

**Assessing The Nursing Performance Related
To Prevention Of Communicable Disease
Among Children Under Five Years**

Master Thesis
In Nursing science
Community Health Nursing

BY

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B.Sc. Nursing

(2010)

Faculty of Nursing
Ain Shams University

2018

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Acknowledgement

*First and foremost, thanks are submitted to **Allah** who gave me the strength and ability to complete this study, the most kind and the most merciful.*

*I would like to express my deepest gratitude and appreciation to **Prof. Dr. Nawal Mahmoud Soliman** Professor of Community Health Nursing, Faculty of Nursing –Ain Shams University, for her fruitful criticism, patience, continuous guidance and valuable advice in every step throughout this work. I'm indebted to her valuable consultation and direction.*

*I wish to express my deep gratitude and appreciation to **Dr. Ferial Fouad Melika** Assistant professor of Community Health Nursing, Faculty of Nursing –Ain Shams University, for her help, guidance, supervision and continuous support which is deeply appreciated.*

*I could never forget to offer my special thanks to **all nurses** who participated in the study as their cooperation was of great value to accomplish this study.*

*Finally, I would like to express my thanks to **my family and my Wife and my Children and My Best Friend Shimaa Gmala and My Colleagues** for their love, support and encouragement.*

 *Mohamed El-Sayed Abd El-Hamid*



أَعُوذُ بِاللَّهِ مِنَ الشَّيْطَانِ الرَّجِيمِ

بِسْمِ اللَّهِ الرَّحْمَنِ الرَّحِيمِ

قَالُوا سُبْحَانَكَ لَا عِلْمَ لَنَا إِلَّا مَا عَلَّمْتَنَا

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صَدَقَ اللَّهُ الْعَظِيمُ

سُورَةُ الْبَقَرَةِ

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Abstract

Assessing The Nursing Performance Related To Prevention Of Communicable Disease Among Children Under Five Years

By

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Background: children are susceptible to a variety of communicable diseases and illnesses. They can catch diseases and illnesses by interacting with other children and staff, and by eating contaminated food. **Aim of this study:** to assess the nursing performance related to prevention of communicable disease among children under five years **Research design:** Descriptive research design was used in the study. **Setting:** The study was conducted at the maternal and child health care centers and primary health care units in Qalyubia governorate. **Sample:** Multi-stage random sampling technique was used (116 nurses) .**Tools of data collection:** Two tools will be used in the study. **First Tool:** Self-administered questionnaire to assess socio-demographic characteristics and knowledge of nurses **Second Tool:** 6 observational checklists about vaccination, hand washing, intradermal, intramuscular, subcutaneous, health education procedure. **Results:** There were (84.5%) of nurses were graduated of technical secondary school of nursing , 62% of nurses had unsatisfactory knowledge. 93% of of nurses had inadequate level of performance, There was significant statistical relation between total knowledge of nurses and their educational level, there were highly significant statistical relations between the performance of nurses and their educational level and years of experience in this field, There was a highly significant relation between total nurses' knowledge and their total performance, all of nurses mentioned that the factors affecting nursing performance were lack of an equipped room to conduct health education sessions for mothers and lack of infection control supplies. **Conclusion:** Presence of a strong negative statistically significant correlation between the total scores of nurse's performance and factors affecting their performance related to lack of mother's response to health education about modifying bad health habits. **Recommendation:** Continuous supervision and evaluation for nurses concerned with child health care is required to determine the defect related to their knowledge or practice.

Key words: Nursing - Performance - Communicable Disease - Children Under Five Years

Introduction

Under five children, not only constitute a large group but they are also vulnerable or high risk group. The risk is connected with growth, development and survival. First five years are full of health hazards. Since they are high risk group, under five children are exposed to many environmental factors leading to diseases in children. Pneumonia and diarrhea are the leading causes of death among children under 5 years of age around the world (**Black Et al 2015**).

The first five years of a child's life is a golden period for their development, fostering their future learning skills and social and emotional abilities due to rapid gains in physical and cognitive growth and development (**Gertler Et al 2014**).

All countries performed well for prevention of infectious diseases causing child mortality. However, the progress in cause-specific under-5 mortality (U5M) varied from country to country in 2015. Progress for pneumonia related deaths was not appreciable as compared to that of diarrhea or other causes (**Cha Et al 2016**).

In Sub-Saharan Africa 1 out of 12 children dies before their 5th birthday, in South Asia 1 out of 19 and in high income countries 1 out of 147. In 2015, 6 million child deaths occurred

out of which 30% happened in South Asian countries. From every 10 child deaths worldwide, three happen in South Asia (**UNICEF, 2015**).

