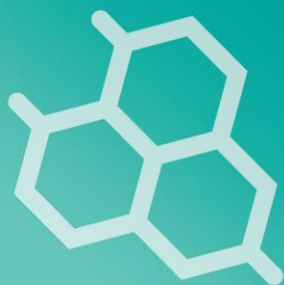


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BACTERIOLOGICAL QUALITY OF COMMONLY VENDED STREET FOODS AND ANTIMICROBIAL RESISTANCE PATTERNS OF THE BACTERIAL ISOLATES

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**BACTERIOLOGICAL QUALITY OF COMMONLY VENDED STREET FOODS AND
ANTIMICROBIAL RESISTANCE PATTERNS OF THE BACTERIAL ISOLATES**

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ABSTRACT

Food safety problems are particularly becoming an increasingly serious threat to public health in developing countries. The aim of this study was to assess the bacterial load, isolate, identify, and characterize bacterial isolates among commonly vended street foods in Dinajpur City of Bangladesh. Antimicrobial susceptibility of isolates was also performed using commonly used antibiotics. A total of 64 street food samples from four different food items were aseptically collected, analyzed and bacteria were counted by standard plate count method. Ten grams of each food sample was transferred in to 90 ml of buffered peptone water and homogenized. The homogenates were serially diluted and a volume of 0.1 ml dilution was spread on solid media and incubated at 35-37 °C for 24 h. The study revealed that 39 (61%) of the food samples had pathogenic bacterial contamination. Three different bacterial species including *Escherichia coli* (18.75%), *Klebsiella* spp. (6.25%) and *Staphylococcus* spp. (35.93%) were isolated. The Total Viable Count (TVC) in singara ranging from 2.0 to 2.9 CFU/g, in sugar cane juice ranging from 3.1 to 3.8 CFU/ml, in jilapi ranging from 2.1 to 3.6 CFU/g and in chola ranging from 2.7 to 3.5 CFU/g. The antibiotic susceptibility testing was done for isolated species using the Kirby-Bauer disk diffusion method. Antibiogram study of the isolated organisms revealed that isolated *E. coli* were found to be resistant to doxycycline, ampicillin, neomycin, cefixime, norfloxacin, levofloxacin, and azithromycin. *Staphylococcus* spp. isolates were found to be resistant to methicillin, ampicillin, amoxicillin, and penicillin. And *Klebsiella* spp. isolates were found to be resistant to amoxicillin, cloxacillin, cefixime, and imipenem. Ciprofloxacin was found to be the most effective antimicrobial against all isolates. This study confirmed considerable rate of contamination in street vended foods in Dinajpur City. The identified foodborne bacteria and antibiotic resistant isolates could pose a public health problem in that locality. Therefore, regular inspection, health education and training of

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▮ vendors on food handling and safety practices are recommended.



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