Enhancing the Consumer's Understanding of the four core food safety practices, Clean, Separate, Cook, Chill during COVID-19 pandemic

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Introduction

- Improper food handling, improper holding temperature, cross-contamination, and poor personal hygiene are among the leading contributing factors to the occurrence of foodborne illnesses (FDA, 2009; FDA, 2010; Käferstein, 2003; McCabe-Sellers & Beattie, 2004).
- Although, there is no confirmed evidence that viruses which infect the respiratory tract can be transmitted via food or food packaging (World Health Organization [WHO], 2020), previous research Indicated that COVID-19 can be transmitted via contact surfaces because of the ability of the virus to survive on the surfaces for several days (Centers for Disease Control and Prevention [CDC], 2020; van Doremalen et al., 2020). This suggests that the virus may transfer from food contact surfaces to the hands and subsequently to the mouth, nose and eyes.
- As a result, preventive measures such as hand washing, washing and sanitizing food contact surfaces, cooking, and chilling properly would seem reasonable ways to reduce the risk of virus transmission.
- Previous research highlighted the relationship between consumer confidence and adherence to the four core food safety practices (
- While CDC, USDA, & FDA are typical clearinghouses of data management for food safety, topic modeling allows uncovering of hidden themes and topics with more efficiency than a typical systematic review method.

Objectives of the Study

- The study aims to answer the following research questions:
- What are the potential risks if any to food safety at home during COVID-19 pandemic?
- How effective are the four food safety practices, clean, separate, cook, & chill in reducing risks to food safety during COVID-19 pandemic?

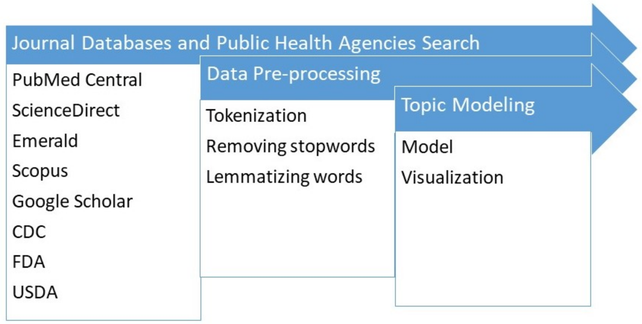

Figure 1. Flowchart of topic modeling process

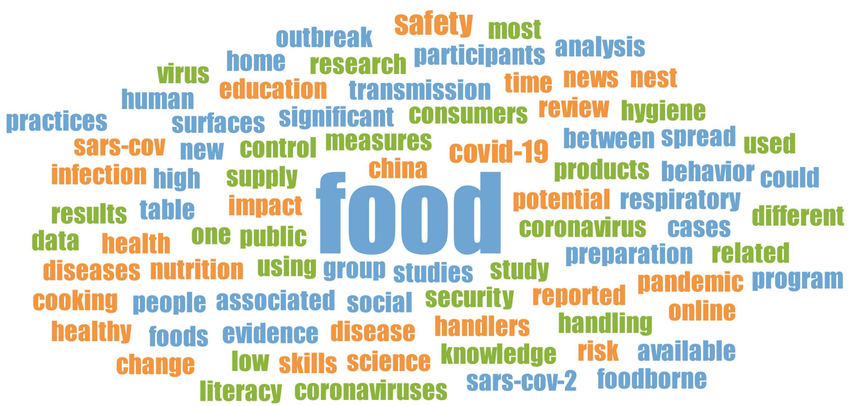

Figure 1. Word cloud of the top 100 most frequent words

Methodology

- Data will be collected from journal articles published since November 2019 and the websites of Federal and public health agencies.
- Python will be used to perform Latent Dirichlet Allocation (LDA). This is useful for investigating trends and patterns in documents.
- The LDA model will look for the repeating term patterns. Documents selected will be combined to form the corpus for data mining using Python. LDA will help extract topics and conduct a trend analysis to explore the scientific evidence regarding the relationship between the four core food safety practices and risk reduction.

Significance of the Study & Limitations

- The results of this study will be useful for food safety educators and public health personnel to teach their clients about best practices to limit the transmission of COVID-19 through indirect routes like food contact surfaces and hands.
- The results will highlight evidence-based information and support empirical research claims by quantifying and explaining emergent topics regarding potential risks and food safety practices in the home kitchen during the COVID-19 pandemic.

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