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**Effectiveness of Reinforcement Educational Program Regarding the
Integrated Management of Childhood Illnesses upon Nurses
Knowledge and Practices**

A Dissertation Submitted By

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to

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Philosophy*

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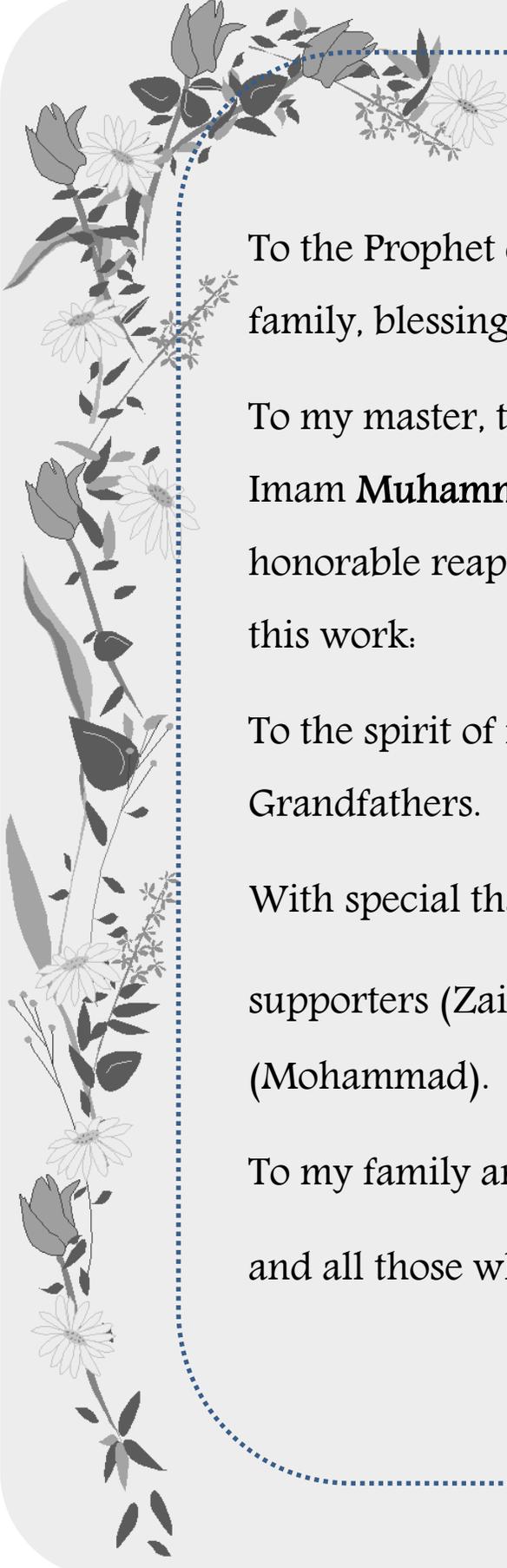
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Dedication

To the Prophet of mercy, **Muhammad** and his pure family, blessings of God be upon them

To my master, the present, the absent, Al-Muntadhar Imam **Muhammad Al-Mahdi**, may God hasten his honorable reappearance with great respect I dedicate this work.

To the spirit of my Mother, Father, Grandmothers and Grandfathers.

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Abstract

Integrated management of childhood illnesses is guideline built up by the WHO in 1992 to improve the assessment, classification, and case management of the common causes of death among children under the age of five.

A quasi-experimental study design was carried out to achieve the objectives of the present study by the application of pre-test and post-test approach for both study and control group for nurses working in Integrated management of childhood illnesses units from 20th September 2020 to 25th May 2022.

A non-probability sample (convenience sample) consisted of (60) participants working in Holy Karbala health department was selected to implement the reinforcement educational program regarding integrated management of childhood illnesses and measuring the program effectiveness on nurses knowledge and practices and also find out the relationship between the nurses' knowledge and practices and their demographic data, the sample divided into study group (30) and control group (30) working in Integrated management of childhood illnesses units.

Data were collected through the constructed questionnaire which consisted of three parts, part one: socio-demographic and personal characteristics data which comprised of (9) items, part two: nurses knowledge regarding Integrated management of childhood illnesses which comprised of (25) items and part three: practices of nurses regarding Integrated management of childhood illnesses which comprised of (35) items.

The results of the study showed that there is significant statistical differences between nurses' knowledge and practices pre-test and post-test implementation of the program with percentage change of (21.8%) and (24.4%),

respectively. The improvement in knowledge score after implementation of reinforced education program was significantly and inversely correlated with age of nurses and educational achievement, males get more benefit from program than females, years of employment was significantly associated with change in the knowledge levels of participants. Regarding association with change in practice scores after implementation of reinforcement educational program, age, gender and years of employment showed significant effect on the change in practice scores after reinforcement education program in the study group, r value was (-0.781), (0.488) and (0.570), respectively, P. value <0.05.

The study concluded that there was significant improvement appear clearly among the study group member after implementation of reinforcement education program through the result of their pre-test and post-test.

The study recommended increase training courses and follow up visits after training for nurses working in Integrated management of childhood illnesses units to reinforce knowledge and practices.

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List of Abbreviations

	Abbreviation
AIDS	Acquired Immune Deficiency Syndrome
ALRI	Acute Lower Respiratory Tract Infections
BMI	Body Mass Index
CHN	Community Health Nurses
CHWs	Community Health Workers
COVID-19	Corona Virus Disease -19
DiD	Difference-In-Differences
dIMCI	Distance Learning IMCI
HIV	Human Immunodeficiency Virus
ICATT	IMCI Computerized Adaptation and Training Tool
ICMT	IMCI Case Management Training Course
IMCI	Integrated Management of Childhood Illnesses
MDG4	Millennium Development Goal 4
MR	Mortality Rate
MUAC	Mid Upper Arm Circumference
ORS	Oral Rehydration Solution
PHC	Primary Health Care
PHCCs	Primary Health Care Centers
SPSS	Statistical Package for Social Sciences
UNICEF	United Nations International Children's Emergency Fund
USAID	United States Agency for International Development
WHO	World Health Organization

Chapter One

Introduction

Introduction

1.1. Introduction

Integrated management of childhood illnesses (IMCI) is a number of guidelines build up by the World Health Organization (WHO) in 1992 to improve the recognition, diagnose, classification, and the individual management of the common causes of death among children under the age of five. This approach is used in outpatient clinical settings with restricted diagnostic and therapeutic tools. Most of these diseases can be prevented or easily treated using appropriate interventions; they are diarrhea, pneumonia, malaria, meningitis, anemia, malnutrition, and AIDS/HIV (Jibo *et al.*, 2014).

Integrated management of childhood illnesses is the process of caring for all sick children aged under five year that combines preventive, promotive and curative actions for leading causes of child deaths (Zulaikha & Triasih 2018).

By 1995, the United Nations International Children's Emergency Fund (UNICEF) and (WHO) aimed to reduce the mortality rate. So they cooperatively launched a global strategy for IMCI to end preventable child deaths. Poor health outcomes are caused by a combination of poor nutritional status, insufficient health infrastructure, and poverty. The projected yearly number of mortality among children aged 5 years fell by more than 59a % between 1990 and 2011. This decline, on the other hand, is inconsistent. Furthermore, the rates of childhood mortality are rising in several nations. More than 50 nations had childhood death rates of more than 100 per 1000 live births in 1998 (WHO, 2013a).

The development of the IMCI strategy was based on three main components, improving the performance of health care providers starting from the primary health care level (PHC) to the referral level, enhancing the performance and management structure of the health system and strengthening family and community practices (Carai *et al.*, 2019).

According to IMCI strategy, providing high-quality care to children is a significant task. In response to this issue, WHO/UNICEF created an IMCI approach that included evidence-based assessment and treatment of the primary causes of childhood diseases, including diarrhea, pneumonia, malaria, and malnutrition, as well as increasing caregiver awareness about home care practices (Yasin *et al.*, 2016).

The Integrated management of childhood illnesses plan is implemented in Iraq since 1998, with the goal of addressing the leading causes of under-five mortality and morbidity through a comprehensive approach aligned with primary health care policy. The planning time for IMCI implementation (1998-2004) was inadequate, and it varied until the second part of 2004. The start of the year 2005 was deemed the official date of the launch (Sharhan & Ali Ma'ala, 2021).

More rational drug usage, higher attendance (one assessment study in Tanzania found a 20% increase in attendance), improved provider morale, and improved mothers' evaluations of care quality appear to be among the advantages of training. In Uganda, an assessment study found that service providers who had been educated through the program shared their knowledge and abilities with other employees, including vaccination

programs. Despite issues with medicine availability, children's weighing improved from 5% to 85% following training, and the usage of first-line medications increased, because their abilities and diseases classification had increased, service providers felt more assured (Silali, 2014).

Developing countries suffer from more than 12 million child death before they reach the age of five year, the majority of them die in their first year. Seven out of ten of these deaths are caused by one of five diseases: diarrhoea, acute respiratory infections (including pneumonia), malnutrition, malaria and management of critically ill children are among the illnesses that are managed from the time a child is one week old to five years old. Based on analyses conducted in 1996, according to the global burden of illness, these disorders are expected to continue to be significant contributors to under-five mortality by 2020, unless considerable further efforts are undertaken to reduce these causes. Daily, more than millions of caretakers bring their children to primary health centers, outpatient departments, clinics, hospital, or any first-level health facility, with potentially fatal diseases. One of these five diseases is responsible for three out of every four bouts of childhood illnesses in some countries. The majority of ill children have signs and symptoms that are linked to several illnesses (Adekanye & Odetola, 2014).

Nearly the health worker case management guidelines for assessing and treating sick children, providing preventive care, and counseling caregivers. Recognizing that many health professionals have little pre-service training and that unwell children frequently arrive with overlapping and undifferentiated symptoms, IMCI health worker training offers a short-course, syndrome-based approach to diagnosing and managing diseases.

Accelerating health worker competency development is critical, since both the density of health workers and the quality of treatment are independent determinants of child survival (Nguyen et al., 2013).

