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Infection Prevention Control (IPC), Hospital acquired infection (HAI) and Obstetrics practice

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ABSTRACT

Infection prevention and control program is important to prevent infectious morbidity. Simple method like hand washing to effective sterilization methods are recommended in clinical practice. Immunocompromised state of pregnancy and newborn are more vulnerable to acquire infection; and there is a real challenge from hospital acquired infection because of surgical nature of obstetric care.

Keywords: control, hospital-acquired, infection, prevention

INTRODUCTION

Ignaz Philipp Semmelweis (1818-1865), a Hungarian obstetrician, who pioneered antiseptic procedures is referred to as “savior of mothers”. He discovered that the incidence of puerperal fever (also known as "childbed fever") could be drastically reduced by requiring hand disinfection in obstetrical clinics in the mid-19th century. When the Doctors wards had 10% mortality, the midwives wards had only 4% mortality. Moreover, in those times many women gave birth in the streets and yet rarely suffered from puerperal fever. This puzzled Dr Semmelweis. A breakthrough occurred in 1847, following the death of his good friend, who had been accidentally poked with a student's scalpel while performing a post mortem examination. Autopsy of his friend showed a pathology similar to that of the women who were dying from puerperal fever. Semmelweis immediately proposed a connection between cadaveric contamination and puerperal fever. The germ theory of disease had not yet been accepted in Vienna. He concluded that some unknown “cadaverous material” caused childbed fever. He proposed the practice of washing hands with chlorinated lime solutions when the mortality in the doctors ward reduced by 90%. [1]

Almost 200 years later we are dealing with puerperal fever as well as other complications related to hospital acquired infections (HAI), however, the difference between then and now is that we know the cause, prevention and treatment of it. It is important to have a good

knowledge of infection prevention and control since prevention costs less, easily performed and prevents morbidity and mortality

for the patients. In a study done amongst obstetricians in USA showed that 69% felt gloves were unnecessary for each patient encounter and 50% considered universal gloving (UG) for patient care to be unnecessary while 16% remained unsure. [2]

Infection prevention and control (IPC) is a practical, evidence-based approach preventing patients and health workers from being harmed by avoidable infections. An HAI is an infection that is acquired by a patient during care delivery in a hospital or other health care facility that was not present or incubating on admission. HAIs are mostly caused by microorganisms resistant to one or more commonly used antibiotics. [3]

HAI determinants

The HAI determinants which are common in all settings are the following:

- Inappropriate use of invasive devices
- High risk diagnostic and therapeutic procedures
- Immunosuppression and other severe underlying illnesses
- Substandard practice of IPC policies.

Cases of HAI is higher in hospitals with limited resources. The HAI determinants in this settings are as follows:

- Poor water, sanitation, waste management and environment cleaning
- Insufficient equipment
- Understaffing as well as overcrowding
- Poor knowledge of all IPC measures including basic standard precautions
- Absence of local/national IPC guidelines, policies and programs.

Magnitude of HAI

Why do we need a strict IPC policy and why as health care providers do we need to implement it? Unless and until we know the burden of HAI, we overwork and busy clinicians tend to overlook the benefits and impact of IPC on the patients. According to WHO the key facts about HAI is alarming and are as follows:

- HAI frequency: On an average 1 in every 10 patients is affected by HAI worldwide. In hospitals out of every 100 patients 7 in developed and 10 in underdeveloped countries will acquire at least one HAI.
- Intensive care: In high income countries up to 30% of patients are affected by at least one HAI in Intensive care; in developing countries the frequency is at least 2-3 times higher
- Injection safety: 16 billion injections are administered every year worldwide, up to 70% of which are given with reused syringes and needles in some developing countries.
- Hand hygiene: On average, 61% of health workers do not adhere to recommended hand hygiene practices.
- Neonatal care: Among hospital born babies infections are responsible for 4-56% of all causes of death in neonatal period.
- Maternal care: In Africa up to 20% of women get a wound infection after cesarean section, affecting their health and ability to care their baby.

- AMR: Patients infected with methicillin resistant Staphylococcus aureus (MRSA) are about 50% more likely to die than those infected with non-resistant strains. [3]

IPC is unique in the field of patient safety and quality of care, as it is universally relevant to every health worker and patient, at every health care interaction. To learn about it and implement is our duty as clinicians.

CONCLUSION

Practicing infection prevention and control principles and getting aware of hospital acquired infections are cost-effective and simple form of intervention on knowledge and practice.

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