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Antimicrobial activity of natural products

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Antimicrobial agents are classified according to the spectrum of their action. They have many roles by acting as antifungal, antiviral and antiprotozoal action. They also have essential functions i.e. inhibiting bacterial cell wall synthesis, nucleic acid synthesis and many more. Medicinal plants are significantly useful and economical. Antimicrobial agents are essentially important in reducing the global burden of infectious diseases. With the irrational and excessive use of antibiotics in underdeveloped and developing countries, there may be chances to develop and spread resistant pathogens in the community. Therefore, the need for novel alternative antimicrobial strategies has renewed interest in natural products like turmeric, honey, ginger and others exhibiting antibacterial properties. Antimicrobial resistance (AMR) is emerging at an alarming rate as mortality due to resistant pathogens. Since AMR is against all clinically utilized antibiotics, finding novel antimicrobials with unexploited targets remains the main goal worldwide. The research is to determine the natural product has the best antimicrobial activity by looking at various fruits, plants, and other natural resources. The project was the latest literature based to find the best antibacterial activity and therefore the existing research journals were used. This indicates a range of antimicrobial activity of natural products against pathogens. Of the raw natural products, garlic juice had the highest activity. The most active processed products were peppermint oil and the four pure compounds trans-cinnamaldehyde, allicin, menthol, and zingerone. Bacteroides species have similar susceptibility to *C. difficile* to most natural products; *Lactobacillus casei* was less susceptible. It is worthy to consider honey as a promising future antimicrobial to be tested and studied. Honey, may be elaborately used in future with some more molecular studies on its method of action as an antimicrobial agent. Our efforts now focus on purifying these compounds, elucidate their structures and study their mode of action.

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