It is originally predicted that viable and inexpensive treatments may save over 60% of global child mortality, and their effective implementation is crucial for reaching the Millennium Development Goal of child survival. Case management training provided by IMCI equips nurses with the ability to manage children with a variety of diseases, identify those who require immediate referral, administer appropriate medications, and offer important information to child caretakers (Horwood et al., 2009).

Training of nurses in management of IMCI cases will provide the knowledge and skills needed to provide health services to healthy children for follow up and children suffering from range of diseases and case management, refer ill children who need urgent referral, prescribe and administer appropriate treatments such as oral rehydration solution (ORS) and especially antibiotics available in the health centers such as penicillin, co-trimoxazole, amoxicillin, and erythromycin, and providing child caregivers with information about treatment and follow up visits. Implementation of IMCI demonstrated progress in the quality of care provided for sick children (Al-Nuaimie & Saleemm, 2019).

The knowledge and skills acquired by training are key drivers of human resource performance, additional factors such as public health perceptions and motivation, community attitudes, and environmental conditions in health facilities also impact performance (Rowe *et al.*, 2012).

Integrated management of childhood illnesses training programs can be Implemented in various ways to prepare nurses such as pre-service learning, distance learning and in-service training. IMCI pre-service learning is a process that introduces the nurses and medical students the application of IMCI in communities and clinics before they plunge in the direct health care services (Hayati *et al.*, 2017).

The basic IMCI in-service training is an 11-day course for health professionals working in first-level health institutions such as hospital and health center outpatient services, health posts, dispensaries, and clinics. Doctors, medical assistants, nurses, health assistants, midwives, and other paramedical health workers who treat ill children are also eligible for training in service training implemented according to the regional need through the seven training modules of IMCI case management principles, contain written activities, and provide forms and directions for group discussions, video demonstrations, and role plays. The case management training materials must be updated to comply with national IMCI requirements. For adjusting these training materials to the national context, the IMCI adaptation guide should be available (WHO, 2010).

The Integrated management of childhood illnesses training courses were originally 11 days long, but in a number of countries and locations, they have been condensed to seven or eight days. (Sharhan & Ma'ala, 2021).

1.2. Importance of the study

Every year, more than 7.5 million children under the age of five die throughout the world. The majority of these deaths occur in low- and middle-income countries where the combination of common diseases (such as neonatal sepsis, measles, diarrhea, and pneumonia) results in mortality (Liu *et al.*, 2016).

The Ministry of Health (MoH) in collaboration with the WHO, revived the process with the United States Agency for International Development (USAID) initiative scaling up IMCI training as part of the work to equip newly established primary healthcare centers (PHCCs) with health professionals at the start of 2005 (Hussein & Farhood, 2019).

It is well known that IMCI will only improve the health and survival of children under five if training efforts are accompanied by effective steps to provide health services and connect with children under five and caregivers in community-based health services. The most commonly adopted component is increasing nurses skills and (98%) of the 94 countries that responded said they have adopted it (WHO, 2017 a).

The provision of effective evidence-based preventative and curative treatments is a key component of the IMCI program, for instance, antibiotics for pneumonia, Oral Rehydration Solution (ORS) during diarrhea, neonatal infection treatment, and enhancing of optimal infant and young child feeding. So, it appears logical that this approach should decline of the child death rate. One of the first countries implemented IMCI on national level was Egypt . An Egyptian retrospective analysis study for national data revealed that there is

significant association between implementation of IMCI and decreasing in under five mortality rate for less than half (Aneja, 2019).

Recent research has shown that the IMCI protocol is beneficial at raising the standard of nursing care provided to children under the age of five. Over the course of two years, a review of the IMCI strategy for more than twelve countries indicated the training of nurses improved the quality of treatment, reduced under-five mortality about 13%, as well as increased utilization of government health facilities over its two years implementation (Rakha *et al.*, 2013).

In 2005, more than 5.8 million children died worldwide before their fifth year of life, according to the WHO report, indicated that newborn period is most effective and vital period for keeping children alive, and deaths can be prevented, often deaths occur in economically low countries (Abu-Shaheen, *et al.*, 2019).

The IMCI approach has been used in Iraq since 1998; however, neither local nor foreign researchers have paid attention to its development (Al-Samarrai & Jadoo, 2018).

Between 2006 and 2012, the expansion phase demonstrated the development of IMCI implementation in Iraq. A group of Iraqi doctors participated in an 11-day training session. Over the course of six years, from 2006 to 2012, The number of provinces that have implemented the IMCI program has quadrupled since 2012 (Sharhan & Ma'ala, 2021).

During the same period, the percentage of health institutions that adopted the IMCI program grew from 0.9 percent to 77.3 percent, and the number of IMCI-trained caregivers increased from 189 in 2006 to over 5268 in 2012. From 5 in 2006 to 90 in 2012, the number of new IMCI-training courses has grown. However, there have been relatively few evaluations of this program (WHO, 2015).

It is important to note that IMCI training was provided to a wide range of healthcare workers. Most were intermediate-level medical or nursing assistants from various categories with more than 18-36 months of training in African countries. According to a recent study, IMCI training improve the performance of healthcare workers at all levels, including qualified physicians. Nurses trained in IMCI performed as well as or better than doctors trained in IMCI in Brazil (Amaral & Victora 2008).

Over 5000 districts (>37 % districts) of the six WHO regions and 113 countries implement in service IMCI case management training which recommended to take place over 11 days, with facilitator : participants ratio 1:4, and the time of clinical practice should be at least (30%) of the IMCI case management training course (ICMT). The majority of countries kept adapting course materials to their respective disease burdens. All nations provide 3- to 10-day ICMT courses, with 5–8 days being the most typical length. The comprised ICMT courses include more homework, less individual feedback, fewer exercises and (30 %) lower clinical practice. (Goga *et al.*, 2009).

All integrated management of childhood illnesses-trained healthcare professionals should receive minimum one follow up visit at their healthcare

institution for reinforcing their skills and address implementation concerns after their training. Children under the age of five years old who were assessed by IMCI - trained caregivers were considerably more likely to get the appropriate therapy. Despite the fact that medical consultations at the IMCI facility take a longer time, they have shown to be more efficient and less expensive than basic health care at other facilities (Al-Samarrai & Jadoo 2018).

Iraq is one of the countries that witnessed a very high mortality rate in infants due to health problems and bad environmental conditions as a result of policies, wars and the economic blockade in 1990 which continued until 2003 after the American invasion. Wars and political instability that led to deteriorating and increase the death rates among children under the age of five. Kerbala is one of the provinces Iraq, populated about 1250806, in the province were monitored in 2019 the number of deaths of children under-fives reached (957) deaths. Therefore, it is necessary to conduct scientific studies on this issue to enable health authorities to find an appropriate mortality reduction strategy (Ashoor, *et al.*, 2019).

1.3. Statement of the problem

Effectiveness of Reinforcement Educational Program Regarding the Integrated Management of Childhood Illnesses upon Nurses Knowledge and Practices in Holy Karbala Governorate.

1.4. Objectives of the Study are to:

1. Assess the knowledge and practices needs of the nurses related to the integrated management of child illness.
2. Assess the nurses knowledge and practices regarding the integrated management of child illness as pre-test.
3. Construct and apply an education program for the nurses regarding the integrated management of child illness.
4. Determine the effectiveness of reinforcement educational program on nurses knowledge and practices on the study group.
5. Find out the relationship between the sample level of knowledge and practices at pre- and post- program test and some their sociodemographic variables such as age, gender, educational achievement, years of employment, and years of experience in integrated management of childhood illnesses.

1.5. Definitions of Terms**1.5.1. Effectiveness****A. Theoretical Definition**

It is a measure of output from those health services that contribute towards reducing the dimension of a problem or improving an unsatisfactory situation (Quality Research International, 2021).

B. Operational Definition:

The degree to which integrated management of child illness educational program may help nurses develop knowledge and practices regarding integrated management of child illness.

1.5.2. Reinforcement

A. Theoretical Definition:

Reinforcement is a behavioral consequence that increases the probability that a response will be repeated in the future (Rumfola, 2017).

B. Operational Definition:

It is an effort to strengthen the knowledge and practices of the nurses working in the program of integrated management of child illness unit.

1.5.3. Educational Program

A. Theoretical Definition:

A coherent collection or sequence of educational activities that are created and organized to fulfill pre-determined learning objectives or complete a certain set of educational tasks over time (International Standard Classification of Education, 2011).

B. Operational Definition:

The application of planned teaching material using different strategies which aim to improve the knowledge and practices of nurses regarding the IMCI program.

1.5.4. Integrated Management of Childhood Illness

A. Theoretical Definition:

The Integrated Management of Childhood Illness (IMCI) is an integrated approach to child health that focuses on the well-being of the whole child, IMCI aims to reduce death, illness and disability, and to promote improved growth and development among infants and children aged less than 5 years. IMCI includes both preventive and therapeutic elements that are implemented by families and communities as well as by health workers in facilities.

B. Operational Definition:

It is a strategy adopted in primary health care centers with the goal of reducing morbidity and mortality among children under the age of five who visited primary health care clinics in the Karbala governorate, including health promotion, prevention and curative services.

1.5.5. Knowledge**A. Theoretical Definition:**

Is awareness, familiarity, or understanding of something or someone, such as information, descriptions, facts, or skills, which is acquired through education or experience by discovering, perceiving, or learning (Tanioka *et al.*, 2011).

B. Operational definition:

The extent to which nurses in holy Karbala obtain knowledge on integrated management of child illness components.

1.5.6. Practices**A. Theoretical definition:**

The variety of duties, functions, responsibilities, and activities that employment are educated and permitted to undertake is characterized as practice (American Nurses Association, 2010).

B. Operational definition:

All responsibilities, activities, duties, and activities that nurses responsible for in integrated management of child illness unite for providing care for child and support for family.

