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Study on Antimicrobial Effects of methanolic and aquatic extracts of *Rubia tinctorum* leaves on *Acintobacter baumannii*

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Introduction: Over the past decade, multidrug-resistant *Acintobacter baumannii* as a cause of nosocomial infections has been a widespread threat. Herbal medicines that extract from the plant's essence or oil of the nature, are among the compounds that do not cause severe side effects and that's why nowadays research about these medicines has been expanded. As a result, this study was aimed to evaluate the antimicrobial effect of methanol and aqueous extracts of Rubia tincorum on the *Acintobacter baumannii* isolated bacteria.

Material and Methods: *Acintobacter baumannii* isolates were taken from 60 patients of different wards from the sputum, urine, wound exudates and blood samples by sterile swab and in the laboratory the bacteria were confirmed of being *Acintobacter*. The aqueous and methanol extracts of Rubia tincorum from the dilution of 1:2 to 1:32 were prepared and inhibition zone diameter around a disk impregnated with each dilution measured and evaluated.

Results: The mean age of patients was 63.17 years. 43.3 % of patients were female and 56.7 % were male. The most antibacterial effect is for alcoholic extract of pomegranate in 1:2dilution with the inhibition zone diameter average 22.93 and the least antibacterial effect is for aquatic extract of all the three plants in 1:32 dilution and 1:32 dilution of alcoholic extract of Rubia with no inhibition zone.The 86.7 % of cultures were resistant to the alcoholic extract and 40 % to the aqueous extracts of madder.

Conclusion: The results of this study showed that the alcoholic and aqueous extracts of pomegranate and walnuts show a good antibacterial effects against *Acintobacter baumannii*even in low concentrations. These results could herald the emergence of new antibiotics against resistant strains of *Acintobacter baumannii*.

Key words:*Acinetobacterbaumannii*, Rubia tincorum, methanolic and aqueous extracts, antimicrobial effect.