Communicable diseases (CD) such as, pneumonia, diarrheal diseases and malaria are major causes of childhood morbidity and mortality world-wide which have account for 41% of annual death globally and 49% out of them in Africa (**WHO, 2012**), The State of the World's Children 2012 report showed that globally, 7.6 million children under 5 years of age die annually and 3.7 million deaths out of them occur in Sub-Saharan Africa (**UNICEF, 2015**).

The world made substantial progress in reducing child mortality in the past few decades. Globally, the under-five mortality rate dropped from 93 deaths per 1,000 live births in 1990 to 41 in 2016. Progress in reducing child mortality has been accelerated in the 2000–2016 period compared with the 1990s – globally, the annual rate of reduction in the under-five mortality (U5M) rate has increased from 1.9 percent in 1990–2000 to 4.0 per cent in 2000–2016. The remarkable progress in improving child survival since 2000 has saved the lives of 50 million children under age 5 – children who would have died had under-five mortality remained at the same level as in 2000 in each

country (**United Nations Inter-Agency Group for Mortality Estimation UNIGME 2017**).

Several studies in Africa reported communicable diseases (CD) as the leading causes of childhood death (**Olumide et al., 2012**).

The bulk of childhood morbidity and mortality affect mainly children under 5 years of age, these diseases can be prevented, and the treatment is accessible and affordable, (**WHO, 2013**).

A communicable disease (CD) is a clinically manifest disease of humans or animals due to a specific infectious agent or its toxic products, that arises through transmission of that agent or its products from an infected person, animal or inanimate source to a susceptible host; either directly or indirectly through an intermediate plant or animal host, vector or the inanimate environment (**Helferty Et al 2013**).

Traditionally, community health nurses (CHN) were viewed as the individuals who detected disease in the community, and the people who applied bandages and cared for ill or injured child. Although these functions remain important parts of the public nurse's job, the role of the nurse has expanded considerably in recent years. Today, public health nurse (PHN) manages and coordinates all the care required by

healthy children and children with special health care needs. In many settings, community health services have enlarged into family health centers that meet the needs of not only children, but also their families and the community (**Black 2016**).

The community, family, and individual have a right to essential health care, Essential health care is accessible, affordable, comprehensive, coordinated, participatory, and culturally appropriate and Nurses in the community have a unique role in contributing to the health of the population. They fulfill this role by working toward the goal of health for all and by providing access to services (**Christopher Et al 2011**)

Significance of the study:

The United Nations (Interagency estimate for Egypt's under 5 mortality rate (U5MR) was 29,2 /1000 live births (LB) in 2012 (**Helmy 2011 and WHO 2015**)

Egypt's under five mortality (U5M) rate was 23/1000 live births in 2018 (**Akseer Et al 2018**)

The Global Strategy for Women's, Children's and Adolescents' Health (2016-2030) was launched in September 2015 to reduce under-5 mortality to at least as low as 25 per 1000 live births, respectively; ending major global epidemics (HIV, tuberculosis and malaria); meeting needs such as Essential Reproductive, Maternal, Newborn, Child and Adolescent Health (**RMNCAH**)

services coverage, adequate nutrition, clean water and environments; and achieving far-reaching targets such as ending extreme poverty (**Economic&Council 2016**).

Since 2000, the Egyptian Ministry of Health and Population (MOHP) has reported coverage for all childhood immunizations to be >95%) ,Due to the success of the immunization program, Egypt has successfully eliminated 2 vaccine - preventable diseases, poliomyelitis since 2005 and neonatal tetanus since 2007 (**WHO 2011 and UNICEF 2011**) .

The MOHP expanded program on immunization successfully introduced new vaccines for hepatitis B and switched from trivalent oral poliovirus vaccine to bivalent oral poliovirus vaccine at the national level. Coverage for new vaccines since the introduction of pentavalent to routine immunization reached 97 per cent in 2017, up from 0 per cent coverage in 2013 and exceeding the target of 90 per cent (**Hanson Et al 2018**).

Aim of the Study

The aim of this study to assess the nursing performance related to prevention of communicable disease (CD) among children **under five years:**

1. Assessing knowledge of community health nurses (CHN) regarding prevention of communicable disease (CD) for children under five years.
2. Assessing performance of community health nurses (CHN) regarding prevention of communicable disease (CD) for children under five years.
3. Assessing factors affecting community health nurses (CHN) in prevention of communicable disease (CD) for children under five years.