Chapter Two
Review of Literature

Review of Literature

This chapter aims at surveying the available literatures and studies relevant to the present study

2.1. Overview

Healthy children are a critical resource for ensuring a nation's future well-being. They are the tomorrow's parents, workers, citizens, leaders, and decision-makers, and their health and safety are dependent on today's decisions and actions. Their future are in the hands of those responsible for their care, including the Community Health Nurses (CHN), who primary responsibility is to the community as a whole (Abdulla, *et al.*, 2018)

The minds of a nation's children are its most valuable natural resource. The world's future is determined by how well it cares for its youth. This population must be nurtured in an appropriate environment if it is to thrive. Focusing on children's health needs and health promotion increases the likelihood that they will grow up to value and practice healthy lifestyles. In the field of child health, nurses play two major roles, the nurse provides direct services to children and their families, such as assessment, care management, education, and counseling, and also the nurses are involved in the assessment of the community and the development of programs to ensure that this population lives in a healthy environment (Stanhope & Lancaster, 2012)

The definition of the growth is characterized as an increase in physical size, tissue composition, and tissue distribution. It is related with changes in a child's proportions, form, and function - and covers factors like a child's weight, height, and length, among other things. The gradual emerging of

capacities in children is referred to as development. Children grow in capability as they learn to talk, walk, run, solve issues, accept affection, and express feelings. A child's experiences of the world around him/her, as well as their environment, all contribute to healthy child development (WHO, 2017 b).

Growth is extremely rapid during the first year of life, particularly the first six months. Infants gain 150 to 210 g per week until they reach the age of 5 to 6 months old, at which point their birth weight has at least doubled. The average weight of a 6-month-old child is 7.3 kg. During the second six months, weight gain slows. The infant's birth weight has tripled by the age of one year, with a weight of 9.75 kg on average. Breastfed babies gain less weight than bottle fed infants after 4 to 6 months of age, but their head circumference is more than adequate. Breastfed infants have been shown to self-regulate their energy intake. Height grows at a rate of 2.5 cm per month for the first 6 months of life, then slows for the next 6 months. Increases in length happen in quick bursts rather than in a slow, gradual pattern. At 6 months, the average height is 65 cm and at 12 months, it is average 74 cm. The birth length has increased by nearly 50% by the age of one year. This increase occurs primarily in the trunk rather than the legs and contributes to the infant's distinctive physique (Li *et al.*, 2010).

The increase in head circumference also rapid. Head circumference increased at rate of 1.5 cm every month during the first six month, while increasing rate slow down to reach 0.5 cm per month in the second six month. At six months, the average size is (43cm) and at (12) months, it is (46cm). The size of the head increase nearly (34%) within the first year. The closure of cranial sutures and fusing of posterior fontanel occur at (6-8) weeks and

closing of the anterior fontanel at (12-18) months on average 14 months (MoH, 2021).

Most causes of under-five child death can be prevented, so the most preventable causes of death are premature birth, pneumonia, birth defects, (newborn infections, malaria, sepsis, measles), birth complications, diarrhea (18%), (16%), (13%), (13%), (11%), (9%) respectively. Childhood malnutrition is an underlying cause of (45%) of all deaths among children younger than 5 years, according to the WHO, so proper nutrition is essential for helping prevent many deaths (World Vision 2016).

2.2. Initiation of Integrated Management of Childhood Illnesses as Strategy

WHO and UNICEF in 1999 originated the child survival strategy, the integrated management of childhood illnesses (IMCI) in order to help poor nations reduce the death of children under the age of five due to the majority of childhood killer diseases, such as diarrhea, acute respiratory infections, malnutrition, malaria, and measles. IMCI provides a more effective strategy that is anticipated to have a greater impact in reducing children mortality (García Sierra & Ocampo Cañas, 2020).

Nurses, doctors, immunization, pharmacists, quality control, dietitians, health educators, and community support groups are among the multidisciplinary group that provide IMCI under the umbrella of primary health care (PHC). These stakeholders support the implementation of the IMCI strategy, and significant work has been done in their respective fields (Alfannah, 2017).

Handbook accompanying in-service training materials offered by WHO and UNICEF is considered a generic version to assist educational institutions in integrating IMCI into the academic curricula of physicians, nurses, and all health professionals (WHO, 2005).

Internationally, IMCI has been implemented with variable degrees of success in various situations. Some components of the approach have been executed more effectively than others, with health-system restrictions playing a significant role in restricting implementation. According to a multi-country survey done in 2006, cost and human-resource difficulties (especially training) identified as major challenges to effective scaling-up in IMCI implementation. (Fick, 2017).

The qualitative researches revealed that four themes regarding IMCI strategy training of 11 day courses : the existing (11 days) courses are very costly and should be shortened; content should be regularly updated; IMCI advocacy should be increased; new content areas should be introduced cautiously and more emphasis should be placed on skills-building rather than knowledge accumulation, new content should be regularly updated, As efforts to increase access to high-quality care and meet the Millennium Development Goal 4 (MDG4) accelerate, standardized, shorter ICMT courses with participatory approaches and sufficient clinical practice may be accepted internationally. The 11-day IMCI case management training course is still advised, but as these efforts gain momentum. (Goga, 2009).

Other important reasons for weak performance seem to be lack of motivation to adhere to IMCI guidelines, stemming partly from a weak belief in the importance of following the guidelines and partly from weak intrinsic

motivation, the second reason is a physical and/or cognitive overload, resulting in lack of capacity to concentrate fully on each and every case and a resort to simpler rules of thumb, also poor remunerations contribute to several of these factors (Lange *et al.*, 2014).

2.3. Principles of Integrated Management of Child Illness (IMCI)

Integrated management of childhood illness recommendation confirms that all children under the age of five should be evaluated for general danger indicators, and that all unwell small babies should be examined for extremely serious diseases. These symptoms warrant an urgent referral or hospitalization. Following that, the children and newborns are evaluated for major symptoms. The most common symptoms in older children are coughing or difficulties in breathing, fever, ear infection, and diarrhea. Local bacterial infection, diarrhea, and jaundice in infants under the age of two months. All unwell children are frequently evaluated for nutrition status, vaccination, deworming, and other issues. A restricted number of clinical symptoms are utilized, and a combination of individual signs result in a child being classified into one or more symptom groups but instead of receiving a diagnosis. The IMCI management protocols employ a small number of essential medications and urge caregivers to actively participate in the treatment of children. Counseling caregivers on home care, proper nutrition and fluid administration, and when to return to the clinic is a crucial component of IMCI (Department of health, 2021).

2.3.1. Color Coded Approach

Based on the assessment results, a doctor or nurse use a specifically developed color-coded triage program to identify a children's illness. Because many children have more than one problem, each one is stated as required, immediate pre-referral and referral treatment, or basic medical diagnosis and guidance or simple guidance on home protection

Where a child needs immediate referral pink classification critical care must be provided before referral. If a child needs special care, Yellow classification a management plan will be created, and appropriate medicines to be administered at the clinic will be identified. Nature of the suggestions you should take offered to the mother is agreed upon. When no problems Green classification issues have been found, the mother should be adequately informed of the corrective steps to be taken for the child's care at home (Muhaisen *et al.*, 2020)

2.4. Under Five Years Old children Morbidity and Mortality

Child mortality is important because it is an indicator of the use, accessibility and availability of the health system by the population, especially children. It is also a sign of the extent to which society exercises the most basic human rights: the right to life and health. In spite of the rate of deaths among children under the age of five decreased by more than 27% between 1990 and 2008, it remains high. According to research and experience, vaccines, antibiotics, micronutrient supplementation, insecticide-treated bed nets, and improved family care and breastfeeding practices could save more than 5.5 million of the children deaths per year (Kargbo & Obodoeze, 2015).

According to a UNICEF worldwide survey, Sub-Saharan Africa had the highest newborn mortality rate in 2018, with 28 deaths per 1000 live births, followed by Central and Southern Asia, which had 25 fatalities per 1000 live births. Infant mortality was greatest in West and Central Africa, with 73 fatalities per 1000 live births, followed by Sub-Saharan Africa and Southern Asia, with 58 and 36 deaths per 1000 live births, respectively (James & Acharya, 2021).

Every year, more than 7.5 million child under the age of five die before reaching fifth birthday throughout the world. The majority come from impoverished neighborhoods and reside in impoverished nations. Malnutrition and diseases such as pneumonia, diarrhoea, measles, malaria, and newborn sepsis are more common in these children than in others. Effective solutions for preventing and treating ill children are available, but they are not being used. One explanation for this is because health-care services providers are sometimes too far away or prohibitively expensive. In these contexts, health care institutions frequently lack resources and well-trained health care staff. Furthermore, sick children may have many health problems at the same time, making diagnosis and treatment challenging for health care personnel (Gera *et al.*, 2016).

Perinatal conditions (46%) respiratory infections (22%) and diarrhea (10%) continue to be the leading causes of infant death. The stagnation in neonatal mortality is one of the major reasons for the slow decline in the infant mortality rate. Neonatal mortality is declining sluggishly in the last ten year, from 40 per 1,000 live births in 2001 to 36 per 1,000 live births in 2007. Eighty percent of all newborn deaths occur during the first week of life-the early neonatal period-during the neonatal period. Severe infections (36 percent) birth asphyxia (23

percent) and preterm (25 percent) births are the leading causes of neonatal mortality (Mohan, 2011).

It is estimated that available and affordable interventions could prevent more than 60% of global child deaths, and their effective delivery is critical for achieving the Millennium Development Goal for child survival. The World Health Organization's (WHO) and United Nations Children's Fund's (UNICEF) are initiated the Integrated Management of Childhood Illness (IMCI). IMCI aims to increase coverage of integral child health interventions by improving first-level health workers' case management skills, strengthening the health system for effective sick child management, and promoting good community child care practices (Horwood *et al.*, 2009).

Acute lower respiratory tract infections (ALRI) in children were responsible for nearly 12 million hospital admissions worldwide in 2010 (Nair *et al.*, 2013).

In 2015, approximately 2.7 million (45 percent) of these deaths occurred in newborns. There are, however, regional differences in these cases. Sub-Saharan Africa has the majority child mortality rate (MR) among children under the age of five,. According to reports, one in every twelve children in Sub-Saharan Africa dies before the age of five, compared to one in every 47 children in high-income countries (Muhaisen *et al.*, 2020).

