

Preface

T **T**his work has been carried out to reflect the importance of the antimicrobial sensitivity testing, which has been lost nowadays in Sudan. Most of the medical practitioners give the patients treatment without knowing the sensitivity of the organism and without doing culture to know the pathogen. Not only these, but also the hospitals where sensitivity testing is carried, it is done in a wrong way and the techniques are not standardized, hence, results in different laboratories cannot be compared. Also, some patients who had taken the chemotherapy come to the hospital suffering from repeated infections and complications. For this reasons, this research is done hoping to change this, for a better life.

Dedication

To the queen of my heart, the food of my soul,

to the soul of my deceased mother,
God bless her.

To my great father, Mohammed for encouraging

a variety of interests in my life.

To my brothers, sister and to every one

who gave me encouragement to successfully finish this study.

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Abstract

The main objectives of this study were to compare the results obtained by different methods carried for detecting the antimicrobial sensitivity testing (NCCLS table diameter method, Stokes and Kirby-Bauer comparative methods) and to compare the results when using two standard media (Muller-Hinton and Diagnostic sensitivity agar).

Fifty organisms were isolated and identified to reach these objectives. They were from two different sites, urine, and wounds. The isolates were: *Escherichia coli*, *Pseudomonas aeruginosa*, *Klebsiella pneumoniae*, *Proteus vulgaris*, *Staphylococcus aureus* and *Enterococcus faecalis*.

Antimicrobial sensitivity testing was carried out for each organism by the three methods on the two media. The results were recorded and analyzed to detect the differences. According to the statistical analysis, no differences were found to be between the comparative methods Stokes and Kirby-Bauer, while a significant difference was reported between them and NCCLS method. When

comparing the two media, no differences were noted, and the results were found to be similar.

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كانت الاهداف الاساسية من هذه الدراسة هي مقارنة النتائج التي تحصلنا عليها باستعمال طرق مختلفة لمعرفة اختبارات الحساسية ضد مصادات الميكروبات. طريقة جدول NCCLS وطريقي المقارنة (Stokes and Kirby-Bauer) وكذلك لمقارنة النتائج عند استعمال وسطين قياسين للبكتيريا هما وسط قياس الحساسية ووسط مولر-هنتون (DST and Muller Hinton).

تم عزل والتعرف على خمسين ميكروب للوصول الى هذه الاهداف وكانت من مواقعين مختلفين (البول، الجروح). الميكروبات التي تم عزلها تمثلت في (المكورة العنقودية الذهبية، العقدية البرازية، الاشريكية القولونية، الكلبيسيلا الرئوية، المتقلبات و الزائفة الزنجارية).

تم إجراء اختبارات حساسية مصادات الميكروبات لكل ميكروب بواسطة ثلاثة طرق على وسطي البكتيريا . تم تسجيل وتحليل النتائج لمعرفة الفروقات . حسب التحليل الاحصائي لم يتم ملاحظة أية فروقات بين الطرق التي تم مقارنتها بينما وجد أن هناك فرق مميز تم تسجيله بين طريقة NCCLS وبين الطرق الأخرى.

لم يلاحظ أي فرق عند مقارنة الوسطين البكتيريين وأن النتائج كانت متشابهة.

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