Research questions:

1. Are there relation between knowledge of community health nurses (CHN) regarding prevention of communicable disease (CD) for children under five years and their socio-demographic characteristics?
2. Are there relation between performance of community health nurses (CHN) regarding prevention of communicable disease (CD) for children under five years and their socio-demographic characteristics?
3. What are the factors affecting knowledge and performance of community health nurses (CHN) regarding prevention of communicable disease (CD) for children under five years?

Part I

Children under five years old

Early childhood is a time of rapid development in body systems that are critical to health, including the brain, nervous, endocrine, and immune systems. These systems are under construction even before birth, and, from the earliest moments of life, a child's experiences and environments exert powerful influences on his or her development and subsequent functioning (**Miller Et al 2011**).

Social, cultural, and economic determinants of health shape the context of early experiences and environments and are particularly salient in early childhood when the roots of life-long health and development are being established. Poorly constructed systems have an impact on health in early life, and these effects may be magnified as children grow into adulthood. Establishing strong systems in early childhood by meeting the foundational needs of all children may avoid costly and less effective solutions required to redress disease later in life (**Miller Et al 2011**).

According to statistics of child mortality in 2015 by World Health Organization (WHO), in European region child mortality rate are 11 deaths per 1000 live births in contrast to

100 deaths per 1000 live births in WHO African region making it seven times higher than Europe (**WHO 2015**).

Children are continually changing physically, mentally, socially, emotionally, and spiritually. They follow a general pattern of growth and development, Child health markers are strongly influenced by living conditions. (**David 2015**).

Nutrition, housing conditions, purchasing power, education and availability to health services are fundamental components in the environment in which children live (**Dos Santos Ferreira Et al 2018**).

Small children have habits that facilitate the dissemination of diseases, such as putting their hands and objects in their mouths; very close interpersonal contact, fecal incontinence during the phase prior to the acquisition of sphincter muscle control, the absence of the habit of hand washing and other hygienic practices and the need for constant direct physical contact with adults (**Eisenberg Et al 2012**).

Furthermore, they also exhibit factors specific to their age such as an immature immune system. Infants are especially susceptible, since they do not yet have immunity to the most common infectious agents due to a lack of previous exposure. They may also even be susceptible to those agents for whom vaccines already exist, because they are under the age at which

vaccination is indicated or because vaccination has been neglected (**Ramezani Et al 2015**).

In the first 5 years of life, the main causes of death are pneumonia, diarrhea. Malnutrition is the underlying contributing factor, making children more vulnerable to severe diseases; Substantial global progress has been made in reducing child deaths since 1990. The total number of under-5 deaths worldwide has declined from 12.6 million in 1990 to 5.6 million in 2016 – 15 000 every day compared with 35 000 in 1990. Since 1990, the global under-5 mortality rate has dropped 56%, from 93 deaths per 1 000 live births in 1990 to 41 in 2016 (<http://www.who.int/news-room/fact-sheets/detail/children-reducing-mortality> 31/7/2016 at 10:00 am).

Many studies have shown how the various socio demographic, socio-economic and household environmental risk factors affect children with diarrhea under the age of five in developing countries especially in Africa, It seems that maternal education level is an important factor related to the diarrhea prevalence of children under the age of five, for example, (**Yilgwan Et al 2012**) showed that maternal education bore a significant impact on diarrheal morbidity. Other researches had shown that the age of child is a risk factor for diarrhea since the incidence of diarrhea was inversely proportional to age and the most vul-

nerable age group for diarrhea among children was less than two years (**Joshi Et al 2011**)

Pregnancy during the adolescent and older age (>45) are harmful for the child and mother. Studies have reported that the first-time mothers of age 27 or more can have child with increased risk for stunting, diarrhea and anemia (**Finlay Et al 2011**).

Predominantly six conditions are responsible for more than 70% of the under-5 mortality worldwide: “pneumonia (19%), diarrhea (18%), malaria (8%), measles, (4%), Human immunodeficiency virus / Acquired Immunodeficiency Syndrome (HIV/AIDS) (3%), and neonatal issues such as birth asphyxia, pre-term birth, and infections (37%)”. HIV/AIDS is also becoming one of the prominent causes for infant deaths in Sub-Saharan Africa. Malnutrition also majorly accounts for the neonatal deaths (**WHO 2011**).

Globally 16000 children die every single day with 11 deaths occurring each minute (**WHO 2017**).

Under five years aged child faces many health problems (e.g., physical, psychological and social problems), such as increased susceptibility to upper respiratory tract infections, inadequate peer relationships, learning disorders, respiratory and gastrointestinal problems, etc. moreover, Egyptian Under five