IGNAZ SEMMELWEIS – HAND WASHING PIONEER

Ignaz Philipp Semmelweis (July 1, 1818 – August 13, 1865) was the Hungarian – Austrian physician who demonstrated that puerperal fever (also known as “childbed fever”) was contagious and that its incidence could be drastically reduced by enforcing appropriate hand washing by medical care-givers. He made this discovery in 1847 while head of the Maternity Department of the Vienna Lying-in Hospital.

Discovery of the importance of hygiene: It was at the Vienna Hospital that Semmelweis began investigating the causes of puerperal fever, against the resistance of his superiors who believed it to be non-preventable. Semmelweis became the titular house officer of the first Obstetrical Clinic in July 1846, which had a neonatal mortality rate due to puerperal fever of 13.10%. This was a known fact and many women preferred to give birth to their children on the street than being brought there. The second Obstetrical Clinic had a mortality rate due to puerperal fever of only 2.03%, however; was located in the same hospital and used the same techniques, with the only difference being the individuals who worked there. The first was the teaching service for medical students, while the second had been selected in 1839 for the instruction of midwives.

The breakthrough for Ignaz Semmelweis occurred in 1847 with the death of his friend Jakob Kolletschka from an infection contracted after his finger was accidentally punctured with a knife while performing a postmortem examination. Kolletschka’s own autopsy showed a pathological situation similar to that of the women who were dying from puerperal fever. Semmelweis immediately proposed a connection between cadaveric contamination and puerperal fever and made a detailed study of the mortality statistics of both obstetrical clinics. He concluded that he and the students carried the infection particles on their hands from the autopsy room to the patients they examined in the first Obstetrical Clinic. Thus, Semmelweis concluded that some unknown “cadaveric material” caused childhood fever. He instituted a policy of using a solution of chlorinated lime for washing hands between autopsy work and the examination of patients and the mortality rate dropped from its then-current level of 12.24% to 2.38%, comparable to the Second Clinic.

During 1848 Ignaz Semmelweis widened the scope of his washing protocol to include all instruments coming in contact with patients in labor and he statistically documented success in virtually eliminating puerperal fever from the hospital ward. His hand and equipment washing protocols reduced the mortality rate from puerperal fever to 0.85% and his ideas were soon accepted throughout Hungary.

Only after Dr Semmelweis death was the germ theory of disease developed and he is now recognized as a pioneer of antiseptic policy and prevention of nosocomial infection.