



MICROBIOLOGICAL QUALITY OF STREET FOODS: A MECHANISM FOR FOOD SAFETY AND DISEASE PREVENTION1

Resie Jane Mata

Aldrin Tumamao

Jerico De Castro

The study aimed to determine the microbial quality of street foods being offered by small food stalls in Laoag City, particularly at the northwestern part of the commercial complex along Fernando Avenue, along General Luna Street, and at Brgy. 16. Specifically, the study sought answers to the following questions: (1) What are the street foods positively harboring microorganisms?; What are the types of microorganisms harbored by these street foods? (3) What guide can be proposed to promote food safety and prevent foodborne diseases?

The study focused on the examination of uncooked, cooked and cooked, dipped in sauce samples of street foods; namely, barbeque and “isaw,” through food bacteriological analysis at Northwestern University clinical laboratory, in three phases: (1) the presumptive test - culturing the street foods in lactose broth to determine the presence of lactose fermenters; (2) confirmatory test - growing the positive in the presumptive test in selective media - Eosin methylene blue (EMB) agar; and (3) completed test - identifying microorganisms by cultural characteristics and biochemical testing using Analytical Profile Index (API) 20E, for Enterobacteriaceae. The study utilized descriptive research design and its conduct was guided by the theory that living things come from living things.

Based on the results of the food analysis, the study shows that in the presumptive test, uncooked barbeque in Food Stalls 1 and 2 are positive; cooked barbeque dipped in sauce are positive in Food Stalls 1, 2, and 3; cooked barbeque with no sauce are positive in Food Stalls 1 and 4. With regards to “isaw,” uncooked isaw from Food Stalls 3 and 5 got a positive result; cooked isaw dipped in sauce from Food Stalls 1 and 3 had positive results; and cooked isaw with no sauce from Food Stall 3 is also positive.

In the confirmatory test, the study shows that the uncooked and cooked barbeque dipped in sauce in Food Stalls 1 and 2, cooked barbeque with no sauce in Food Stall 4, uncooked isaw in Stall 5, cooked isaw dipped in sauce in Stalls 1 and 3, and cooked isaw with no sauce in Stall 3 are all positive. In the completed test, the study shows that all the food preparations positive in the confirmatory test revealed that all the bacterial colonies isolated are Gram negative (-), nonspore forming bacilli. In the biochemical testing using API 20E, the study revealed that the bacteria present on uncooked barbeque is *Escherichia coli*; in cooked barbeque dipped in sauce are *Escherichia coli* and *Pantoea agglomerans*; in cooked barbeque without sauce are *Escherichia coli*; *Enterobacteriaceae* and *Klebsiella pneumoniae* are noted in uncooked isaw; cooked isaw dipped in sauce has *Escherichia coli*; and in cooked isaw without sauce is *Klebsiella pneumoniae*.



The study concludes that barbeque and isaw in different food preparations are mostly infected with *Escherichia coli*. Contributing factors for food contamination are poor environmental sanitation. Poor food handling, preparation and storage.

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