The major diseases that consider and continue killers of children under the age of five are pneumonia and diarrhoea. Every year, 2 million children under the age of five die as a result of these disorders, which account for (29%) of all under five MR. Treatments for pneumonia and diarrhea can be found

without making substantial technological advancements. Children are dying as a result of fragmented services that fail to reach those who are most vulnerable. Effective interventions are still underutilized; for example, just 60% of under five children with suspected pneumonia receive appropriate care, and just 39% of infants under six months are exclusively breastfed furthermore, most of them are not receiving life-saving treatment, less than 32 percent of under five children with suspected pneumonia are receiving antibiotics moreover, only 35% of them who suffer from diarrhea receive ORS (WHO & UNICEF, 2013).

According to Ramahwati (2016), newborns and children under the age of five are vulnerable to a variety of infections since their immune systems have not fully grown as shown in figure (2.1). At this age, the youngster is prone to a variety of physical and spiritual health issues. Malnutrition, diarrhea, upper respiratory tract infection, and ISPA are common health concerns among children under the age of five in Indonesia (Rusana *et al.*, 2020).

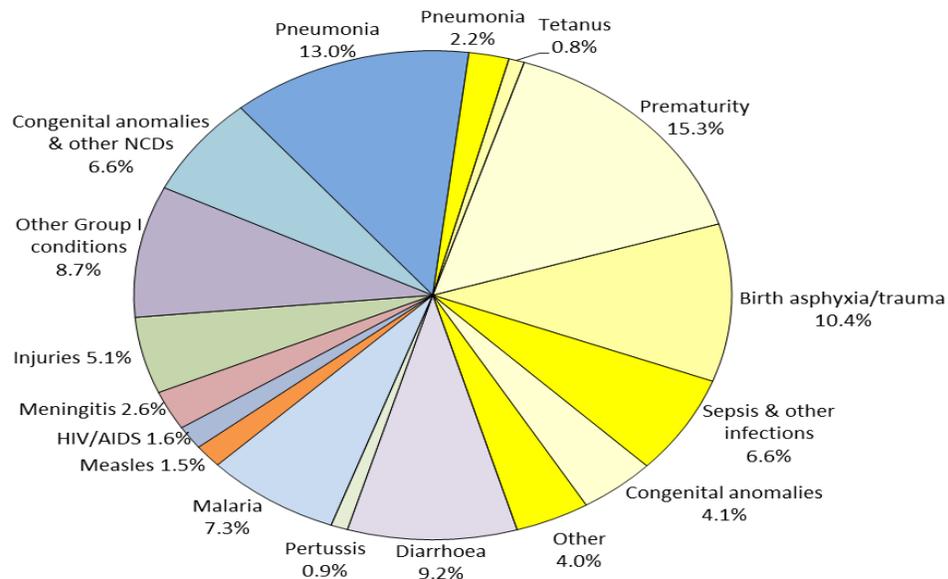


Figure (2.1) Causes of death in under five years old children

2.5. World Health Organization Programs Involved in IMCI Strategy

2.5.1. Acute Respiratory Infection(ARI) and Pneumonia

A healthy child has many natural defenses that protect his lungs from pneumonia, such as exclusive breast feeding, but undernourished children and those who are not exclusively breast feed or have insufficient zinc intake are at a higher risk of developing pneumonia. Environmental factors such as crowded living conditions also play an important role (Zeinab & Saida, 2017).

Figure (2.2) show the steps of assessment and classification of cough in child two months up to five years.

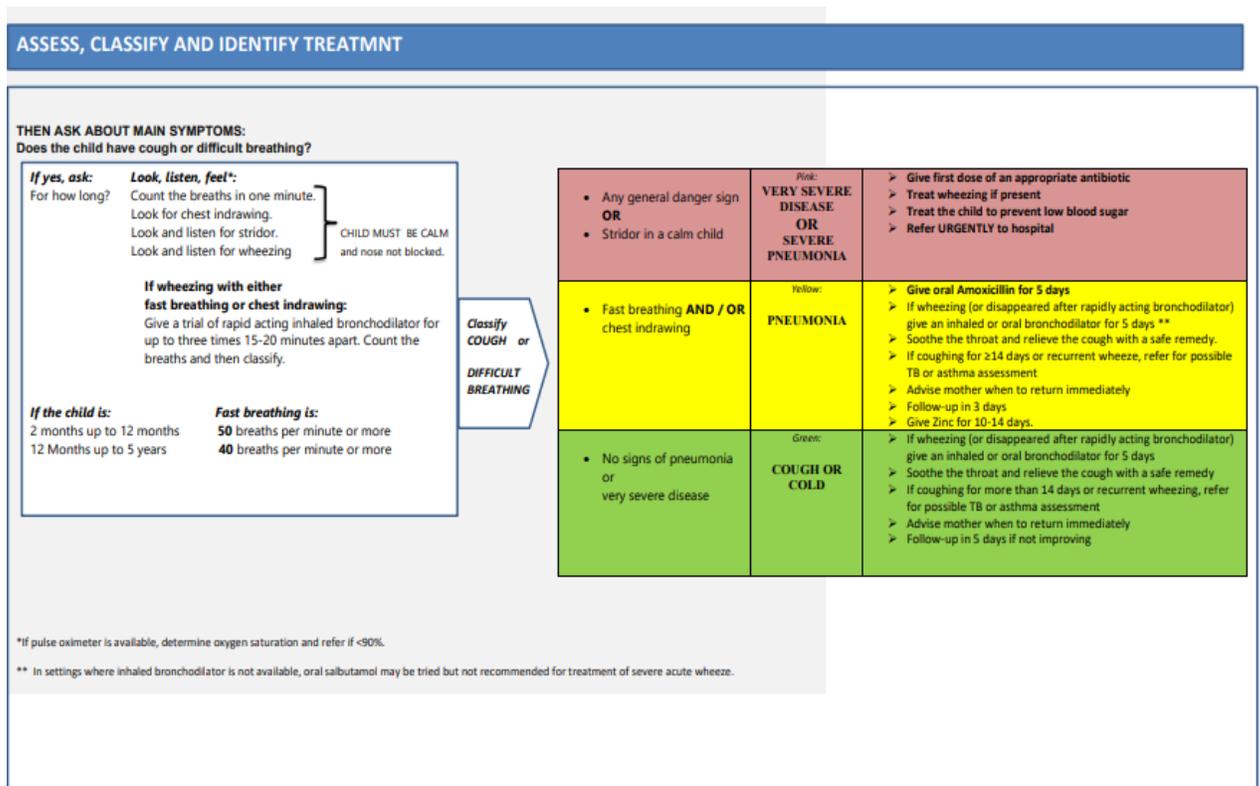


Figure (2.2) Assessment and classification of child 2 months up to five years. MoH, Chart booklet (2021)

Acute respiratory infection is defined as infection of any region of the respiratory tract or associated tissues. All infections lasting more than 30 days are included. In the case of middle ear infections, however, the time of an acute episode is less than 14 days (Ramani *et al.*, 2016).

Acute respiratory infection is the leading cause of morbidity in children under the age of five worldwide. Pneumonia, the most severe presentation, accounts for about one-fifth of overall mortality in this vulnerable age group. As a result, the significance of ARI and pneumonia cannot be overstated. At the programmatic level, successful management of childhood pneumonia revolves around four core elements: rapid and accurate diagnosis of pneumonia in children under the age of five, early intervention and management with successful treatment, efforts at primary prevention, and management of co-morbid specific conditions (Mathew *et al.*, 2011).

Acute respiratory infections are a primary cause of morbidity and death in children. ARIs are responsible for 4 million of the world's 15 million child mortality each year. ARI accounts for 30- 60% of pediatric outpatient attendance and 20%-30% of hospital admissions worldwide (Ramani *et al.*, 2016).

Pneumonia is a leading cause of death among children under the age of five worldwide. Pneumonia alone is responsible for more deaths in this age group of children than malaria, tuberculosis, and Human Immunodeficiency Virus (HIV). Sub-Saharan Africa and South Asia have the highest global burden of pneumonia, accounting for 90% and 18% of deaths among children under the age of five, respectively. To address this issue, WHO developed an IMCI guideline to guide health workers in evaluating and

managing pneumonia in children who present with cough and difficulty breathing at health facilities. (Izudi *et al.*, 2017).

Applying the standardized procedures, pneumonia mortality has been decreased as a consequence of initiatives like the WHO's Integrated Management of Childhood Illnesses (IMCI). These guidelines are usually not followed, though, and coverage gaps may occur from a lack of helpful oversight procedures. Current WHO recommendations state that all children who have fast breathing should be classified as pneumonia and managed with high dosage oral amoxicillin, but those who have, however child with danger sign pneumonia or chest indrawing should be referred to a higher level of care. On the other hand, if a referral is not available or permitted by local health policy, Community Health Workers (CHWs) may treat chest indrawing pneumonia with high dosage oral amoxicillin, preferring dispersible amoxicillin treatment for children (Shittu *et al.*, 2020).

The recommended dosage is 80 mg/kg twice a day for 5 days; in situations with low HIV incidence, the length of therapy for rapid breathing pneumonia can be shortened to 3 days. Children with a cough/difficulty breathing and other danger signs, such as low blood oxygen saturation, should be classified as severe pneumonia and treated with oxygen (WHO, 2014 a).

2.5.2. Diarrhea

An estimated 9.9% of the 7.6 million deaths of children under the age of five in 2010 were attributed to diarrhea, one of the leading causes of illness and mortality in under five age group globally, with an average of 2.9 episodes of diarrhea per year, almost one-third of which are moderate to severe and

result in significant morbidity that lasts well into the diarrheal episode, children in underdeveloped countries suffer the worst effects. Persistent diarrhea is linked to stunting and developmental delays, according to study. Acute diarrhea has been linked to a wide range of viral, bacterial, and parasitic organisms. *Entamoeba histolytica*, *Shigella* spp., non-typhoidal *Salmonella*, Rotavirus, *Escherichia coli*, *Campylobacter jejuni*, *Shigella* spp., and *Cryptosporidium* spp. are the most often documented etiological causes, however their proportional contributions vary by age and geographic area. As a result, a greater knowledge of the involvement of individual enteric pathogens in the total burden of diarrheal illness is critical for creating therapies that might successfully reduce diarrhea-related mortality and morbidity (Sarkar, *et al.*, 2014).

2.5.3. Malnutrition

Malnutrition is a contributing factor in around 70% of the diseases that kill children under the age of five. Children under the age of five who come from less fortunate backgrounds are more likely to suffer from malnutrition, have more severe illnesses, and have a higher mortality rate (Wamae, *et al.*, 2010).

