

# Infection Prevention and Control

Krishna Mohan Mothukuru\*

Department of Bio-engineering, Birla Institute of Technology, Mesra, Ranchi, India

## ABSTRACT

Microbes world is so fascinating it is so fun to see the colours of them like rainbow moving in different shapes, but it is inevitable to eliminate them while they will wander around the environment and the survival of Man which evidence of COVID 19 outbreak.

The process of preventing the germs are critical, but the discovery of the best preventive solutions is made feasible by ascertain of professional will and the way we move towards the elimination of complex problems. Ensuring continuous employability, professional experience, medication and transparency, creativity that overlooks the problem lead to success.

**Keywords:** Infectious diseases; plague patients; yellow fever

## INTRODUCTION

Germs are just engendering in the unhygienic environment and they become endangering in the healthcare. That will aggravate the metabolism and wide spread by heedlessness of Human beings. The defective preventive measures and inferior disinfectants promote antibiotic resistance. Due to counter-attack of microbes health-care goals are going into vacuum.

## HEALTH CARE ASSOCIATED INFECTIONS

Millions of health-care associated infections acting worldwide every year. Hospital infection control program are almost universal in developed counties and significantly reduce the risk of getting HAIs by the mid 20th century. As we discuss the prevention of HAIs as well as ethical and logistic aspect of patient safety. It is particularly important to recall the historical context of HIC. Hospital climate creates cases of public health. And if we look at the past, the middle ages, the early modern age he progressive and post world war II during each period Hospital -related infectious diseases will be discussed and a strategic injection control agenda will be displayed. The selection of time periods is arbitrary but is designer to provide a representative over view of infections in Hospitals though the centuries.

Infectious diseases strongly impacted effect life in medical times. The bubonic plague killer one third of Europe between 1347 and 1350: Some towns abandoned after looking two third of the popular ion in a single year. Out break of 1471 killer 10 % of British population related but less server place lasted until 1650.

## WHAT IS AN COMMUNICABLE DISEASE

A communicable disease is one that is spread from one person to another through a variety of ways that include: contact with blood and bodily fluids; breathing in an airborne virus; or by being bitten by an insect.

Reporting of cases of communicable disease is important in the planning and evaluation of disease prevention and control programs, in the assurance of appropriate medical therapy, and in the detection of common-source outbreaks. California law mandates healthcare providers and laboratories to report over 80 diseases or conditions to their local health department. Some examples of the reportable communicable diseases include Hepatitis A, B and C, influenza, measles, and salmonella and other food borne illnesses.

## HOW DO THESE COMMUNICABLE DISESASE SPREAD

How these diseases spread depends on the specific disease or infectious agent. Some ways in which communicable diseases spread are by:

Physical contact with an infected person, such as through touch (staphylococcus), sexual intercourse (gonorrhea, HIV), fecal/oral transmission (hepatitis A), or droplets (influenza, TB) contact with a contaminated surface or object (Norwalk virus), food (salmonella, E. coli), blood (HIV, hepatitis B), or water (cholera);

Bites from insects or animals capable of transmitting the disease (mosquito: malaria and yellow fever; flea: plague); and travel through the air, such as tuberculosis or measles.

**Correspondence to:** M. Krishna Mohan, Department of Microbiology, Birla Institute of Technology .Mesra India.. E-mail: msrabha5433@gmail.com

**Received:** February 22, 2021, **Accepted:** March 08, 2021, **Published:** March 15, 2021

**Citation:** Krishna MM (2021) Infection prevention and control. J Infect Dis Prev Med. 9:216

**Copyright:** © 2021 Krishna MM. This is an open-access article distributed under the terms of the Creative Commons Attribution License, which permits unrestricted use, distribution, and reproduction in any medium, provided the original author and source are credited.

To control communicable diseases learn these healthy habits to protect yourself from disease and prevent germs and infectious diseases from spreading.

