Nurses Compliance Regarding Infection Control Protocol in Critical Care Units (Assessment Study)

Thesis

Submitted for Partial Fulfillment of Master Degree
in Pediatric Nursing

By

Amira Ahmed Eissa Mahmoud

(B.Sc. Nursing, 2012)
Faculty of Nursing/ Beni Swif University

Faculty of Nursing
Ain Shams University
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Supervised by

Prof. Dr. Eman Amin Mohamed

Professor of Pediatric Nursing
Faculty of Nursing/ Ain Shams University

Assist. Prof. Dr. Safaa Fouad Draz

Assistant Professor of Pediatric Nursing
Faculty of Nursing/ Ain Shams University

Faculty of Nursing
Ain Shams University
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Candidate name

✍. Amera Ahmed

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List of Abbreviations

Abb.	Full term
AAFP	American Academy of Family Physicians
AAHP	American Association of Health Plans
AAP	American Academy of Pediatrics
AHD	Alcohol-containing hand disinfection
AIDS	Acquireda Immune Deficiency Syndrome
AIIR	Airborne infection isolation room
BSI	Bloodstream infection
CCUs	Critical Care Units
CDC	Centers for Disease Control and Prevention
CFUs	Colony-foming-units
CLABS	Central Line Associated Bloodstream Infections
CPAP	Continuous positive airway pressure
CRBSI	Catheter-related bloodstream infection
CRE	Carpapenem resistant enterobacteriaceae
DAI	Device-associated infection
DRSP	Drug-resistant Streptococcus pneumonia
ED	Emergency department
ESBL	Extended spectrum beta-lactamases
ESS	Electronic surveillance software
ETT	Endo tracheal Tube
$H1N_1$	Influenz A virus (hemagglutin in neurminindase)
HCP	Healthcare personnel
HCV	Hepatitis C virus
HCWs	Health care workers
HH	Hand hygiene
HICPAC	Healthcare Infection Control Practices Advisory Committee
HSN	Healthcare Safety Network
ICNs	Infection Control nurses
ICT	Infection Control Team
ID	Infectious disease
INICC	International Infection Control Consortium

Abb.	Full term
IP	Infection prevention
IV	Intravenous
MDROs	Multidrug-resistant organisms
mmHg	Millimeter of hydrargyrm
MRSA	Methicillin resistant staphylococcus aureus
NCID	National Center for Infectious Diseases
NCIRD	National Center for Immunization and Respiratory Diseases
NGIC	National Guidelines for Infection Control
NGT	Nasogastric tube
NHSM	National Healthcare Safety Network
Nis	Infections
NNIS	National Infection Surveillance
NPO	Nothing per mouth
O_2	Oxygen
PPE	Personal protective equipment
PPM	Parts per million
PS	Pressure support
SPO_2	Saturation of blood oxygen
SSI	Surgical site infection
STDs	Sexually transmitted diseases
USA	United state of America
VRE	Vancomicine resistant enterocci
WBC	White blood cell count
WHO	World Health Organization

Defination of Terms

Antibodies	Protective protein produced by the immune system in response to the presence of a foreign substance, called an antigen
Bacteria	Single-celledmicroorganisms vary either normal inhabitants (normal flora); or pathogens that produce disease
Botulinum	Is neurotoxic protien producedby bacterium
Carrier	A child who is colonized but not sick
Colonization	Presence of a germ in or on body without disease.
Contagious	Able to spread the illness
Fungi	Molds and yeasts Fungi colonize (live on or in a child) and are pathogens
Guinea worm disease	A parasitic disease caused by infection with the guinea worm (Dracunculus medinensis)
Hospital-acquired infection	An infection caught while hospitalized
Host	The route of transmission of some infectious diseases to humans and animals
Incubation	Time between infection and symptoms
Infection	A germ causing an illness body will react by making antibodies
Intoxication	Illness due to a toxin made by a germ
Latent infection	A germ (most often a virus) in a resting state
Legionn air disease	Is a lung infection that translated by inhaling droplets of water from air
N95	Type of face mask with filter facepiece respiratory use with infected disease less than 5 microns in diameter
Normal flora	Bacteria that live on or in a child

