

## Abstract

One of the major public health challenges nowadays is the rapid emergence of antibiotic resistant bacteria. In the past, despite the extensive studies on antibiotics resistance bacteria in clinical settings, the lack of proper understanding on major routes and mechanisms of antibiotic resistance emergence, dissemination and persistence likely contributed to the incompetence in the battle against antibiotic resistance bacteria. Raw vegetables and fruits can be an important contamination source for the spread of multi drug resistant pathogens capable of causing human infections. There is limited knowledge concerning of the transmission of antibiotic resistance bacteria to humans via foods of plant origins, as well as human and animal health problems posed by the spread of antimicrobial agents, antimicrobial resistance genes, and antimicrobial resistant bacteria into the environment. It is necessary to assess whether ready-to-eat vegetables and fruits present a threat in terms of food borne outbreaks

Due to the serious implications from the consumption of contaminated vegetables and fruits, the study aim to investigate the incidence of antimicrobial resistance of selected gram negative and gram positive bacteria isolated from raw vegetable and fruits from different markets in Riyadh city. As well as the molecular detection of the selected resistance genes from pathogenic bacterial isolates. The outcome of this study may helpful to identify the associated antibiotic resistant bacteria and their resistance pattern to create awareness among people and physicians on indiscriminate use of antibiotics. As well as expand the knowledge on the transmission of multi drug resistant bacteria in plant sources and could be highlights to the potential of developing strategies and surveillance programs to prevent the spread of antibiotic resistance in environment

## Objective

Due to the usage of antibiotic in the agriculture, aquaculture, and livestock industries could be led to the emergence of antibiotic resistance genes in the environment. The appearance of the antibiotic resistance bacteria on raw vegetables and fruits lead to increasing occurrence of foodborne diseases and become public health concern. This study seeks to determine whether raw vegetables or fruits harbor the antibiotic resistant bacteria. The objectives are as follows:

Isolation and identification of selected pathogenic bacteria from raw vegetable and fruit samples from various sources.

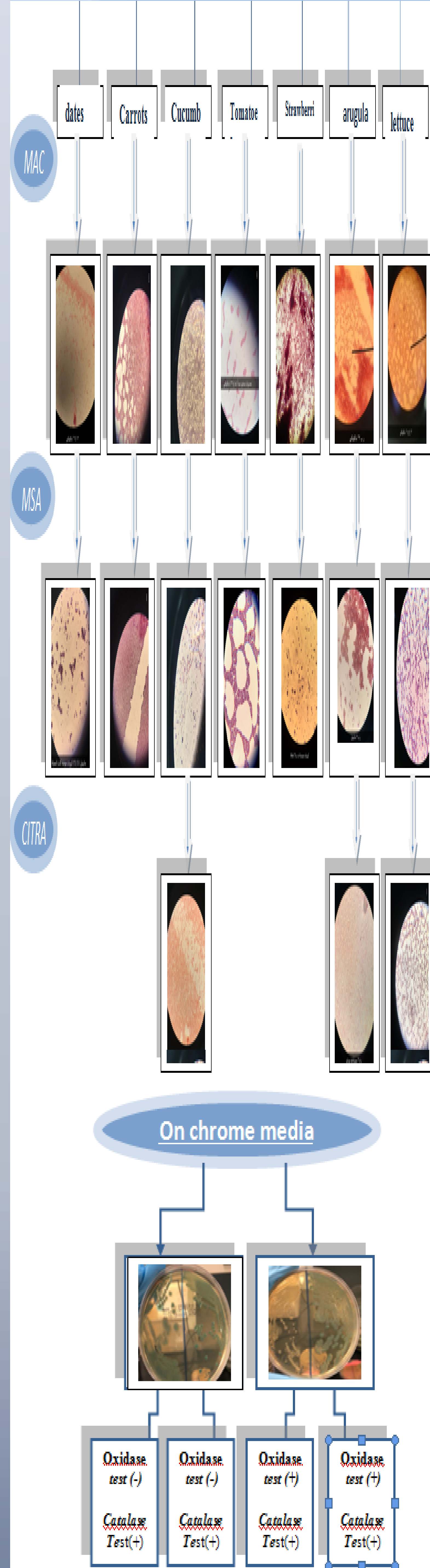
Detection of antibiotic susceptibility patterns of isolated pathogenic bacteria.

Genotypic characterization of selected antibiotic resistance genes.

## Material and method



## Result



## Conclusion

In this study, we examine the presence of resistance antibiotic bacteria such as staphylococcus , pseudomonas and Enterobacteriaceae that Known as opportunistic bacteria in fresh vegetables and fruits ,into Riyadh from different place with very different farming standards ,Which can cause diseases for people with impaired immunity

## Reverence

- Aarestrup, F., Wegener, H. and Collignon, P. (2008). Resistance in bacteria of the food chain: epidemiology and control strategies. *Expert Review of Anti-infective Therapy*, 6(5), pp.733-750 .
- Abadias, M., Alegre, I., Oliveira, M., Altisent, R. and Viñas, I. (2012). Growth potential of *Escherichia coli* O157:H7 on fresh-cut fruits (melon and pineapple) and vegetables (carrot and escarole) stored under different conditions. *Food Control*. 27, pp.37-44 .
- Al-Assil, B., Mahfoud, M. and Hamzeh, A. (2013). Resistance trends and risk factors of extended spectrum β-lactamases in *Escherichia coli* infections in Aleppo, Syria. *American Journal of Infection Control*, 41(7), pp.597-600.

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