Malnutrition and anemia are among the most common problems in Iraq, so it is necessary to check for signs of malnutrition and anemia for all children under the age of five, figure (2.3) and they often accompany many diseases, but they do not receive enough attention from their caretakers, therefore, identifying children who suffer from malnutrition and treating them helps prevent them from many severe diseases and reduce their death (MoH, 2021).

ASSESS AND CLASSIFY THE SICK CHILD AGE 2 MONTHS UP TO 5 YEARS

INTEGRATED MANAGEMENT OF NEWBORN AND CHILDHOOD ILLNESSES

ASSESS

CHECK FOR ACUTE MALNUTRITION AND ANAEMIA

ASK: Is there history of TB contact?

LOOK AND FEEL:

- Look for oedema of both feet.
- Determine the child's weight for Height/length (WFHL*) and plot on the IMNCI Chart booklet (see pages 55 & 56) to determine the z-score.
- Determine the growth pattern: Is the growth faltering? (Weight curve is flattening or dropping for at least 2 consecutive months?)
- Measure MUAC**mm in a child 6 months or older
- IF WFHL less than -3 z-score or MUAC less than 115mm then:
 - Check for any medical complication present:
 - Any general danger signs.
 - Any severe classification.
 - Pneumonia with chest in-drawing.
 - If no medical complication present:
 - Conduct appetite test. (see pg 25)
 - Child is 6 months or older, offer RUTF to eat (see pg 25)
 - Is the child
 - Not able to finish RUTF portion
 - Able to finish RUTF portion
 - Child is less than 6 months, assess breast feeding (see pg 43)
 - Does the child have breast feeding problems?
 - If child has acute Malnutrition and is receiving RUTF, DO NOT give iron because there is already adequate amount of IRON in RUTF.

CHECK FOR ANAEMIA

LOOK AND FEEL:

Look for palmar pallor. Is it:

- Severe palmar pallor?
- Some palmar pallor?
- No palmar pallor?
- Do haemoglobin level (HB) test.

Assess for sickle cell anaemia if common in your area.



CLASSIFY

<ul style="list-style-type: none"> Oedema of both feet, OR WFHL less than -3 z scores OR MUAC Less than 11.5 cm AND ANY one of the following: medical complication present or not able to finish RUTF***or Breast feeding problem (<6 months) 	<p>SEVERE ACUTE MALNUTRITION WITH COMPLICATIONS FOR CHILDREN</p>	<ul style="list-style-type: none"> Treat the child to prevent low blood sugar (see pg 17) Keep the child warm Give first dose of Benzyl Penicillin + Gentamicin (see pg 13) Give Vitamin A (see pg 14) Refer URGENTLY to hospital Admit or refer urgently to hospital if child has any other complications (Danger signs: Diarrhoea, Pneumonia, Fever, No appetite, etc) Immunize as per schedule (see pg 12) Screen for possible TB disease and check for HIV (see pg 13)
<ul style="list-style-type: none"> WFHL less than -3 z scores OR MUAC Less than 11.5 cm AND Able to finish RUTF 	<p>SEVERE MALNUTRITION WITHOUT COMPLICATIONS</p>	<ul style="list-style-type: none"> Give oral Amoxicillin DT for 5 days Give ready to use therapeutic food for child aged six months and above Screen for possible TB disease and check for HIV Follow up in 7 days (see pg 24) Assess the child's feeding and counsel the mother on the feeding recommendations (see pg 25 & 27) Immunize as per schedule (see pg 12) Advise mother when to return immediately.
<ul style="list-style-type: none"> WFHL > -3 to < -2 z scores OR MUAC 11.5 to 12.4cm 	<p>MODERATE ACUTE MALNUTRITION</p>	<ul style="list-style-type: none"> If growth is faltering for 2 consecutive months, give Vitamin A, assess further or refer to hospital Assess the child's feeding and counsel the mother on the feeding recommendations (see pg 25 & 26) Give Albendazole if child is 1 year or older and has not had a dose in the previous 6 months (see pg 12) If feeding problems, follow up in 14 days (see pg 24) Screen for possible TB disease and check for HIV Immunize as per schedule (see pg 12) Advise mother when to return immediately.
<p>For all age groups:</p> <ul style="list-style-type: none"> Static weight or losing weight -2 to < -1 Z- Score <p>if age 6 months up to 59 months</p> <p>MUAC 12.5 to 13.5cm</p>	<p>AT RISK OF ACUTE MALNUTRITION</p>	<ul style="list-style-type: none"> If child is less than 2 years old, and has growth faltering, assess the child's feeding and counsel the mother on feeding according to the feeding recommendations (see pg 25 & 27) Give Albendazole if child is 1 year or older and has not had a dose in the previous 6 months (see pg 12) Follow up in 14 days (see pg 24) If feeding problem, follow-up in 5 days (see pg 24) Screen for possible TB disease and check for HIV Immunize as per schedule (see pg 12) Advise mother when to return immediately.
<ul style="list-style-type: none"> WFHL > -1 z- scores OR MUAC > 13.5 cm 	<p>NO ACUTE MALNUTRITION</p>	<ul style="list-style-type: none"> If child is less than 2 years old, assess the child's feeding and counsel the mother on feeding according to the feeding recommendations (see pg 25 & 27) If feeding problem, follow-up in 5 days (see pg 24) Give Albendazole if child is 12 months and has not had a dose in the previous 6 months (see pg 12) Immunize as per schedule (see pg 12) Screen for possible TB disease and check for HIV
<ul style="list-style-type: none"> Severe palmar pallor If HB<sup>dig</sup> 	<p>SEVERE ANAEMIA</p>	<ul style="list-style-type: none"> Treat to prevent low blood sugar (see pg 17) Keep the child warm Admit or refer URGENTLY to hospital Screen for possible TB disease and check for HIV.
<ul style="list-style-type: none"> Some palmar pallor 	<p>ANAEMIA</p>	<ul style="list-style-type: none"> Assess the child's feeding and counsel the mother on feeding (see pg 25 and 27) If growth is faltering for 2 consecutive months, assess further or refer to hospital Give Iron and Folate. (See pg 14) Give Vitamin A (See pg 14) Give Albendazole if child is 1 year or older and has not had a dose in the last 6 months (see pg 12) Screen for TB disease and check for HIV Follow up in 14 days Immunize as per schedule (see pg 12) Advise mother when to return immediately.
<ul style="list-style-type: none"> No Palmar pallor 	<p>NO ANAEMIA</p>	<ul style="list-style-type: none"> If child is less than 2 years old, assess the child's feeding and counsel the mother according to the feeding recommendations (see pg 25 and 27) If feeding problems, follow up in 5 days (see pg 24) Give Albendazole if child is 1 year or older and has not had a dose in the last 6 months (see pg 12) Immunize as per schedule (see pg 12) Screen for possible TB disease and check for HIV.

*WFHL is Weight-for-Height or Weight-for-Length determined by using the WHO growth standards charts.
 **MUAC is Mid-Upper-Arm-circumference measured using MUAC tape in all children 6 months or older.
 ***RUTF is Ready-to-use Therapeutic Food for conducting the appetite test and feeding children with severe acute malnutrition.

Figure (2.3) Assessment and classification of Nutritional Status for child 2 months up to 5 years. (MoH, 2018).

The assessment and classification of children under the age of five who have illnesses, including the assessment and classification of nutritional status, is made easier for nurses by the use of clinical algorithms supplied by IMCI. The IMCI approach is based on WHO management recommendations for the most common and serious diseases that kill babies and children. The assessment results in a classification, and the classifications should be translated into appropriate care and treatment responses, according to a fundamental tenet of IMCI. As a result, an examination that does not produce a classification and associated management would be disregarded (McDonald *et al.*, 2013).

Wasting is identified according to weight-for-length in children under 2 years old, and weight-for-height in older children, or an evaluation of the Mid Upper Arm Circumference (MUAC) are used. A second criteria for identifying

children with severe acute malnutrition is the development of bilateral oedema. Overweight and obesity are also defined by the WHO based on weight and length/height estimations, i.e. weight-for-length/height and body mass index (BMI), but not on MUAC. Children with severe wasting or severe acute malnutrition have a greatly elevated mortality risk, despite the fact that proper treatment decreases mortality dramatically. Children with moderate wasting and/or stunting have an elevated mortality risk, however it is less than that of children with severe wasting or wasting and stunting together (WHO, 2013b).

Severe wasting usually occurs due to a severe lack of protein and energy in children, and the child's response to treatment is limited. It is a decrease in the weight index to height or stature and the body mass index to age (BMI/Age) less than -3 z-score, as the child loses the fat layer and muscle and is in a form called (skin and bone), and to assessment wasting, the child must be without clothes, and by looking at the front side of the child, it is possible to see the edges of his front ribs, and the skin in the arm and thigh area is drooping, but from the back side, the ribs and shoulder bones are prominent, and the flesh is missing from the buttocks as well as when child suffer from severe wasting, there are skin folds on the buttocks and thighs, the width of the abdomen is greater than the hip, with flatulence (MoH, 2021).

Another condition is edema of the feet which is swelling caused by the accumulation of fluid in the tissues. Edema is usually noticed in the feet and lower legs. When pressing the thumbs gently on the backs of the child's feet for 15-30 seconds, you will notice an impression (depression) after raising the thumbs, this is evidence of edema (WHO, 2013c)

Malnutrition is a lack of energy and/or nutrients, as well as excesses or imbalances in a person's energy and/or nutritional consumption. Malnutrition refers to two distinct types of conditions. The first is wasting (low weight-for-length/height), which includes stunting (low length/height-for-age), acute malnutrition (low weight-for-length/height or low MUAC or bilateral pitting edema), underweight (low weight-for-age), and micronutrient deficiencies or insufficiencies (a lack of important vitamins and minerals) (WHO, 2017 a)

2.5.3.1. Best practice statements for malnutrition

All children under than five years attending first level facilities should be checked for both weight, length/height, in order to determine weight-for-length/height and to classify nutritional status according to WHO child growth standards. Families especially caregiver of the children under the age of five who presenting to primary health-care institutions should get basic nutrition counseling, including encouragement and support for exclusive breastfeeding in the first six months and maintained breastfeeding until the age of 24 months (WHO, 2013b)

The IMCI is a comprehensive approach to child health that focuses on the complete child's well-being. The goal of IMCI is to prevent death, sickness, and disability while also promoting enhanced growth and development in infants and children under the age of five. IMCI comprises both preventative and therapeutic aspects that are applied by families, communities, and health personnel in institutions (WHO, 2013b).

