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The Thesis Submitted for the Degree of M.Sc (in the field of Food hygiene and quality control)

Investigation of Vibrio Parahaemolyticus contamination in Sillago sihama and Liza klunzingeri in 1400 and 1401 in Bandar Abbas

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Abstract:

Bacteria of the genus *Vibrio* belong to the family of Vibrionaceae in the form of a curved bacillus, with a polar flagellum, without spores, motile and gram-negative. Among the vibrios, *Vibrio Parahaemolyticus* is one of the most important bacteria transmitted through raw, undercooked or surface cooked food and seafood. This bacterium has been reported to be a major cause of gastrointestinal infections and acute gastroenteritis due to the consumption of raw seafood. *Vibrio Parahaemolyticus* is halophilic (requires 1-3% NaCl) and grows to a concentration of 7% NaCl, so saltwater fish and seafood are the main sources of this bacterium. The high prevalence of *Vibrio* species and especially *Vibrio parahaemolyticus* in the samples confirms the lack of hygiene in the centers of preparation and distribution of seafood and its products. Due to the high importance of fish nutrition and its products and also the increasing consumption of these products in Iran, the present study was conducted to determine the prevalence of *Vibrio Parahaemolyticus*.

Methods: In this study, 140 samples including 70 samples of *Sillago sihama* fish and 70 samples of *Liza klunzingeri* fish were randomly selected from the fish farms of Bandar Abbas in winter 1400 and spring 1401 and transferred to the laboratory. 1 gram of samples in tubes containing alkaline peptone Water (APSW) was poured and transferred to 37 ° C for 6 h. After this incubation period, the samples were cultured linearly on thiol sulfate citrate (TCBS) agar medium for 37 h at 37 ° C in Incubator was placed. The initial identification of *Vibrio Parahaemolyticus* is based on the observation of smooth green colonies with a diameter of 2-3 mm. To detect *Vibrio Parahaemolyticus* bacteria, Gram, Oxidase, SIM, ONPG, TSI and lysine decarboxylase tests were performed on suspected colonies.

Results: The prevalence of *Vibrio Parahaemolyticus* in *Sillago sihama* and *Liza klunzingeri* fish in Bandar Abbas fishing grounds is estimated as 0% with 95% confidence limits from 0% to 2.6%.

Discussion and conclusion: The results of the current investigation show the low prevalence of *Vibrio Parahaemolyticus* in the samples of *Sillago sihama* and *Liza klunzingeri* fish. Therefore, observing the health conditions from the time of catching to the complete supply and cooking of marine products will prevent the occurrence of food poisoning caused by *Vibrio Parahaemolyticus* bacteria.

Keywords: *Sillago sihama*, *Liza klunzingeri*, *Vibrio Parahaemolyticus*, Bandar Abbas