

# 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"

Sandra Ventura<sup>1</sup>

<sup>1</sup> Instituto Politécnico da Guarda

Potential competing interests: No potential competing interests to declare.

In general the issue, objectives and theme of the article are interesting. There are some clarifications needed related to the criteria of the selected articles and review. Some references are updated and more bibliographic support is needed in some sections. Some expressions and terms should be revised. The sections after the discussion are indeed also related to the discussion... it is not clear how sections 7, 8 and 9 appear after the section 6. This article should answer the objectives of the narrative review and so the discussion should reflect the results found related to the antibacterial activity of the selected plants and microorganisms. The major comment is indeed how the selected plants/preparations or/and components (secondary metabolites) can be used to treat the selected MDR infections?

## Specific comments:

Please, see Abstract: the treatment of antibiotic-resistant strains...it should be *the treatment of infections caused by antibiotic-resistant strains...*

*Please, see Introduction:*

1. *More references should be introduced to support the 1.1. A Brief History of Antibiotic Resistance and 1.2. Factors Contributing to Antibiotic Resistance...The Introduction should be more supported and developed...*
2. *Other factors contribute to antibiotic resistance like patient noncompliance to the treatment (See 1.2. Factors Contributing to Antibiotic Resistance)...*
3. *Other MDR bacteria? *Acinetobacter*? Other *Enterobacteriaceae*? *VRSA*? (See 1.3. Statistics Related to Antibiotic Resistance) ...*
4. *One of the criteria for selecting articles included was the plants in USA? (See that the identified bacteria were the ones that cause more infections in USA and herbs were used in US)...*

*Please, see Literature Review:*

1. Clarify why were those plants selected (and why no others), since other plants and plant extracts have already showed antibacterial activity, even in traditional medicine

*Please, see Methods and Results:*

1. Clarify how many articles were found, included and excluded, and how and which keywords were also used beyond the name of the plants?
2. The review was made in may 2019 ?
3. Clarify in Table 1 the kind of extract and concentrations of the extracts, for each plant, or even if there were used EO (and in which concentrations)
4. The results section is, in fact, the result of the methodology used...

*Please, see Discussion:*

1. The Discussion section is indeed Results and Discussion
2. A Table should be introduced for comparison of the results or even for each plant/extract

*Please, see 7. Natural Medicine Approach to Bacterial Infections*

*1 - This section should be insert/introduced before the discussion of the results or in the discussion of each plant*

*2. It is not clear how the following sections are related to the mais objectives of this review*

*Please, see 8. Antibiotic Herb Interactions*

1. The term interactions and the section 8. should be reformulated; herb-drug interaction or plant-drug interactions are not only resumed as synergistic or potentiation ... pharmacokinetic, pharmacodynamic and pharmaceutical interaction can occur between drugs and plants...
2. This section reflects mostly on the synergistic and potentiation..which components were related to this activity for each plant/extract?
3. Which are the antibiotic used to treat theMDR ?

*Please, see 9. Additional Benefits of Using Botanicals for Infections*

*Please note that Natural Medicine and the use of plants are quite not similar; natural medicine may use other substances than plants...even the word botanicals must be used carefully... if the aim is to discuss the used of plants/hebs (note that herbs is also used when specific kind of species are used like aromatic ones...) it should be refered as plants or even plant-based products or preparations*