2.5.4. Fever and Malaria

Fever is one of the most common problems in children under the age of five, responsible for 25% of visits to the pediatric emergency room. There is no systematic way to reaching a definitive diagnosis in children with fever because this can be complex and individualized for each child. The IMCI technique is intended to reach at a classification rather than a specific diagnosis (Sallam *et al.*, 2016).

Figure (2.4) explain the steps of assessment and classification of child with fever

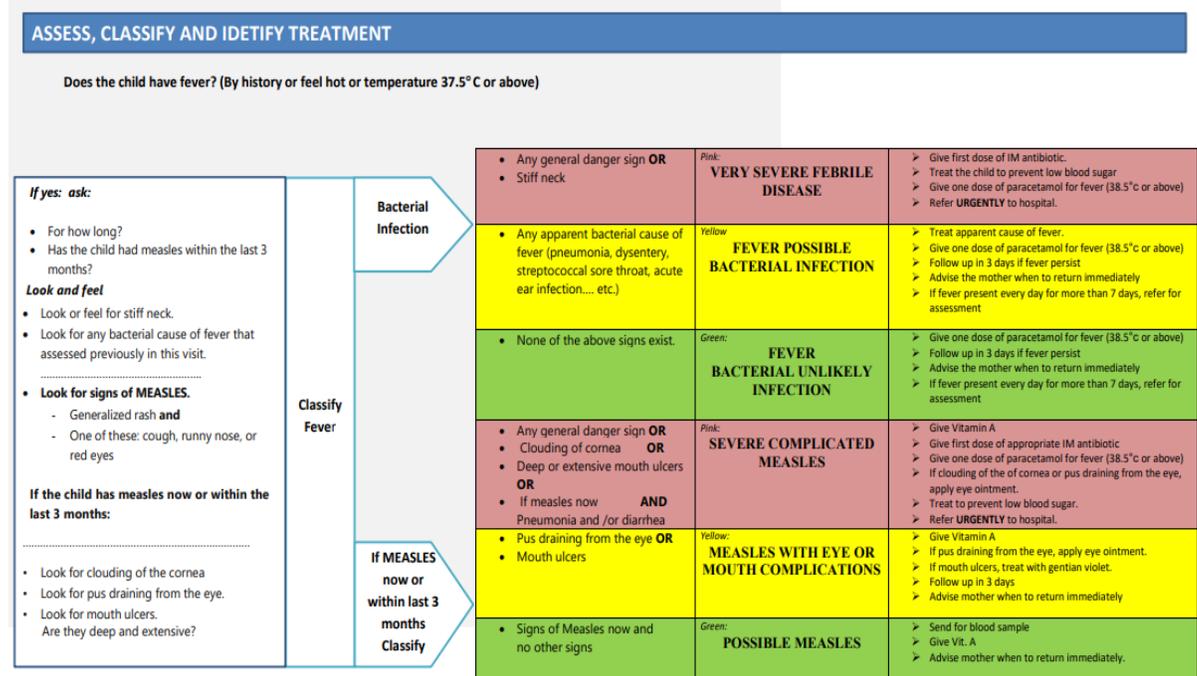


Figure (2.4) Assessment and classification of child for fever (Module 5, Fever WHO, 2014).

In Sub-Saharan Africa, fever is a frequent sign of many children diseases, however, given high malaria mortality rates and a lack of other distinguishing criteria for clinical therapy, the IMCI policy encouraged

presumptive malaria treatment of pediatric fevers in malaria-endemic African settings for many years. While various IMCI algorithms are available to clinically discriminate other fever causes, the assumption that all fevers are malaria has frequently hampered investigation for these other illnesses (Sharhan & Ma'ala, 2021).

According to a research done by Sallam *et al.*, 2016, the majority of children assessed with the IMCI technique (64%) were assessed and classified and diagnosed on the first day, whereas the majority of the under-five children using the conventional strategy were diagnosed on the fourth (34%) or fifth day (20%). Sixty percent of children treated with the IMCI technique improved clinically, compared to just (12%) of children treated with the traditional (non-IMCI) strategy. Forty percent of children treated using the conventional technique had poorer results than (16%) of children treated using the IMCI (Sallam *et al.*, 2016)

2.5.5. Expanded Program on Immunization Program

Vaccines stimulate the body's immunity in order to protect the individual from future sickness or infection. Immunization is the process through which a person becomes resistant or immune to an infectious illness, usually by the injection of a vaccine, which saves more than 3 million child worldwide each year and is one of the most cost-effective and successful public health efforts of the twentieth century. Nurses who give vaccinations should be informed with vaccine storage and handling, the recommended immunization schedule, contraindications and precautions before providing vaccines and delivery procedures, reporting side effects, and vaccine benefit (Williams *et al.*, 2011).

One of the most effective public health initiatives are immunization programs; the efficiency of nurses is vital to the success of these programs, and the prevalence of infectious illnesses is decreasing. Nurses must maintain a high level of practice in the vaccination unit in order to achieve and sustain high vaccine coverage. Nurses play a critical part in vaccination practice across the world, whether in mass community vaccination campaigns or child health center-based programs; all programs must strive to immunize (100%) of a country's population safely and efficiently. To manage vaccine-preventable illnesses, however, a rate of (95 %) vaccination coverage is required (Abd Al-Wahid & Nagi, 2015).

Childhood immunization is the process of establishing immunity via the use of vaccinations, and it is recognized to be significant for enhancing child survival. Currently, vaccination is a basic health care preventative strategy and the most cost-effective public health intervention for reducing child morbidity and death due to infectious illnesses. Every year, it saves more than two million lives worldwide. Unfortunately, more than 10 million children in underdeveloped countries die each year as a result of ineffective evaluation of useful treatments such as vaccination, which would combat prevalent and avoidable childhood diseases (Al-Kazrajy & Hattat, 2018).

2.5.6. Feeding problem

A child may have a feeding difficulty for a variety of reasons. the nurse should use the counseling tools accessible in there nation for advice on feeding guidelines and difficulties. The following are some frequent feeding problems that a nurse should pay attention.

When an infant is not properly attached or suckling successfully, or receives less than eight breastfeeds in 24 hours, or receives other meals or beverages, has a nasal block, (ulcers or white spots in the mouth) thrush, or there is a nipple or breast problem, he or she is experiencing a feeding difficulty. The infant is classified as having a feeding problem. If a young newborn shows no other signs of malnutrition, this infant is classified as not having a feeding issue. When the newborn shows no signs of malnutrition, encourage the mother for feeding the infant adequately (Rajesh, *et al.*, 2018)

Difficulties with breastfeeding that reported by mothers need for assess and enhance the positioning and attachment. If there is problem or the mother had a breast problem, such as breast infection, engorgement, or painful nipples, she may need to be refer to a breastfeeding counselor. A Child under 6 months old is taking other milk or foods until the age of six months, all children should be exclusively breastfed. If a child is eating food or fluids other than breastfeed before the age of six months, the objective is to gradually transition back to greater or exclusive breastfeeding and suggest more frequent and longer breastfeeds throughout the day and night. As breastfeeding progresses, the mother should progressively limit the amount of other milk or food she provide (WHO, 2014b)

Mothers who use bottle for feeding child recommended that a cup be used instead of a bottle, and explain for the mother how to use a cup to feed her child. A cup is easy to clean and does not obstruct nursing. If the child is not actively fed (as he grows older), the mother should sit with him and urge him to eat. He should have his own portion and not have to fight for food with his siblings. When all of the children eat from the same plate, the youngest ones

frequently do not eat enough. If the child has a poor appetite or is not feeding well during illness (WHO, 2021a).

2.6. Components of the Integrated Management of Child Illness Strategy (IMCI)

IMCI (Integrated Management of Childhood Illness) is meant to move along the two tracks of the health system and community, respectively, while promoting the establishment of strong links between the two. Much emphasis is given to capacity-building. Traditionally, then, IMCI is presented as a strategy which has three components aiming to:

improve health workers' skills; improve health systems; and improve family and community practices as shown in figure (2.5) (Sierra & Canas , 2020).

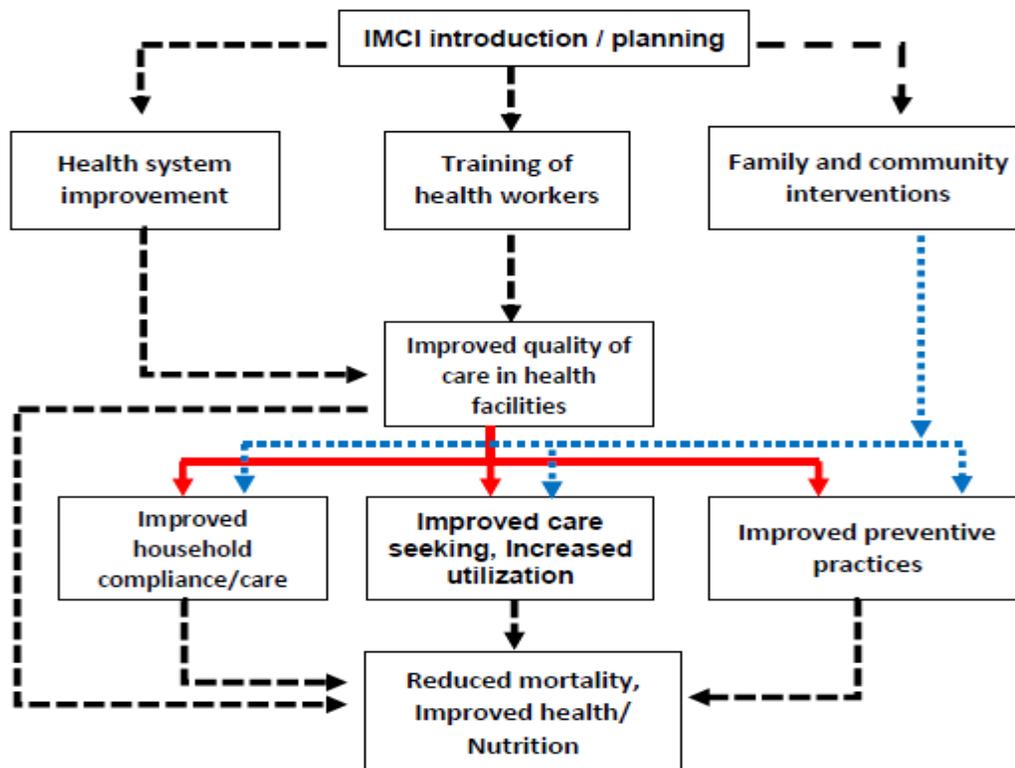


Figure (2.5) Components of IMCI Strategy (Bryce *et al.*, 2004)

