

ABSTRACT

The Prospect of Multistrain Probiotics as An Antibacterial Against Methicillin Resistant *Staphylococcus aureus*

Literature Review

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Methicillin Resistant *Staphylococcus aureus* (MRSA) has been recognized as a major nosocomial pathogen throughout the world where the bacterium *S. aureus* becomes resistant to methicillin type antibiotics. Probiotic multistrain as an antibacterial agent is considered more able to control multi-drug resistant bacteria, so the results will be more effective. Before, we need to know that not all the bacteria can be combined in the multistrain form. Bacterial isolates with antagonistic effects between one and another can cause loss of viability of other strain and reduce the effectiveness. Therefore, it is necessary to do the compatibility test between bacterial isolate to prove whether the bacteria do not have antagonistic effects. The purpose of this paper is to review the current documentation on the concept and the possible beneficial properties of multistrain probiotic against MRSA in the literature. To compose this review, we searched the full length article focusing on the role of probiotics on MRSA and the effectiveness between monostrain and multistrain probiotic in their inhibitory activity against MRSA. From the article review, we found a mixture or combination of several bacteria in a ratio of 1:1 have the largest inhibitory zone against MRSA. So, from the article review we can conclude that multistrain probiotic have better antibacterial activity compared with monostrain probiotic in inhibiting activity against MRSA.

Keywords: Probiotics, Multistrain Antibacterial activity, Methicillin Resistant *Staphylococcus aureus*