Parasites	Forms range from single cells (amoeba, protozoa) to worms
Pathogen	A germ that can cause a disease
Prions	Infectious proteins. The smallest known infectious agents
Portal of entry	Is the site through which micro-organisms enter the susceptible host and cause disease/infection tracts.
Portal of exit	Is the site from where micro-organisms leave the host to enter another host and cause disease/infection.
Reactivation	The latent germ wakes up and reproduces
Reservoir	Any person, animal, plant, soil or substance in which an infectious agent normally lives and multiplies.
SARS	A sever respiratory disease that is caused by a coronavirus
Vector	Any agent who carries and transmits an infectious pathogen into another living organism
Vehicles	Indirect transmission of an infectious agent that occurswhen a vehicle (or fomite) touches a person's body or is ingested
Viruses	Very small. Viruses take over cells to reproduce themselves
Zoonotic disease	Diseases that can be passed from animals to humans.

Abstract

Background: Nurses compliance with infection control protocol in CCUs is very important to decrease morbidity and mortality of pediatric. **Aim:** This study aimed to assess nurses' compliance regarding infection control protocol in critical care units. **Research design:** A descriptive study was conducted to achieve the aim of this study**. Setting:** The study was carried out in pediatric critical care unit (intensive care units, emergency as well as medical and surgical department) at Eldemerdash Hospital in Ain Shams University and Fayoum University Hospital. **Subsujets:** convenient sample included 70 nurses who provide direct care for pediatric in the previous mentioned settings concerning their compliance to infection control protocol. **Tools:** Data collection inclue an âpre-désigne interviewions questionnaire skeet to asses knowledge of nurses and observation checklist was adopted from Guidelines of Ministry of Health to assess nurses' compliance with infection control protocol in CCUs. **Result:** There was 55.7% of nurses had unsatisfactory knowledge about method of infection transmission, in pediatric critical care units.There was 72% of nurses had competent practice regarding infection control. **Conclusion**: Nurses' compliance with standard precautions of infection control play an important role in preventing infection for all healthcare professionals, reduce infection and improve the pediatric safety. **Recommandations:** Continuous training the nursing staff to improve nurses' compliance towards infections control in critical care units.

Keywords: Compliance, Infection Control, Protocol, Critical Care Unit

Introduction

Infections are the most frequent complications affecting pediatric in healthcare facilities especially in critical care units. Infection Control Protocolwas designed to decrease the occurance of infection in the hospitals and was devolped to suit work nature in CCUs, Which in return can reduce the incidence of infections **(Escobar, et al., 2014).**

Infection was defined by the Center for Disease Control and Infection (CDC) and National Healthcare Safety Network (NHSN) as a localized or systemic condition resulted from an adverse reaction to the presence of an infectious agents or its toxins that occurs during a hospital admission 48 hours or more after hospital admission or within 30 days after discharge for which there is no evidence that the infection was present or incubating at admission, and meets body site specific criteria **(Kalantarzadeh, et al., 2014).**

The problems of infection and the ways to prevent them are influenced by factors such as employing aggressive methods, repeated changes in medical and surgical methods, changes in medical compounds, antibiotic treatment and formation of resistant micro-organisms. Hospital personnel,

especially the nurses who play an important role in spreading the infection and they are considered as key members of managing and controlling the hospital infections; therefore, nurses must have correct, up-to-date and appropriate scientific information regarding varieties of hospital infections, their effects on patients and increased hospital costs, recognition of people at risk and also the criteria to prevent and control infection **(Cheraghi, et al., 2011).**

The prevention of transmission between patients and to personnel requires that certain measures be taken with all patients, and that additional precautions be taken with some infections, based on the route of transmission. The prevention of transmission from personnel involves ensuring that personnel are appropriately immunized and counseled about working with infections. The prevention of infection also involves control of visitors, appropriate management of invasive procedures and devices, sterilization and disinfection of equipment, provision of a clean environment and adequate staffing **(Ministry of Health and population, 2016).**

Infection control protocol has great impact on the administrative, medical, legal, economic, ethical and social dimensions of critical care where medical and ethical