**The Turkish Journal of Occupational / Environmental Medicine and Safety**



**Vol:1, No:1(2), 2017 Web:** [http://www.turjoem.com](http://www.turjoem.com/) **ISSN : 2149-4711**



 **SS-007.**  **Resistom in *Salmonella spp*. isolated from coastal waters of Izmir gulf**

Ihsan Yasa, Beril Arkan Demircan, Nazenin Eftekhari

Department of biology, Faculty of Sciences, Ege University, Izmir, Turkey

**Aims:** The presence of *Salmonella* in water constitutes a potential threat to human health, since these pathogenic microorganisms are involved in a high number of foodborne and waterborne outbreaks. The aim of the present study was to determine the level of antibiotic resistance patterns and distribution of *Salmonella spp* isolates from coastal waters of Izmir Gulf Turkey. **Methods and Results**: In this study, a total of 75 sea water samples obtained from different places not coastal areas of the Gulf of Izmir and river basins which flow into the called as inner and middle areas of the gulf and analyzed for presence of *Salmonella spp*. by using the ISO 6340:1995 standard. As a result of API 20E test, 4 (5.3%) of the 75 different samples were identified as *Salmonella spp*. After the isolation, antibiotic resistance tests were performed according to the Kirby-Bauer disk diffusion method for total 13 different antibiotics. All strains showed resistant to at least 5 or more antibiotics and they showed the most resistance to Erythromycin. PCR method utilized to investigate Class 1 integrons and 9 antibiotic resistance gene regions (Sulfonamide, ampicillin, aminoglycosides 1-2, trimethoprim, tetracycline, florfenicol, ofloxacin and gentamicin) in chromosomal and plasmid DNA of these isolates. In this study isolated strains determined resistance to six of the examined antibiotics (tetracycline, sulphonamide, aminoglycosides, chloramphenicol, ofloxacin and gentamicin) and these resistance originate in both chromosomal and plasmid DNA. Four strains determined the most resistance to aminoglycosides, chloramphenicol, sulphonamide and ofloxacin groups respectively. **Conclusion:** This study shows antimicrobial-resistant *Salmonella* contamination status of the aquatic environment in Izmir. These bacteria acquired resistance genes through different routes, such as human or animal fecal contamination, genetic mutations, which occurs under presence of antibiotic stresses in environment, and frequently, bacteria may gained resistance genes from other bacterial cells in the vicinity.

**Keywords:** *Salmonella spp*, resistom, aquatic environment

TURJOEM , 2017 , 1 ,1 (2)