2.6.1. Training on Case Management Skills for Health Care Staff

WHO focused on improving health worker skills as the first of the three IMCI original components, this objective can be done through several activities: develop/adapt of standards and case management guidelines; training of doctors, nurses, and other health care providers; definition of roles for non-governmental / private providers; continuous improve and maintain of health care providers performance; orient the health care providers to solve community problem by training. The main core tool extensively developed by UNICEF and WHO was an 11-day course for first-level healthcare personnel designed to enhance their practices regarding case management of sick children aged one week to five years. The course includes classroom instruction with hands-on clinical practices, as well as disease prevention and communication with caregivers. Nurses learn about assessment and history taking, classification of cases, routine immunization, breastfeeding promotion, micronutrient supplementation, child feeding assessment, and feeding problem counseling. A follow-up visit within one month of the training course is the second essential component of IMCI training (WHO, 2017c).

The health worker training course remains a critical component of the IMCI strategy. The original gold standard course lasted 11 days, with clinical sessions accounting for 30% of the time. However, due to concerns about the high perceived costs of training in terms of time and resources, as well as the absence of health workers from services, (7 or 3 day) shortened courses versions have been developed (Goga *et al.*, 2009).

Countries created and developed shortened or abridged courses to increase the health workers knowledge and case management practices and a

systematic review was conducted in 2008 to assess the impact of shortened IMCI training. It appeared that the 11-day standard in-service IMCI training course was slightly more effective than the 7-day short training course, though the magnitude of the difference was unknown (Rowe *et al.*, 2012).

Most nations today employ condensed or compressed versions of the original course. A distance learning course (dIMCI) based on the IMCI Computerized Adaptation and Training Tool (ICATT), which was developed in 2006, was produced in 2014. One of the primary programmatic IMCI indicators used to gauge training implementation is a 60% threshold of trained people in a specific first level health institution. Aside from training health workers, it also strengthens health system support for IMCI (WHO, 2010).

Regarding IMCI guideline updating in 1995, the U5MR in half of the 194 WHO member states was greater than 40 per 1000 live births, while 58 of the 194 WHO member states had a U5MR more than 40 in 2015 due to improvements in U5MR reduction during the previous decades. In addition to decreasing mortality, congenital malformations, injuries, and non-communicable illnesses have displaced infectious diseases as the primary causes of death (WHO 2017c).

The IMCI chart booklet has been continuously adapted to the context of each country and according to developing evidence due to its flexibility in adding conditions based on regional and national epidemiological profiles, as epidemiological profiles alter, recommendations will also be revised to reflect new information. Sixty nine of 85 nations (81%) have stated that their national chart booklets have been updated since the last global update in 2014 (WHO, 2017a).

In service training is very important to improve the performance of the nurses which result in familiarization with national guidelines, ensuring that nurses are aware of new evidence-based best practices, continuing medical education/refreshing training courses, and improving the quality of care for seriously ill children which can be obtained by more reading— knowledge, practicing skills training, Scenarios/discussions, role plays and drills, job aides – charts, and facilitators (Were, 2014).

2.6.2. Improving Health System

The necessary components for providing newborns and children with appropriate case management include sufficient numbers of trained staff, a sufficient supply of medications and other supplies, routine first-level health worker supervision, high-quality referral care, and mechanisms to ensure that children who need referral are properly referred (Cilliers, 2019).

Adoption of IMCI requires work at several levels of the health-care system, as well as in the community and at home. The integration of IMCI and the health information system; the improvement of service quality and organization at health facilities; the organization of work at health facilities; the availability of drugs and equipment required for IMCI through improved supply and management; the supervision of health services; and the reinforcement of referral pathways and services are all activities related to the improvement of the country's health system. Health-care delivery innovations are equally important in improving health-care systems (WHO, 2017c).

Improving the health system is one of the three key elements of the IMCI strategy to ensure universal access to high-quality services and

interventions for children. Resources required to provide appropriate case management to newborns and children include an adequate supply of medicines, sufficient numbers of trained staff, and other supplies policies and guidelines, training, budget, and supervisory support of first-level health workers, high quality referral care and mechanisms to ensure that those children who require referral are properly referred, equipment, and infrastructure. This component focuses on the overall operation of health care systems/services and the improvement of the organization so that it can provide efficient, high-quality care (Cilliers, 2019).

2.6.3. Improving Family and Community Practices

The IMCI Community Component has been critical in achieving and maintaining the fourth millennium development goals, as well as improving children's quality of life and health. This achievement, however, necessitates collaboration between health-care systems, families, and communities. Going to invest in improving child healthcare practices for the community and family would thus equip them to play a more active role in caring for children (Alfannah, 2017).

For preventing and treating the causes of under-five children deaths, several important family and community practices are crucial, which include exclusive breastfeeding as well as complementary feeding, the use of insecticide-treated bed nets, the timely administration of vitamin A and vaccinations, the ability to recognize when to seek medical attention for a sick newborn or child, as well as the appropriate management of ill children at home, pneumonia management, treatment of other infectious diseases such as skin infection, classification and treatment of malaria, assessment and

management of malnutrition and anaemia, ORS and zinc supplement for treating diarrhoea and pneumonia, immunization, vitamin A supplementation, providing counseling services and advice regarding when to return to health facility or seeking care early, detection and referral of severe cases are practices should be developed and collaboratively working on them to save children life (MoH, 2021)

Changes in several family and community practices are required in order to provide child health care interventions to children who need them, while some of these are centered on receiving treatment outside of the home, others are home-based procedures. Key family and community practices have been outlined by UNICEF and WHO; these are based on the basic minimum of successful interventions needed to increase child survival while simultaneously fostering healthy growth and development. There are four broad categories of family and community practices which are growth and development promotion, disease prevention, appropriate at-home care adherence and care-seeking practices (Abdulla & Bahir, 2017).

Regarding growth and development promotion these actions should be followed such as infant should be breastfed exclusively for the first six months of their lives, begin providing high-quality complementary foods to children as early as six months of age, while continuing to breastfeed for at least two years, Assuring that kids receive the recommended amounts of micronutrients, such as iron, vitamin A, and zinc, through supplements, or through their diet as well as supporting their mental and social growth by attending to their needs as well as by playing, conversing, and creating stimulating environments, are important for a child's growth (WHO, 2009)

To apply disease prevention practices start breastfeeding within one hour of birth and provide them with proper cord and thermal care, children in malaria-endemic areas should be protected by sleeping under insecticide-treated bednets, safely dispose of feces, wash hands after defecation, before preparing meals, and before feeding children, prevent HIV transmission from mother to child, provide appropriate care for HIV/AIDS patients, particularly orphans, and take steps to prevent new HIV infections (Kilov *et al.*, 2021).

Ill children who are need to receive the proper care at home, including continuing to feed them and giving them more fluids, such as breastfeeding; receiving the proper antibiotics; being protected from harm and accidents; receiving the necessary treatment; preventing child abuse and neglect; acting when it occurs; and involving fathers in the care of their children and the family's health (UNICEF, 2020).

2.7. Adaptation and Implementation of the IMCI Strategy in Iraq

Integrated Management of Child Illness (IMCI) has been formally implemented in Iraq since 1998 as a method to address the leading causes of under-five mortality and morbidity through an integrated approach consistent with primary health care policy. This was accomplished in three stages: the introduction phase (October 1998 - October 1999), the implementation phase (May 2001 - May 2005), and the expansion phase (2006-2012), which demonstrated the development of IMCI implementation in Iraq (Yasin *et al.*, 2016)

The population is youthful, with 13.9 % of children under the age of five. According to United Nations estimates, under-5 child and newborn mortality decreased from 54 to 30 deaths per 1000 live births and from 27 to 17, respectively, between 1990 and 2017. Neonatal mortality accounts for 54% of under-5 mortality in Iraq, and the majority of these deaths are avoidable with high-quality, evidence-based treatments administered before and throughout pregnancy, during labor and childbirth, and in the critical hours and days after birth (WHO, 2018).

Iraq started to introduce IMCI in 1998 as a strategy to address the leading causes of under-five mortality and morbidity through an integrated approach consistent with primary health care policy, since then, it has grown to include 33 health centers (2 in Ninawa, 4 in Babel, 6 in Thi-qar, and 21 in Baghdad). The Ministry of Health has implemented several policies and strategies in support of maternal and child health, with the vision that the health of women and children is the key to progress toward all development goals, and that investing more in their health will help build peaceful and productive societies while also reducing poverty (Al-Samarrai & Jadoo, 2018).

Table (2.1) show the mortality rate of under five years children in the 18 provenance of Iraq in 2018.

