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Antibacterial activity of honey against clinical isolates of *Escherichia coli*, *Pseudomonas aeruginosa* and *Salmonella enterica* serovar Typhi

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ABSTRACT

Objective: To ascertain the potential antibacterial activity of honey against clinical isolates of *Escherichia coli (E. coli), Pseudomonas aeruginosa (P. aeruginosa)* and *Salmonella enterica* serovar Typhi *(S. enterica* serovar Typhi*)* by *in vitro* methods. **Methods:** The partial inhibitory concentration (PIC), minimum inhibitory concentration (MIC) and minimum bactericidal concentration (MBC) values of the autoclaved honey (extracted from *Apis indica* hive by indigenous method) were determined for *S. enterica* serovar Typhi (*n*=8; from blood cultute), *E. coli* (*n*=5; from urine culture) and *P. aeruginosa* (*n*=5; from pus culture) isolates by *in vitro* methods. **Results:** The PICs of the honey tested for the isolates ranged 0.50%-1.25 % (v/v) for *S. enterica* serovar Typhi, 0.75%-1.50% (v/v) for *E. coli* and 1.00%-1.25 % (v/v) for *P. aeruginosa*, while the MICs ranged 1.75%-3.00% (v/v), 3.00%-3.50% (v/v) and 3.50% (v/v), respectively. The *P. aeruginosa* and *E. coli* isolates had MBC value of 4.00% (v/v); the *S. enterica* serovar Typhi showed MBCs in between 3.00% and 3.50% (v/v). The bactericidal activity of honey was achieved at concentration 3.00% (v/v) for *S. enterica* serovar Typhi and *E. coli*, and at 3.50% (v/v) for *P. aeruginosa*. **Conclusions:** The excellent antibacterial activity of honey against clinical bacterial isolates indicates the usefulness of honey in clinical practice against bacterial infection.

Keywords*:* Partial inhibitory concentration; Minimum inhibitory concentration; Minimum bactericidal concentration; Honey; Clinical bacteria

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