Handle Prepare Food Safely; Wash Hands Often; Clean Disinfect; Commonly Used Surfaces; Cough Sneeze Into Your Sleeve; Get Vaccinated; Don't Share Personal Items; Avoid Touching wild Wild Animals Cross infection

A cross infection is the transfer of harmful microorganisms, usually bacteria and viruses. The spread of infections can occur between people, pieces of equipment, or within the body.

These infections can cause many complications. So, medical professionals work hard to ensure equipment safety and a clean environment.

## TYPES OF CROSS INFECTION

The symptoms of a cross infection depend on the source of the infection. And also the part of the body that is infected. One of the first symptoms of a cross infection is a fever. This is the body's first course of action to help get rid of an infection

Cross infections can be caused by Bacteria, fungi parasites viruses

These microorganisms can be transmitted by

Unsterilized medical equipment Coughing and sneezing Human contact Touching contaminated objects

Prolonged use of catheters, tubes, or intravenous lines.

## Long Term Care(LTC) on Infection Prevention

Health care-associated infections account for as many as 380,000 deaths annually.<sup>1</sup> Additionally, infections increase health care costs and may result in hospitalization [2]. For these reasons, all staff in LTC facilities must work together to reduce infections and provide safe care for residents and a safe work environment for staff.

### LTC guide covers below four key areas

An overview of infections and infection prevention in LTC facilities.

A review of standard precautions and infection prevention basics.

Ways to implement transmission-based precautions and outbreak management.

Ways to engage all team members in infection prevention and control

## EVOLUTION HEALTH CARE

Investigating the evidence of mythical civilization, the oldest perspectives of humanity include longevity, disease, and death. From ancient times to the Renaissance, the knowledge of the living world has changed little but the cause of thousands of deaths is unknown. The advances in science in the 16th and 17th centuries led to radical changes in the medical sciences. The biological and medical sciences advanced at a great rate in the 19th century, which

Humans are endangering their lives by accidents but incidentally many times more casualties happening due to invisible enemy attacks. So that traditional disinfection methods do not work to combat this unknown. However, we need to work with teams like ours who are aware of the disorders

saw the true beginnings of modern science [1-4].

The term "longevity" was redefined in the first half of the 20th century by innovations in the field of medicine that increased the lifespan of mankind and changed the course of disease prevention after World War II. But we know from our survey that some developing countries are still lagging behind in the prevention of infection

The medical expert can't be revived the patient life but lives can be preserved by comprehensive principles of disease prevention

The mechanization has created vast inventions which enabled medical professionals to perform many complex surgical procedures, including heart transplants, by the principles of science, and the commitment of their profession has made them creators, but they can't resuscitate a person who died of infectious disease and can't destroy the path of the pathogen. An expert should believe that preserves the patient life can possible only through the adoption of perpetual remedial, and Infection prevention principles should also be considered as mechanization, through the mechanization of preventive hygiene makes comprehensive principles such as discovery, vigilance, dedication, practice, and execution are being invented that will contribute to creating germ-free environments.

## Hospitals in the medieval era

The first European hospitals were founded in the 12th century. According to religious orders, in the middle Ages, hospitals were called "spit houses" and provided care for the sick, mad and homeless. These hospitals are usually small and located outside the city, these hospitals are built in cemeteries, and some hospitals are built on waterways. In the 13th century, there were thousands of hospitals in Europe to isolate lepers, which were later transformed into "pest houses" to protect the plague patients.

In medieval times, hospitals were hazardous places, Epidemic infections killed large numbers of hospital patients during this period. Hospital infection and death rates were high. When a sick person entered a hospital, his or her property was disposed of, and in some regions, a requiem mass was held, as if he or she had already died.

In the middle ages, surgery was usually performed with barber-surgeons with primitive surgical instruments using no sepsis or anesthesia. Postoperative mortality rates are 60% - 80% common, with a number of deaths known as "hospital" (streptococcal) gangrene. Wound infection rates are also high due to unsanitary conditions and caterpillar use.

