

Antibacterial activity of ovary extract from sea urchin *Diadema setosum*

ABSTRACT

Objective:

Sea urchin gonad is considered as a highly prized delicacy in several countries. It is also rich in valuable bioactive compounds including polyunsaturated fatty acids (PUFAs) and β -carotene. This study was undertaken to examine the antimicrobial properties of the ovary extract from sea urchin *Diadema setosum* against selected Gram-negative and Gram-positive bacteria.

Materials and methods:

The ovary extract was obtained using two different solvents such as methanol and chloroform. The obtained extract was used to examine its potential antimicrobial properties against the following 11 bacterial species using the disc diffusion method: Gram-negative bacteria (*Salmonella typhi*, *Salmonella typhimurium*, *Shigella flexneri*, *Pseudomonas aeruginosa*, *Aeromonas hydrophila*, *Acinetobacter* sp, *Citrobacter freundii* and *Klebsiella pneumonia*) and Gram-positive bacteria (*Bacillus subtilis*, *Staphylococcus epidermidis* and *Staphylococcus aureus*). The activity was measured in terms of zone of inhibition (mm).

Results:

The methanol extract exhibited a higher zone of inhibition against all the bacteria taken for examination. Whereas, the ovary extract obtained by chloroform did not show any antimicrobial activity against *S. typhi*, *S. epidermidis*, *C. freundii* and *K. pneumonia*. The results indicated that the ovary extract obtained by methanol extracts are capable of inhibiting the growth of pathogenic microbes taken for analysis. Moreover, the result indicates the presence of antimicrobial agents in sea urchin ovary.

Conclusions:

The study suggests that the ovary extract of *D. setosum* may be a potential source of antimicrobial agent for pathogenic microorganisms.