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## ABSTRACT

The study was carried out under control laboratory conditions at Faculty of Veterinary Medicine of Khartoum University during January 2005, to evaluate the effect of the Dwarf bee honey( *Apis florea*) and chemical antibiotic Gentamicine on the three species of wounds bacteria relates to Family: Enterobacteria.

Tow samples of honey were collected from wild nests from Khartoum North area.(Elfakee Hashim and Elgiley sites). Chemical analysis of the different components of the samples was carried out immediately at Industrial Research and Consultancy Center (IRCC).The result confirmed the previous studies. The Bacteria species brought from Sudan National Health Laboratory. Honey concentrations were prepared by diluted solution of honey in distilled water, and three concentrations of honey were prepared (25%, 50% and 100%). Disk of filter paper equal in size to antibiotic disks (Gentamicin10mg) were embedded in different concentrations of honey for 24hours in 37°C. Disk sensitivity test was chosen to conducted the study.

Experimental units were arranged in Completely Randomized Black Design (CRBD) with three replicates.

Honey at 100% concentration after 24h incubated at 37°C gave the highest mortality almost similar to chemical antibiotic (Gentamicine10mg) on *Escherichia coli* and *Proteus mirabilis* but in *Klebsiella pneumonia* the effect was equivalent to chemical antibiotic.

## ملخص الدراسة

أجريت هذه الدراسة تحت ظروف معمل البكتريا بكلية الطب البيطري جامعة الخرطوم في يناير 2005، بغرض دراسة تأثير غسل النحل البرى الصغير (*pis florea*) (A) والمضاد الحيوي الكيميائي الجنتاميسين على ثلاثة أنواع من البكتريا التي تصيب الجروح (Family:Enterobacteria)).

تم جمع عينتين من العسل من الخلايا البرية من منطقة شمال الخرطوم (الفكي هاشم و الجيلي) وتم إجراء تحليل لبعض مكوناتها الكيميائية مباشرة بمعمل الأغذية بمركز البحوث والاستشارات الصناعية و قد أوضحت النتائج أن العينتان مطابقة لنتائج الدراسات السابقة.

تم الحصول على أنواع البكتريا من المعمل الصحي القومي (استاك). طبق العسل بثلاثة تركيزات 25%، 50% و 100%. تم التخفيف بالماء المقطر وغمست فيه أقراص من ورق الترشيح مساوية في الحجم لأقراص المضاد الحيوي الكيميائي الجنتاميسين المستعملة في اختبار الحساسية للبكتريا، غمست الأقراص في تراكيز العسل لمدة 24 ساعة تحت درجة حرارة 37م.

تم تطبيق أقراص العسل و المضاد الحيوي بطريقة اختبار الحساسية في أطباق بتري المحتوية على أنواع البكتريا باستخدام تصميم القطاعات العشوائية الكاملة في ثلاثة مكررات، ووضعت الأطباق في الحضان لمدة 24 ساعة تحت درجة حرارة 37م، وتم حساب قطر الموت بالمسطرة وسجلت القراءات.

أوضحت النتائج أن العسل أثر على نمو البكتريا في جميع التراكيز إلا أنه أعطى أعلى نسبة موت في تركيز 100% وكان تأثيره قريبا جدا من تأثير المضاد الحيوي الجنتاميسين 10 ملجم في كل من *Escherichia coli* و *Proteus mirabilis* أما في *Klebsiella Pneumonia* فكان مساويا لتأثير الجنتاميسين 10 ملجم.