## Public Health in the Progressive Era

By the turn of the 20th century, life expectancy at birth was 45 years in the United States. The predominant infectious diseases were typhoid fever, malaria, yellow fever, typhus, smallpox, diphtheria, scarlet fever, measles, influenza, dysentery, cholera, and TB. In 1900, deaths from influenza and pneumonia ranked first (with TB second) among all causes of mortality.

Quarantine signs on homes signaled the presence of diphtheria, scarlet fever, smallpox, or meningitis.<sup>32</sup> New Orleans addressed yellow fever by quarantining ships and blowing sulfurous oxide into ships' holds. The city's last yellow fever epidemic occurred in 1905, with 1,900 cases and 298 deaths. The New Orleans Board of Health recommended layering kerosene on drinking water barrels to kill mosquito eggs.

Although this was a time of great advances in knowledge of infectious diseases, treatment for infections still consisted of enemas, topical rubs, and phlebotomy. Despite these practices, death rates from many common infections started falling in the 19th century.

### **Hospital infection controlled in the progressive era**

There has been great progress in the control of hospital infection during this period. Ignaz Semmelweis was the first hospital epidemiologist to provide a step-by-step analysis of the outbreak and to identify infections for a particular surgeon or practitioner, for example, without washing hands and going to the autopsy room. He saw 11 of 12 consecutive women die of puerperal (childbed) fever, and subsequently, all the providers who attend to the patients first they wash in a watery solution of chlorinated lime.

In 1900, the infection rate was lower than in 1800, but infections remained a significant problem in hospitals. TB, pneumonia, wound infections, and typhoid fever were common hospital infections, and dysentery, puerperal fever, wound gangrene, pyemia, influenza, and erysipelas were major killers. The hospital mortality rate in many London hospitals approached 10%. In the late 1800s, the mortality rate after surgery was as high as 25%, and the mortality rate for patients who underwent amputation was still >50% in many hospitals.

### **Innovative solutions continue to deliver sustainable health care**

Our formulations are Eco-friendly to the costumers with the help of world-leading advanced manufacturers in the field of infection prevention. We offer products that are approved by environmental protection agencies, so we can be the partner of choice for distributors as well as for our customers. Combined technologies and offerings offer customers innovative solutions in large and small molecules. QView is being a partner who can support the hygiene industry by rapidly bringing new, diverse products to the Market.

### **Conventional germicide practices can't ravage the microbial magnification**

Pathogens cannot be eliminated by conventional disinfection methods, because pathogens are genetically modified and are able to survive by harming their biological agents without succumbing

to involute chemicals. Ergo, we must perpetually practice science, innovation and apply involute principles. We believe that our team, with diverse perspectives, conceptions, and ingeniousness is able to eradicate the invisible enemies.

Humans are endangering their lives by accidents but incidentally many times more casualties happening due to invisible enemy attacks. So that traditional disinfection methods do not work to combat this unknown. However, we need to work with teams like ours who are aware of the disorders [5].

### **Continuous expansion of health care**

We have come up with a unique strategy and compete with world-renowned organizations on infection prevention and public health care. Our mission is to provide solutions that connect the various health departments, from the best products to hygiene, prevention, and personal care. We provide a comprehensive understanding of the needs of the consumer for the continuation of health care through infection control.

## **CONCLUSION**

In the infinite universe, water is the lifeblood, and in order for the water to be clean, the surroundings must be clean, to meet the needs of the environment and health care. Poor, middle class people are the most populous of the growing population in India, lack of awareness of personal and environmental hygiene and lack of resources are often being the cause of illness.

The key to health care facilities is promoting the need for complexes yet effective hygiene products to deal with a wide range of pathogens, including bacteria and viruses. We believe that the infection prevention products we offer are at the forefront of meeting the growing needs of healthcare.

## **REFERENCES**

1. Bjorg Marit Anderson, Author of nfection control &prevention
2. Baboy K Shaw and Bhaskar Sheboygan
3. Soul, Menikah&Malani, Author of Hand book on infection control
4. Den Patterson, MSN, RN, BC, CIC
5. Steven J Schepen, RN, MPH, MSN, CIC, HEM, FSHEA