Review of: "[Review] The antibacterial activity of Allium sativum, Thymus vulgaris, Origanum vulgare, Curcuma longa, Rosmarinus officinalis, and Cinnamomum species against various antibiotic-resistant strains of bacteria: A Literature Review"

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Potential competing interests: No potential competing interests to declare.

The submitted review paper titled: "The antibacterial activity of*Allium sativum, Thymus vulgaris, Origanum vulgare, Curcuma longa, Rosmarinus officinalis*, and *Cinnamomum* species against various antibiotic-resistant strains of bacteria: A Literature Review" contains many interesting themes but also has some shortcomings. Here are our comments:

1. The abstract is well-structured.
2. The introduction of the paper is too lengthy and does not conclude with a clear aim of the study or an alternative research hypothesis in addition to the null hypothesis.
3. The methodology of the study is appropriate.
4. The literature review involves an analysis of studies published between 2007 and 2018 regarding the effectiveness of various plants in inhibiting the growth of antibiotic-resistant bacterial strains. The authors examine the antibacterial activity of different plants, such as garlic (*Allium sativum*), thyme (T*hymus vulgaris*), oregano (*Origanum vulgare*), turmeric (*Curcuma longa*), rosemary (*Rosmarinus officinalis*), and cinnamon (*Cinnamomum* spp.), in the context of treating antibiotic-resistant strains of bacteria, including *Staphylococcus aureus, Streptococcus pneumoniae, Pseudomonas aeruginosa, Escherichia coli, Campylobacter jejuni,* and *Salmonella typhimurium.* Here are the main conclusions and information presented in the literature review:
5. History of antibiotic resistance: The review begins with a brief history of antibiotic resistance, from the discovery of penicillin by Alexander Fleming in 1928 to the emergence of resistant bacterial strains, such as MRSA (methicillin-resistant *Staphylococcus aureus*) in the 1960s. Antibiotic resistance has become a significant public health issue.
6. Factors contributing to antibiotic resistance: The review emphasizes that antibiotic misuse and improper use, lack of regulation, antibiotic use in livestock, overpopulation, and mass transportation contribute to the development of antibiotic resistance.
7. Statistics on antibiotic resistance: The review provides statistics on antibiotic-resistant infections in the United States, indicating that resistant infections pose a significant public health problem and generate substantial healthcare costs.
8. Herbal treatment of antibiotic-resistant bacteria: The review highlights that plants have been used since ancient times as antimicrobial agents and that many plants exhibit antibacterial properties. The herbs analysed in the review include

garlic, thyme, oregano, turmeric, rosemary, and cinnamon.

9. The review suggests that the mentioned plants may be effective in inhibiting the growth of antibiotic-resistant strains of *Staphylococcus aureus, Streptococcus pneumoniae, Pseudomonas aeruginosa, Escherichia coli, Campylobacter jejuni*, and *Salmonella typhimurium*. This could serve as an alternative therapy or complement to the treatment of antibiotic-resistant infections.
10. Traditional uses: The review also provides traditional uses of these plants, such as treating various ailments, including upper respiratory infections, indigestion, gastric inflammation, and many others.
11. The studies had several limitations. One significant limitation was the selection of studies only between January 2007 and December 2018.
12. In conclusion, the literature review suggests that plants such as garlic, thyme, oregano, turmeric, rosemary, and cinnamon show significant potential in inhibiting the growth of antibiotic-resistant bacteria. This is an important finding that could be useful in addressing the growing problem of antibiotic resistance. However, further research and clinical studies are necessary to comprehensively understand the effectiveness of these plants as antibacterial therapy.
13. The paper is excessively long and either needs to reduce its content and the number of topics covered or be divided into multiple sections.
14. However, the overarching conclusion does not relate directly to the stated aim of the paper and is unwarranted, as the authors have not conducted any research in this direction or provided an adequate amount of evidence to make such far-reaching conclusions without solid in vitro, in vivo, and clinical studies. These are only speculations.

Sincerely