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Assess Oral Surgeons' Awareness, Knowledge, and Adherence to Antimicrobial Prophylaxis Guidelines in their Practice, Aiming to Promote Evidence-Based Prescribing Practices.

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Oral surgery, antimicrobial prophylaxis, guidelines, awareness, knowledge, adherence, evidence-based practice

ABSTRACT:
Background:
Antimicrobial prophylaxis is integral in preventing postoperative infections in oral surgery, yet its optimal use depends on oral surgeons' awareness, knowledge, and adherence to established guidelines. This study aims to assess these critical aspects, addressing the need for evidence-based prescribing practices in oral surgery.
Methods:
Study Design: Cross-sectional study
Participants: A diverse sample of 150 actively practicing oral surgeons
Data Collection: A structured questionnaire covering demographic information, awareness of guidelines, knowledge about antimicrobial agents, and self-reported adherence practices. Statistical analyses were conducted to evaluate mean scores and categorical distributions.
Results:
Demographic Characteristics: It presents diverse demographics, with age, gender, and years of practice ensuring representative inclusion.
Awareness, Knowledge, and Adherence Scores: It reveals mean scores for awareness (75.2 ± 8.6), knowledge (68.9 ± 9.2), and adherence (82.1 ± 7.4). Categorical breakdowns highlight that 40.0% have high awareness, 30.0% exhibit high knowledge, and 50.0% demonstrate high adherence.
Conclusion:
While oral surgeons generally exhibit moderate awareness and knowledge levels, the study suggests opportunities for targeted educational interventions. Encouragingly, the high adherence observed reflects a commitment to guideline implementation, contributing to patient safety and global efforts against antimicrobial resistance.

Introduction:
Antimicrobial prophylaxis plays a pivotal role in preventing postoperative infections in oral surgery, contributing significantly to positive patient outcomes and overall healthcare quality. However, the appropriate use of antimicrobial agents in oral surgery is contingent upon oral surgeons' awareness, knowledge, and adherence to established guidelines. In light of the evolving landscape of antimicrobial resistance and the need for evidence-based practices, this study aims to comprehensively assess oral surgeons' awareness, knowledge, and adherence to antimicrobial prophylaxis guidelines in their practice. Oral surgical procedures, particularly those involving dental extractions, implant placements, and other invasive interventions, carry a risk of postoperative infections. Antimicrobial prophylaxis is a preventive strategy employed to reduce the likelihood of infections in susceptible patients undergoing such procedures. The judicious use of antimicrobials is essential not only for individual patient care but also in addressing the global challenge of antimicrobial resistance[1-6]. Historically, antimicrobial prophylaxis guidelines have been established to provide evidence-based recommendations for the rational use of antibiotics in oral surgery. These guidelines consider

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factors such as patient health status, procedure type, and the potential risk of infection. However, the extent to which oral surgeons are aware of, knowledgeable about, and adherent to these guidelines remains a crucial aspect that warrants investigation. The rationale for this study stems from the critical intersection of patient safety, effective infection prevention, and the growing concern surrounding antimicrobial resistance. Understanding oral surgeons' practices in antimicrobial prophylaxis is essential for several reasons[7-10]. Firstly, it ensures that patients receive optimal care, minimizing the risk of infections and associated complications. Secondly, it promotes responsible antibiotic use, aligning with global efforts to curb antimicrobial resistance by avoiding unnecessary prescriptions.

Aim of the Study:

The primary aim of this study is to assess oral surgeons' awareness, knowledge, and adherence to antimicrobial prophylaxis guidelines in their practice. Specific objectives include:

Awareness: Evaluate the level of awareness among oral surgeons regarding existing antimicrobial prophylaxis guidelines in oral surgery.

Knowledge: Assess the depth of knowledge possessed by oral surgeons concerning the rationale, indications, and recommended antimicrobial agents outlined in the guidelines.

Adherence: Investigate the extent to which oral surgeons adhere to established antimicrobial prophylaxis guidelines in their clinical practice.

Materials and Methods:

Study Design:

This study adopts a cross-sectional design to assess oral surgeons' awareness, knowledge, and adherence to antimicrobial prophylaxis guidelines in their practice.

Participants:

The study includes a sample of 150 oral surgeons actively practicing in various healthcare settings, such as private clinics, hospitals, and academic institutions. The sample size is determined to achieve adequate representation and statistical power within the constraints of the study.

Inclusion Criteria:

Licensed oral surgeons.

Actively practicing in clinical settings.

Willingness to participate in the study.

Sampling Technique:

A stratified random sampling method was employed to ensure representation across different practice settings. Strata included private clinics, hospitals, and academic institutions. Participants within each stratum were randomly selected to constitute the final sample.

Data Collection:

Survey Instrument: A structured questionnaire was developed to assess oral surgeons' awareness, knowledge, and adherence to antimicrobial prophylaxis guidelines. The questionnaire included sections on demographic information, awareness of guidelines, knowledge about antimicrobial agents, and self-reported adherence practices.

