

Surgical site infection in the world and in Iran: Causes and outcomes

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Surgical site infection (SSI), as one of the most common nosocomial infections, detrimentally influences the outcome of surgical treatment. SSIs are a common cause of nosocomial infection, accounting for 38% of nosocomial infections. A SSI is an infection that occurs after surgery in the part of the body where the surgery took place. Overall risk of SSI is 2–5% out of more than 30 million patients undergoing surgical procedures each year. The Centers for Disease Control and Prevention (CDC) estimates that 22% of all health care associated infections are SSIs. In Iran, such infection comprises 17.4% compared with the 14% quoted in literature. Median SSI incidence was 3.7%, ranging from 0.1% to 50.4%. Incidence of overall SSI and *S. aureus* SSI were both highest in tumor related and transplant surgeries. In a study performed in Ethiopia, prevalence rate of post-surgical wound infections was reported to be 75% and 82% of these infections were multi drug resistant. In another study in Canada, 9% of the patients undergoing cesarean section (CS) experienced post surgical infections and the main cause of infectious complications (Ics) was reported to be under use of antibiotics. One study was done with purpose of assessment of the prevalence of post operation orthopedic wound infection in the orthopedic surgical ward of Motahari Hospital in Iran. Prevalence of orthopedic infection was 8.8%. Chi-square test showed significant correlation between SSI and days of hospitalization. In another study in Iran the rate of SSI of clean contaminated wounds was 53%. The most common gram positive microorganism was *Staphylococcus aureus* (22%) and among gram negative: *Escherichia coli* (26%), *Klebsiella sp.*, (26%) and *Pseudomonas sp.*, (25%). Significant correlation between the type of surgery and SSI was found, it was not seen with the sex and surgical procedure. Data from the United Kingdom quantify the impact of being overweight or obese on the risk of infection in knee and hip replacement, with elevation in SSI rates from 0.4% to 1%. These infections are associated with substantial morbidity and mortality, prolonged hospital stay and increased patient cost. Patients with SSI also utilized more healthcare resources, including out patient and emergency department visits, radiology and home health aids. They were also re-admitted more frequently. Approximately 8000 patient deaths are associated with these infections. However, healthcare costs for a patient with SSI are on average, approximately twice the amount of costs for a patient without a SSI. A CDC estimate from 2001 suggests that approximately 290,000 SSIs occur annually in the United States, resulting in \$1 billion to \$10 billion in direct and indirect medical costs. In addition, there were too few studies available to map economic consequences of SSI accurately. The studies were performed in hospitals in Europe (UK, Turkey, Spain, Switzerland and France), the USA, Asia (Taiwan and Thailand) and New Zealand. There was considerable variation between study methods in several respects. In various studies antibiotic prophylaxis reduce the SSI.

Biography

Zinat Mohebbi completed her PhD in Nursing from Shiraz University of Medical Sciences (SUMS) in Iran. She is the Faculty Member of SUMS and has the history of teaching for over 20 years. She published more than 50 papers in several journals and has been serving as an Editorial Board Member of *International Journal of Community Based Nursing and Midwifery*.

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