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Introduction:

Antibiotics have played a major role in the treatment of infectious diseases since 1928; however, the overuse of antibiotics has contributed to the development of antibiotic resistant pathogens [1, 2]. According to the Centers for Disease Control and Prevention (CDC), at least 30% of prescribed antibiotics are unnecessary in the United States [3]. Following the CDC checklist, practitioners should avoid non-evidence based historical prescriptions and ensure that prescriptions are not written based on patient expectations, convenience, or pressure from colleagues. In certain cases, such as when a patient presents with extra-oral swelling, trismus, or the need for a surgical intervention, an appropriate regimen of antibiotics is indicated; otherwise, systemic antibiotics should not be the routine treatment of choice [1].



Objectives:

This study aims to determine and assess the proportion of antibiotic prescription adherence to CDC guidelines in dental clinics at National Guard Primary Healthcare Centers, Western region, Saudi Arabia.

Methods:

Design: A cross-sectional study at The National Guard Primary Healthcare Centers in Western Region, Saudi Arabia

Inclusion/ Exclusion Criteria: Patients with antibiotic prescriptions during their dental visits between January 2017 and June 2018 were included. on the other hand, Medically compromised patients were excluded.

Outcome Measures: the study was to assess the proportion of dentists' adherence to the guidelines. Overall compliance to the CDC necessary/unnecessary antibiotic prescription proportion benchmark approves the null hypothesis, while non-conformity results in the acceptance of the alternative hypothesis.

Sample: The target sample size was 385, calculated using Cochran's sample size formula. After obtaining the IRB Approval on the 7th of August, data of patients prescribed with antibiotics during the time frame was collected using the BestCare system.

The sample was selected through a simple random sampling technique. A data sheet was used to collect the required data from every chosen patient record.

Analysis: MS Excel was used for data entry, and SPSS ver. 23 was used for analyzing the data using the Chi square test of significance.

Results:

A total number of 385 clinical records were reviewed. 92 of the prescriptions were made by consultants, and the rest 293 were written by staff dentists. In these records, 116 (30%) of the antibiotics were ordered without a proper documentation of the diagnosis. Only 43 (11%) prescriptions showed to be adherent to the guidelines, while 342 (89%) prescriptions were not following the guidelines, including the improper documentations.

Frequency of Adherence to guidelines in NG-PHC-WR for Staff Dentists and Consultants

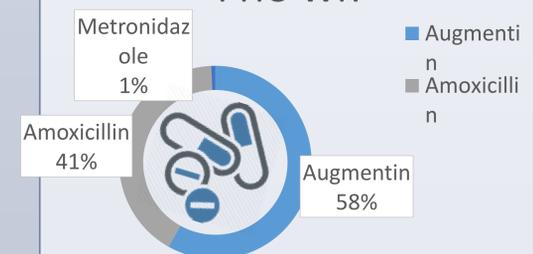


The comparison between the prescriptions adhering to the international guidelines and the ones not following the guidelines resulted on P-value of <0.001 with degree of freedom of 1.

On the other hand, the result show insignificant difference between the level of education of the dentist and adherence to the guidelines with P- value of 0.917 and degree of freedom of 1.

At last, the most frequently prescribed antibiotics by both consultants and staff dentists are seen in the pie chart below.

Percentages of Types of Antibiotics Inappropriately Prescribed by Dentists at NG-PHC-WR



Conclusion:

According to the results, there was a statistical significant difference between the prescriptions that did/ did not follow the guidelines. Which means that the prescription of antibiotics that did not follow the guidelines is much higher than those which follow.

References:



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