

Isolation and characterization of *Vibrio* sp from semi processed shrimp

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ABSTRACT:

This study was attempted to determine the Total Viable Count (TVC) and to characterize *Vibrio* sp in semi processed shrimp samples collected from the processing plant of Rupsha, Khulna. Randomly 20 shrimps were sampled each containing 4-5 shrimp from a processing plant at Rupsha, Khulna, aseptically removing the head and tail and transferred to the laboratory within icebox. After processing the sample by ten-fold serial dilution, spreading on nutrient agar plates were incubated for enumerating TVC. The shrimp muscle tissues were enriched after incubating within alkaline phosphate buffer solution and streaked onto TCBS agar and incubated for 24h at 37°C. Characteristic colonies (yellow colonies) were picked up and cultured onto nutrient agar for further characterization. Identification of *Vibrio* sp obtained from shrimp was performed by cultural, morphological and biochemical test. Antibiotic sensitivity profile of bacterial isolates was also performed against seven commonly used antibiotics by disc diffusion method. This study recorded that the Total Viable bacterial Count (TVC) varied from 7.00×10^5 cfu/g to 4.90×10^6 cfu/g and average TVC was found to be 2.13×10^6 cfu/g. Out of the 20 samples, five (25%) were found to be positive for *Vibrio* sp. Antibiotic susceptibility test exposed that the isolates of *Vibrio* sp were resistant to ampicillin, intermediately resistant to erythromycin and sensitive to gentamicin, streptomycin, azithromycin, tetracycline and chloramphenicol. The findings of this study revealed that semi processed shrimp samples under this study were more or less contaminated with *Vibrio* sp which indicated the unhygienic condition of the shrimp culture and processing plant and the presence of antibiotic resistant bacteria in shrimp supposed to be a threat to food safety and might deteriorate the export quality.

Keywords:

TVC, *Vibrio* sp, Semi processed shrimp, Processing plant, Antibiotic sensitivity test.