

Level of knowledge regarding the action of antibiotics among dentists in Tripoli private clinics

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Running Title: Antibiotic Knowledge among dentists

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Abstract

Dental practitioners prescribe antibiotics for both therapeutic and prophylactic reasons to control oral and dental infections. Antibiotic prescriptions can be linked with adverse side effects and the growth of resistance.

Aim of the study:

Aim of the study was to assess the level of knowledge of dental specialists (DSs) and general dental practitioners (GDPs) at private dental clinics in Tripoli regarding the action of antibiotics, their use and misuse in oral conditions, systemic diseases and prophylaxis.

Methods:

A survey was conducted among dental specialists (DSs) and general dental practitioners (GDPs) at private dental clinics in Tripoli. The study sample included 73 general dental practitioners (GDPs) and 21 specialist dentists (DSs). 49 were males and 45 were females.

Results:

The total number of dentists with an acceptable level of knowledge was found to be 14 dentists (16%) and the non-acceptable level was 73 dentists (84%), the study shown that an insistent review of both dental undergraduate and postgraduate education in antibiotic prescribing is needed.

الملخص:

الهدف: يهدف هذا البحث الي تقييم معدل المعرفة لدى طبيب الاسنان المتخصص والعام بالمضادات الحيوية وكيفية استعمالها والحالات التي يجب ان توصف لها والاستعمال الخاطى لها لعلاج امراض الفم والوقاية من الالتهابات الفموية.

طريقة البحث:

استبيان يحتوي علي 31 سؤال مقفل تم توزيعه اعلي 94 طبيب اسنان من مناطق مختلفة لعيادات خاصة والعيادة المركزية بطرابلس.

الاسئلة كانت مقسمة الي اربعة اقسام ، عدد 9 اسئلة خاصة بعمل المضادات الحيوية و13 سؤال خاص بالحالات الفموية التي تتطلب وصف للمضاد الحيوي و5 اسئلة خاصة بالحالات المرضية التي يوصف لها المضاد الحيوي خطأ و4 اسئلة خاصة بوصف المضاد الحيوي لحالات الوقاية.

النتائج:

تم تحليل النتائج باستعمال البرنامج الاحصائي SPSS حيث كان العدد الكلي للأطباء الذين ا أعطوا اجابات صحيحة بمعدل معرفة مقبولة 14 طبيبا (16%) بينما الاطباء الذين كانت معظم اجاباتهم خاطئة وبمعدل معرفة غير مقبول 73 طبيب (84%).

التوصية:

من خلال النتائج المتحصل عليها من هذه الدراسة والتي توضح المعدل البسيط للمعرفة لدى اطباء الاسنان بالمضادات الحيوية وضرورة استعمالها في حالات معينة عليه نقترح التوصيات الاتية للزيادة من المعدل المعرفي لاستعمالات

المضادات الحيوية في طب الاسنان:

- تحسين التحصيل العلمي حول المضادات الحيوية بإتباع القواعد الارشادية (Guidelines) وذلك خلال المرحلتين الجامعية والدراسات العليا.
- زيادة البحث العلمي القائم علي الأدلة (Evidence-based) في استعمالات المضادات الحيوية في طب الاسنان للحالات السريرية حتى يتم تبرير او اقصاء الوصف الروتيني للمضادات الحيوية وتعزيز ذلك بالأدلة العلمية.

Introduction:

The unsuitable use of antibiotics has donated to the worldwide problem of antimicrobial resistance. The knowledge, understanding and practicing of dentist in the use of antibiotics in clinical practice is insufficient. Dentists prescribe antibiotics for both therapeutic and prophylactic reasons to manage and treat oral and dental infections. Overuse of antimicrobial agents is closely related to an increase in bacterial resistance. Whereas utmost human orofacial infections recruit from odontogenic infections, the prescribing of antibiotics by dentist has become a principal aspect of dental practice. Dentists prescribe between 7% and 11% of all common antibiotics (macrolides, tetracycline, clindamycin, metronidazole)(Dar-Odeh et al., 2010). In the England, for example, dentists accounted for 7% of all community prescriptions of antimicrobials. Inappropriate prescribing by dentists could therefore play a significant part in the emergence of resistant strains. To the best of our knowledge, in Tripoli, there are no previous studies investigated Level of knowledge regarding the action of antibiotics among dentists in Tripoli private clinics.

Materials and Methods:

A questionnaire containing 31 closed questions was used for this cross-sectional study and distributed to 94 dentists in different parts in Tripoli. The secretly completed questionnaires required answers to demographic questions and to questions on the antibiotic action, therapeutic and prophylactic use of antimicrobial agents in dentistry. Correct and incorrect answers were described according to information available in the current convincing literature. Every

correct answer was given a score of 1 whereas an incorrect answer scored 0. Thus, the total score had an attainable range from 0 to 46 setting. Descriptive statistics were calculated to assess the overall knowledge of both; Frequencies, means, and standard deviation were assessed statistically.

