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ISSN 2321 - 6328

## Review Article

### IMPORTANCE OF INFECTION PREVENTION PRACTICES: A REVIEW

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Article Received on: 02/10/15 Accepted on: 04/12/15

**DOI: 10.7897/2321-6328.03665**

#### ABSTRACT

Infectious diseases are constantly in transition. New diseases emerge, known diseases become widespread or re-emerge and some diseases are eradicated. Over the past few decades, the world has seen increased outbreaks of diseases that were once better controlled or occurred rarely, such as plague, tuberculosis and the Ebola virus. Other known diseases, such as hepatitis B virus (HBV), have become increasingly common. New infectious agents that often cause incurable diseases; such as HIV and Hepatitis C Virus (HCV); those have also been identified and are becoming a significant cause of illness and death in many parts of the world.

**Keywords:** Prevention, Infectious diseases, Disease transmission cycle, Infection transmission

#### INTRODUCTION

Although we do not often think about it, healthcare facilities are potential settings for transmission of disease. A few of the reasons include the fact that routine procedures have the potential to introduce micro-organisms into parts of the body where they can cause infections; many times services are being provided to clients in a limited physical space, often during a short period of time; providers and other staff are constantly exposed to potentially infectious materials on a daily basis as part of their work; and many of the people seeking healthcare services are sick and may thus be more susceptible to infections or have infections that can be transmitted to others.

Hence in providing reproductive health services, it is important to prevent transmission of infections at all times<sup>1</sup>.

#### Why infection prevention practices are important?

Prevents post-procedure infection, including surgical wound infections and pelvic inflammatory disease (PID)<sup>2</sup>

Provide high-quality, safe services for greater client satisfaction.

Prevent infections in service providers and other clinic staff

Protect the community from infections that originate in healthcare facilities

Prevent the spread of antibiotic-resistant micro-organisms

Lower the costs of healthcare services.

While reducing the risk of all infections is important, of particular concern in the healthcare settings are infections that can't be treated. Examples of some of these infections include HIV, the virus that causes AIDS, and the hepatitis viruses.

#### Who is at risk?

Infection prevention has traditionally focused on preventing post-procedure infections in clients. With the emergence of HIV,

continuing problems with hepatitis B and the more recently identified hepatitis C and D viruses; the focus of infection prevention has shifted. Attention is now directed toward minimizing the risk of transmitting infections not only to clients, but also to service providers and support staff, including cleaning and housekeeping personnel, and to the community at large.

#### Clients

Clients are at risk of post-procedure infection when, for example, providers do not wash their hands between clients and procedures, adequately prepare clients prior to clinical procedures, or correctly process used instruments and other items.

#### Providers and facility staff

Providers and staff are at significant risk of infection because they are exposed to potentially infectious blood and other body fluids on a daily basis. Cleaning and housekeeping staff who process instruments and other items, clean up after procedures, clean operating theatres and procedure rooms and dispose of waste are particularly at risk. This is a serious situation in developed and developing countries.

Just as everyone who works at a healthcare facility is at risk of infection, every healthcare worker has a role to play in making infection prevention practices appropriate. The correct infection prevention practices can and should be adopted by every worker at the facility as they apply to his or her duties. In order for infection prevention to be as effective as possible, each staff member must do his or her part.

#### The community

The community is also at risk of infection, particularly from inappropriate disposal of medical waste. Improperly disposed of medical waste including contaminated dressings, tissues, needles, syringes and scalpel blades can be found by children or others

scavenging in open dumps, or can scatter on the ground where adults and children travel, putting them at risk of injury and infection. In addition, some infections can be spread by staff to their family members or others in the community.<sup>3</sup>

### The Disease Transmission Cycle

Micro-organisms live everywhere in our environment. Human beings normally carry them on their skin and in the upper respiratory, intestinal and genital tracts; these micro-organisms

are called normal flora. In addition, micro-organisms live in animals, plants, the soil, air and water. Some micro-organisms are more pathogenic than others, that is, they are more likely to cause disease. Given the right circumstances, however, all micro-organisms may cause infection<sup>4</sup>.

For bacteria, viruses and other infectious agents to successfully survive and spread within a community, certain factors or conditions must exist.

