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Food Pathogenesis of *Shigella*

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Editorial

Shigellae are Gram-negative, non-motile rods. *Shigellae* are transmitted by the direct faecal-oral route. As an outcome, food can possibly be contaminated through the grimy fingers of patients or carriers. The transfer of *Shigellae* by flies rearing on faecal matter has been laid out as a vital transmission route during outbreaks. *Shigella* can be found in surface waters and furthermore within contaminated drinking water. Isolation of *Shigellae* from food sources is a challenge. Isolation and identification of *Shigella* from food sources by culture needs a few days relying upon the food matrix and storage conditions. *Shigella* species can be grown out by the resident bacterial species found in food varieties, which might reflect the standard low numbers of the organism present in food varieties. One more factor that decreases the possibility of isolating *Shigella* from food varieties might be the physiological condition of the microbe at the hour of analysis. Ecological circumstances could influence its capacity to either grow or survive in any food matrix.

The most widely recognized side effects of shigellosis are the diarrhea, fever, nausea, vomiting, stomach cramps, and straining to have a bowel movement. Disease occurs when virulent *Shigella* organisms are consumed and invade the intestinal mucosa, bringing about tissue annihilation. The stool might contain blood, mucus, or pus. The pathogens must be swallowed to cause infection. They are, in general, spread when individuals do not clean up with soap and warm water subsequent to toilet or changing a diaper. Individuals who get the microbes on their hands can taint themselves by eating, smoking, or contacting their mouths. *Shigella* microbes can likewise be spread through lakes and pools without sufficient chlorine. *Shigella* survives in the human intestine and is generally transmitted through both food and person-to-person contact. Some people who are infected may not show any symptoms at all, but may still transmit the *Shigella* organism to others.

Salads (potato, fish, shrimp, macaroni, and chicken), crude vegetables, milk and dairy items, and poultry can transfer *Shigella* microorganisms. Water contaminated with human waste and unsanitary food handling is the most widely recognized reasons for contamination in these food items. The growth and endurance of *Shigella* species in food sources is affected by various factors, for example, temperature, pH, Salt content and the presence of food additives. For instance, endurance of *S. flexneri* increases with diminishing temperature, expanding pH, and diminishing NaCl concentration. The temperature range for development of *Shigella* species is 6-8 to 45-47°C. Quick inactivation happens at temperatures around 65°C. Under frozen (-20°C) or refrigerated (4°C) conditions *Shigella* species can survive for long periods of time. *Shigella* can survive in a pH range of 5-9. They are better at enduring lower pH conditions at low temperatures, with *S. flexneri* and *S. sonnei* able to survive for 14 days in tomato juice in pH range of 3.9-4.1 and apple juice with a pH range of 3.3-3.4 at 7°C. *Shigella* is acid resistant, tolerates salt concentration, and can survive at infective levels in many kinds of food sources like fruits and vegetables, low pH food varieties, prepared food varieties, and food varieties held in modified atmosphere or vacuum packaging.

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