The questions have dealt with three categories: 9 questions about antibiotic action (AB action) 13 questions on oral conditions that may require AB administration and 5 questions about patient's medical condition (pt. medical condition) that mistakenly given AB and prophylaxis has 4 questions. Total number of questions, in the survey was 31. The questionnaire was presented to dentists who were not a part of the main study, and was found comprehensive. 94 dentists, randomly chosen from different areas in Tripoli, were visited in their clinics and asked to participate in this survey. For the sake of credibility we sat with them during answering. Results with 60% total correct answers and above, for each dentist, were considered acceptable level of knowledge and any result below 60% was considered to be non-acceptable. Furthermore, points from (90%-100%) are referred to as excellent, (80%-89%) as good, (70%-79%) as fair, (60%-69%) as pass, (59%) and below considered to be non-acceptable.

Results:

Data were entered into the computer utilizing Microsoft Excel 2007 and analyzed using a statistical software package SPSS version 20. The sample included 73 general dental practitioners (GDPs) and 21 specialist dentists (DSs). 49 were males and 45 were females as shown in Table 1. The total number of dentist with an acceptable

level of knowledge was found to be 14 dentists (16%) and the non-acceptable level was 73 dentists (84%) as shown in Fig. 1

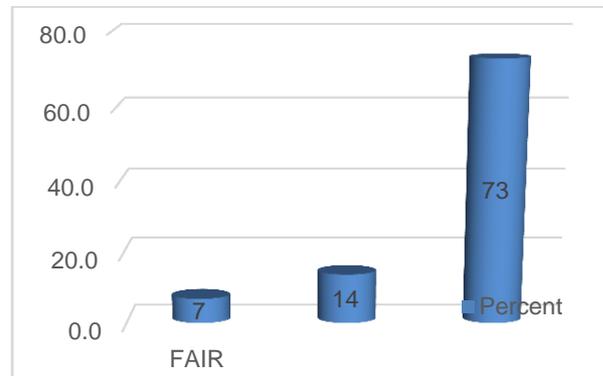


Figure 1. Distribution of dentist according to grades

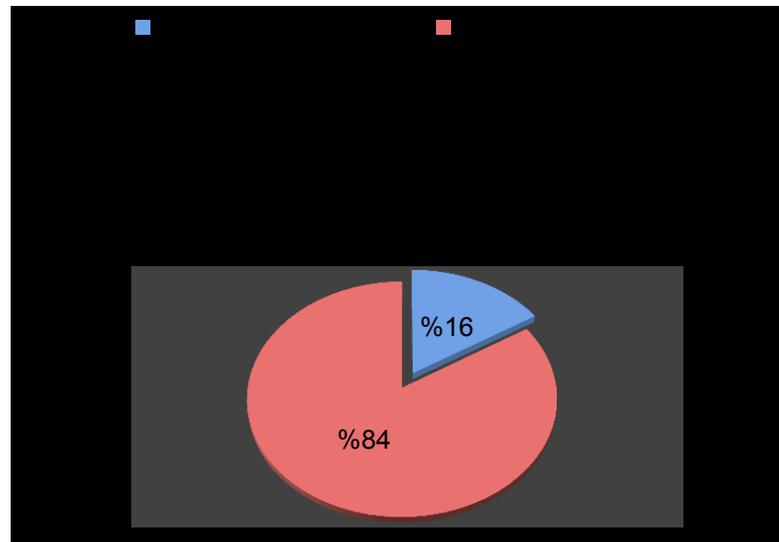


Figure 2 Acceptable and Non Acceptable level of knowledge in Antibiotics

Table 1 Distribution of gender of general dental practitioners (GDPs) and dental specialist(DS)

GENDER	SPECIALITY GROUP	FREQUENCY	PERCENT
MALE	GDP	35	71%
	DS	14	29%
	TOTAL	49	100%
FEMALE	GDP	38	84%
	DS	7	16%
	TOTAL	45	100%

Discussion:

Antibiotics are frequently used in dental practice for management and prevention of infection. We depend on its efficacy as clinicians and as consumers. Conscientious use of antibiotics is imperative for all practitioners, especially when considering the rapid development of antibacterial resistance and the alarming consequences of this trend (Epstein et al., 2000). Data described from different countries show variances in dentists' knowledge of clinical situations indicated for antibiotics. Almost half or more of the dentists investigated in England (Palmer et al., 2000), Kuwait (Salako et al., 2004) and Turkey (Ocek et al., 2008), would prescribe AB for dry socket. localized swelling is Additional non-specified condition that was also among the conditions for which antibiotics were prescribed in Norway (Wise et al., 1998), South Australia (Jaunay et al., 2000), England (Palmer et al., 2001). Dentists in the Eastern Mediterranean district have revealed a affinity to prescribe on a patient's request or social purposes, particularly when short of time (Salako et al., 2004) (Al-Haroni and Skaug, 2006). Latest studies by (Salako et al., 2004) (Dar-Odeh et al., 2008), on the attitudes of dentists in the Eastern Mediterranean district displayed that dentists favored to prescribe a lower dosage of antibiotic over a longer period. Period was based on expert attitude.

Conclusion:

The main goal of the present study was to investigate antibiotics' knowledge among dentists in Tripoli private clinics. Our findings recommend that overall dentist's knowledge about antibiotics is low on antibiotic pharmacological aspects and concerning the patient's medical circumstances and in prescribing prophylaxis antibiotics.

We propose the following to increase suitable use of antibiotics in the dental community:

Enhance education about the current antibiotic guidelines, recommendations and indications during both undergraduate and postgraduate levels. Increase evidence-based research to document clinical benefits of antibiotic use, thus justifying or eliminating routine prescription patterns, and to establish clinical practice guideline.

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