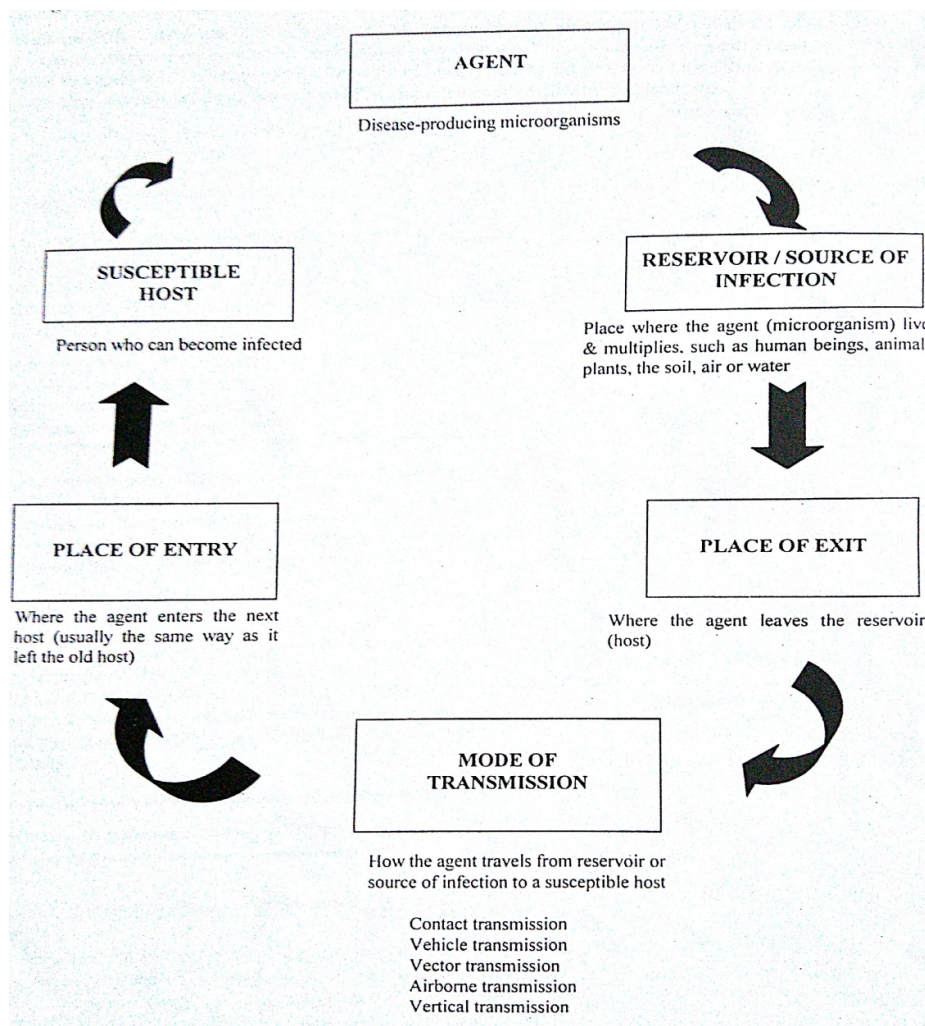


Figure 1: The Disease Transmission Cycle

**Infection transmission can occur between clients, staff and the community, as follows:**

#### Client-to-healthcare worker

It can occur through exposure to infected blood and other body fluids:

- When a healthcare worker's skin is pierced or cut by contaminated needles or sharp instruments.
- When splashed on mucous membrane of the healthcare worker (eyes, nose, or mouth)
- Through broken skin due to cuts, scratches, rash, acne, chapped skin, fungal infections.<sup>1</sup>

#### Client-to-client

This transmission occurs primarily via indirect routes such as when healthcare workers do not wash their hands and then carry infections from one client to another, or through the use of surgical instruments, needles, syringes and other equipment that have not been correctly decontaminated, cleaned and either sterilized or high-level disinfected between uses.<sup>1</sup>

#### Healthcare worker-to-client

Transmission of blood-borne infections such as HIV and the hepatitis viruses from healthcare workers to client is extremely rare, especially when appropriate infection prevention practices

are followed. Because this risk is so small, in most circumstances infected healthcare workers should not be prohibited from their regular activities based solely on their medical diagnoses.

