shared mechanisms, shared environmental, and/or shared genetic risk factors.

Regardless of the etiology, it is well-known that asthma comorbidities are associated with worse outcomes for the patients and the healthcare systems ²², and managing asthma comorbidities has been associated with significant improvement in its prognosis. Revising guidelines on how to handle comorbidities may lead to a more targeted treatment for comorbidities and more patient-centered asthma management, which in turn lead to better

outcomes. The scope of the study was to create awareness regarding asthma and their prevalence in completely edentulous patient

CONCLUSION

Our study assessed the prevalence of asthma in completely edentulous patients, the overall results showed that the female edentulous patients were more asthmatic and were ranging from age 50-80 years. This study will help to create more awareness regarding asthma patients who enter clinics and methods of safe treatment.

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CONFLICT OF INTEREST

None

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