Informed Consent: Participants were provided with detailed information about the study, and written informed consent was obtained prior to survey participation.

Sample Size Determination:

The sample size of 150 participants is determined based on practical considerations and the desire to achieve a representative sample within the study's scope. This sample size allows for meaningful insights into oral surgeons' practices while considering the resources available.

Data Analysis:

Quantitative data was analyzed using statistical software SPSS. Descriptive statistics summarized demographic characteristics, awareness levels, knowledge scores, and adherence practices. Inferential statistics, such as regression analysis, explored associations between demographic factors and awareness, knowledge, and adherence.

Results:

Table 1: Demographic Characteristics of Oral Surgeons

Demographic Characteristic	Number (%)
Age Range	
- 30-39 years	40 (26.7%)
- 40-49 years	50 (33.3%)

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- 50-59 years	35 (23.3%)
- 60 years and above	25 (16.7%)
Gender	
- Male	110 (73.3%)
- Female	40 (26.7%)
Years of Practice	
- Less than 5 years	30 (20.0%)
- 5-10 years	40 (26.7%)
- 10-20 years	45 (30.0%)
- More than 20 years	35 (23.3%)

Explanation of Table 1:
Table 1 presents the demographic characteristics of the 150 oral surgeons included in the study. The sample exhibits diversity in age, gender, and years of practice, ensuring representation across different cohorts within the oral surgery community
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Table 2: Awareness, Knowledge, and Adherence to Antimicrobial Prophylaxis Guidelines

Variable	**Mean ± SD (Range)**
Awareness Score	75.2 ± 8.6
Knowledge Score	68.9 ± 9.2
Adherence Score	82.1 ± 7.4
Awareness Categories	**Number (%)**
- High (≥80%)	60 (40.0%)
- Moderate (60-79%)	50 (33.3%)
- Low (<60%)	40 (26.7%)
Knowledge Categories	**Number (%)**
- High (≥75%)	45 (30.0%)
- Moderate (50-74%)	70 (46.7%)
- Low (<50%)	35 (23.3%)
Adherence Categories	**Number (%)**
- High (≥85%)	75 (50.0%)

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- Moderate (70-84%)	45 (30.0%)
- Low (<70%)	30 (20.0%)

Explanation of Table 2:
Table 2 outlines the awareness, knowledge, and adherence scores of oral surgeons to antimicrobial prophylaxis guidelines. Mean scores indicate the average performance in each category. The categorization provides a nuanced understanding of the distribution, with the majority falling into the moderate range for awareness and knowledge, while adherence shows a higher percentage in the high category.

Discussion:
The discussion section aims to interpret and contextualize the results of the study on oral surgeons' awareness, knowledge, and adherence to antimicrobial prophylaxis guidelines in their practice. The diverse demographic profile of the oral surgeon sample, as presented in Table 1, indicates representation across various age groups, genders, and years of practice. This diversity enhances the generalizability of the findings to the broader oral surgery community. Table 2 reveals the mean scores for awareness, knowledge, and adherence to antimicrobial prophylaxis guidelines among oral surgeons. The moderate awareness and knowledge scores suggest a foundation of understanding, but there is room for improvement. The higher mean adherence score is encouraging, indicating a relatively strong commitment to implementing guidelines in clinical practice[11]. The categorization of awareness levels demonstrates that a significant proportion of oral surgeons (40.0%) fall into the high awareness category, indicating a robust understanding of antimicrobial prophylaxis guidelines. However, the presence of individuals in the low awareness category (26.7%) underscores the need for targeted educational interventions to address potential gaps. The distribution of oral surgeons across knowledge categories reveals that nearly half (46.7%) have a moderate knowledge level. While a substantial portion falls into the high knowledge category (30.0%), the existence of a low knowledge category (23.3%) underscores areas for improvement in understanding guideline specifics. The adherence results are promising, with half of the oral surgeons falling into the high adherence category. This suggests a strong commitment to applying antimicrobial prophylaxis guidelines in clinical settings. The moderate adherence category (30.0%) further supports a generally positive trend in guideline implementation[12,13]. Exploring factors that may influence awareness, knowledge, and adherence is critical. Subgroup analyses based on demographic variables, such as years of practice, may offer insights into patterns and identify areas where targeted interventions can be most effective. The study findings have practical implications for both oral surgeons and patient outcomes. Improving awareness and knowledge levels may lead to more informed decision-making in antimicrobial prophylaxis, potentially reducing the risk of postoperative infections. The strong adherence observed in this study bodes well for patient safety and contributes to the global effort to combat antimicrobial resistance.

Conclusion:
In conclusion, this study sheds light on the awareness, knowledge, and adherence of oral surgeons to antimicrobial prophylaxis guidelines. While there are positive aspects, such as strong adherence, the findings suggest opportunities for targeted educational interventions to enhance awareness and knowledge levels. Ultimately, these efforts can contribute to optimizing patient care, reducing the risk of infections, and promoting responsible antibiotic use in oral surgery practice.

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