#### Healthcare worker-to-family and on to the community

This transmission can occur by improper waste disposal, which puts members of the community in contact with contaminated

waste; by healthcare workers not washing their hands before leaving the facility and then touching family members or household items; by wearing infected clothing home from the facility; or by contracting infections and then spreading them to family members, who in turn spread them to other members of the community.<sup>5</sup>

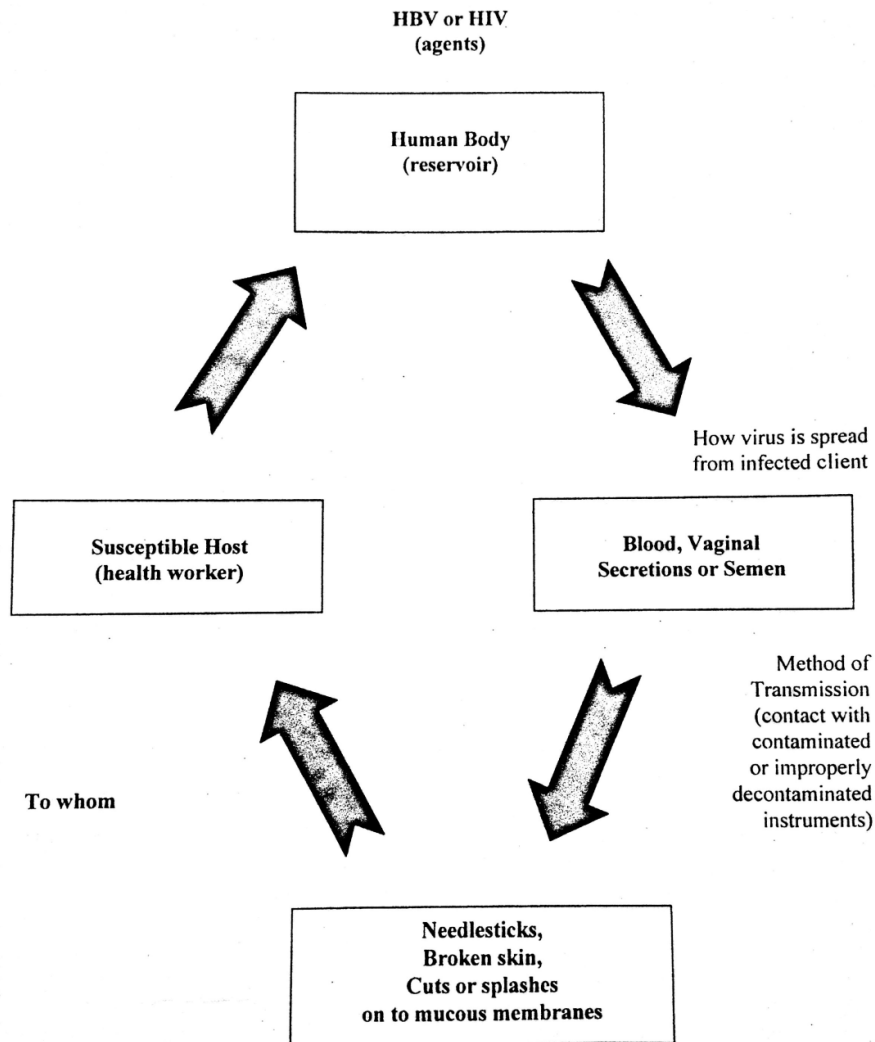


Figure 2: Transmission of HBV and HIV from Clients to Healthcare Workers

Figure 2 depicts the steps in the transmission of the hepatitis B (HBV) and AIDS (HIV) viruses. Spread of these viruses from client to health worker can occur when workers (surgeon, nurse or cleaning staff) are exposed to the blood or body fluids of an infected person.

#### Standard Precautions

- Wash your hands
- Wear gloves
- Wear eye protection and face shields/masks and caps.
- Wear gowns.
- Correctly process instruments and client care equipment.

- Maintain environmental cleanliness and waste-disposal practices.
- Handle, transport, and process used/soiled linens properly.
- Prevent injuries with sharps.<sup>6</sup>

#### CONCLUSION

Effective infection prevention practices do not require fancy expensive equipment or supplies. Misconceptions about disease transmission can influence how healthcare workers provide services to clients as well as how they conduct non-client care activities. Misconceptions may lead to denial of services to clients, increased risk of infection in client etc. The time to

institute effective infection prevention practices is now, so that if the life-threatening infections are not a problem, they do not become a problem.

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#### Cite this article as:

Richa Sharma. Importance of infection prevention practices: A review. *J Biol Sci Opin* 2015;3(6):299-302 <http://dx.doi.org/10.7897/2321-6328.03665>

Source of support: Nil; Conflict of interest: None Declared

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