Prevalence of *Vibrio parahaemolyticus* in the environment of the Mediterranean coast of Egypt.

Moustafa El-Shenawy[1], Mohammed El-Shenawy[2] and Samir Nasr[3]

1- Dept. Food and Environmental Microbiology, National Research Center, Dokki, Cairo 12311, Egypt. E-mail:m_elshenawy@hotmail.com.
2- Dept. of Microbiology, National Institute of Oceanography and Fisheries, Alexandria, Egypt.
3- Dept. Environmental Studies, Institute of Graduate Studied and Research, Alexandria, Egypt.

ABSTRCT

Vibrio parahaemolyticus is a naturally occurring organism. It is commonly found and widely distributed in coastal waters worldwide. Thus, there is a great chance of being infected during swimming or handling marine fish / shellfish especially in high water temperature seasons. Also open wounds and consumption of raw or undercooked contaminated seafood are possible sources of infection by such bacterium. It causes gastroenteritis, watery diarrhea and septicemia.

To investigate the prevalence of this pathogen along the environment of the whole Mediterranean coast of Egypt (27 stations), 108 water samples, 40 fresh fish and 44 oyster samples were collected during four seasonal sampling cruises in 2009. All samples were examined for the prevalence of the *Vbirio parahaemolyticus* as well as the presence of the fecal pollution indicators including total coliforms, *E.coli*, and fecal streptococci. In addition, some environmental parameters of the coastal water samples including temperature, salinity, pH and dissolved oxygen were also measured.

Sampling technique of water samples was done according to IOS standers and the membrane filtration technique was applied in all the analyzed samples. TCBS agar, Endo-agar LES, mFC agar and m-enterococcus agar selective media were used for isolation of *Vibrio parahaemolyticus*, coliform group, thermotolerant *E.coli*, and fecal streptococci respectively. The isolated colonies were identified using the biochemical tests and the final counts as cfu/100ml or cfu/100 gm were calculated.

The incidence of *Vibrio parahaemolyticus* in the examined water samples varied widely from 50 to 89% depend on the investigated area and dated of sampling. The same was true with the detected bacterial counts, which ranged from **<**1 to 10^5 of all the detected microorganisms. There was an association between the fecal contamination indicators and the presence of the pathogen. The same trend was observed in fish and oyster samples. These results may help to develop sanitary strategy / strategies for better public health.