Table 2.1 Number and rate of under five year mortality per 1000 livebirths in Iraq

Governorate	معدل وفيات أقل من (5 سنة) لكل 1000 ولادة حية			عدد وفيات أقل من (5 سنة)			المحافظة
	Under 5 year mortality rate per 1000 live births			Number of Under 5 year mortality			
	المجموع	أنثى	ذكر	المجموع	أنثى	ذكر	
	Total	Female	Male	Total	Female	Male	
Baghdad	29.5	26.3	32.5	6341	2768	3573	بغداد
Basrah	29.5	25.5	33.3	2776	1166	1610	البصرة
Nineveh	23.0	21.5	24.5	1916	871	1045	نينوى
Maysan	18.1	14.3	21.9	631	250	381	ميسان
Al-Dewaniya	30.2	26.2	33.8	1048	438	610	الديوانية
Diala	26.6	23.5	29.7	1140	490	650	ديالى
Al-Anbar	8.7	7.6	9.8	407	173	234	الانبار
Babylon	32.7	29.1	36.1	1929	842	1087	بابل
Kerbela	23.0	22.6	23.4	957	446	511	كربلاء
Kirkuk	23.7	22.7	24.7	912	429	483	كركوك
Wasit	25.0	23.7	26.1	999	469	530	واسط
Thi-Qar	28.8	25.5	31.9	1705	740	965	ذي قار
Al-Muthanna	18.9	17.9	19.8	497	228	269	المثنى
Salah Al-Deen	11.0	9.3	12.7	426	179	247	صلاح الدين
Al-Najaf	31.2	28.4	33.8	1481	655	826	النجف
Total without Kurdistan region	25.7	23.0	28.2	23165	10144	13021	المجموع بدون إقليم كردستان
Erbil	17.6	15.1	19.9	1002	421	581	أربيل
Duhok	26.6	26.5	25.5	1118	546	572	دهوك
Al-Sulaimaniya	NA	NA	NA	NA	NA	NA	السليمانية
Grand total	24.3	21.9	26.5	25285	11111	14174	المجموع الكلي

(MoH, Annual Statistical Report, 2019)

Some of the significant policies and initiatives that have been proposed and are presently being implemented are as follows: National Health Policy (2014–2023), Reproductive, Maternal, Newborn, Child and Adolescent Health Strategy (2016–2020), Iraq Every Newborn Action Plan (2016–2020), Iraq Nursing and Midwifery Strategy and Action Plan (2017–2027), National Nutrition Strategy (2012–2021), National Code of Marketing Breast Milk Substitutes (2016), National Strategic Plan of HIV/AIDS (2016–2020), Maternal Death Surveillance and Response (2012) (WHO, 2021a).

Figure (2.6) detail the consequences the steps of reception the child in first level health facility.

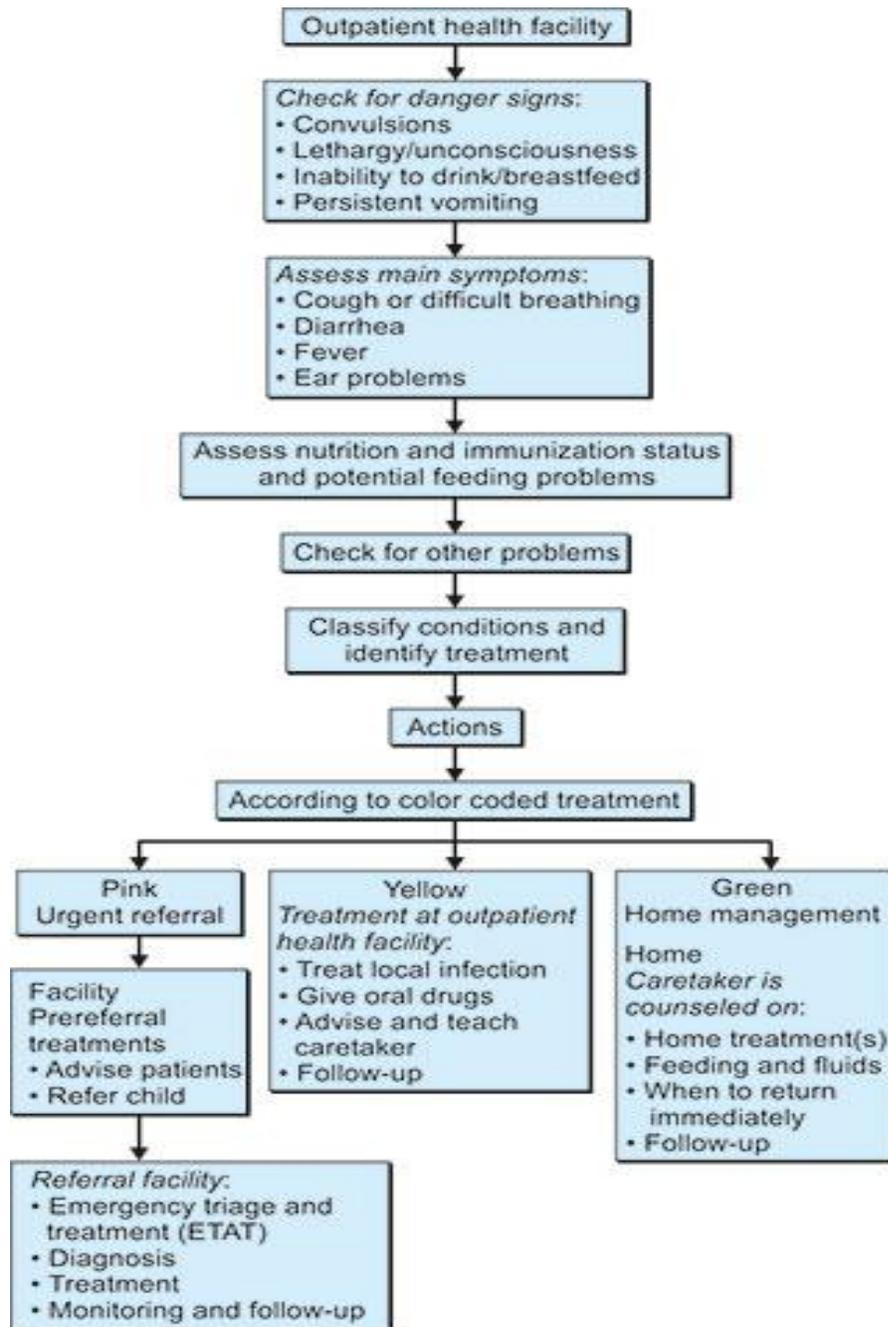


Figure (2.6) First level health facility (Muhaisen *et al.*, 2020).

2.8. Global implementation survey of Integrated Management of Childhood Illness

According to global survey report of WHO in 2017, the percentage of nations that reported having adapted different IMCI- related strategy as following: (29%) Guidelines updated for all 4 items, (44%) adapted in referral facilities, (55%) National treatment guidelines for children based on 2013 WHO Pocket Book for Hospital Care for children, (81%) National IMCI chart booklet based on 2014 WHO IMCI chart booklet, and (95%) IMCI guidelines include care of sick newborns during the first week of life as shown in figure (2.7) (WHO, 2017a).

Committing to Child Survival: A promise renewed, issued in 2012, urged the global community to decrease child mortality to 20 or fewer child deaths per 1000 live births in every nation by 2035 (UNICEF, 2013).

The WHO endorsed contributing initiatives which include comprehensive implementation plan to improve infant, young child nutrition, and maternal, the global vaccine action plan, which establishes a strategy for childhood diseases prevention through vaccination, and the United Nations Sustainable Energy for All initiative, which is a public-private partnership devoted to granting universal access to contemporary energy services by 2030. Additionally, the United Nations Commission on Life-Saving Commodities made vital suggestions to enhance use and access to life-saving supplies like pneumonia and diarrheal treatment, and the United Nations Commission on Information and Accountability paved the way for improved monitoring of initiatives to safeguard women's and children's health (WHO, 2017c).

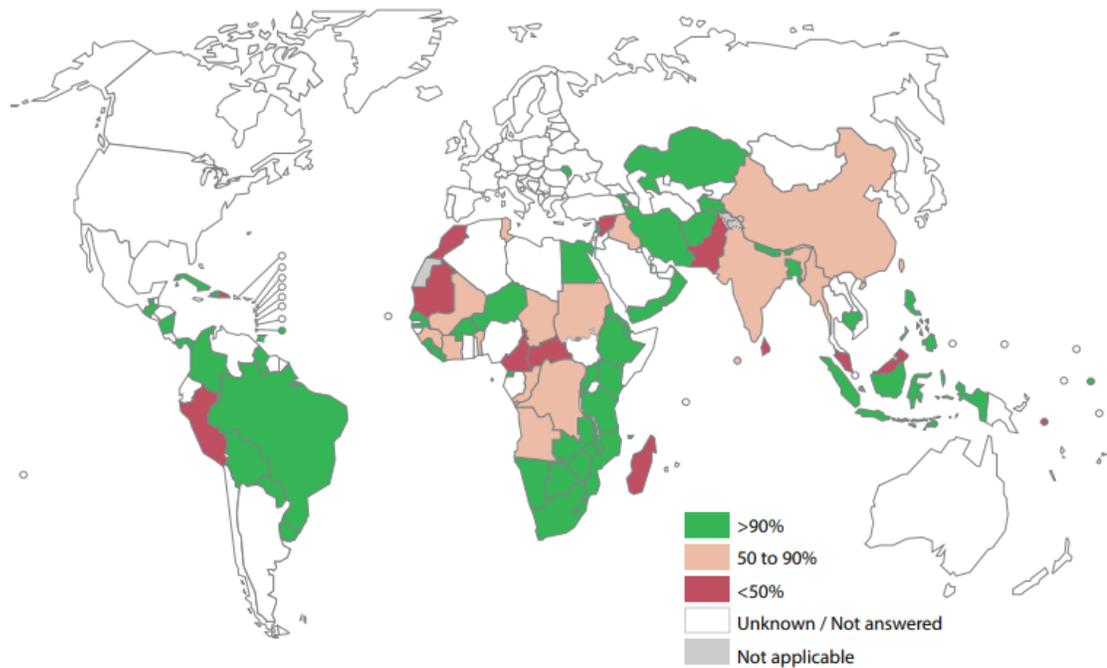


Figure (2.7) Proportion of districts reported to be implementing IMCI by country (2016)

Regarding implementation of IMCI strategy Kenya is in the expanding phase of the IMCI plan, which began in three districts: Embu, Kajiado, and Vihiga. The program is now being expanded out to districts that were not included in the early implementation phase, as well as regions that were not previously included in districts that were already using IMCI. Only 24 out of 71 districts were using IMCI at the health facility level at the time of the study, and even then, only in select locations; an estimated (7%) of all health institutions follow the IMCI approach. As a result, the IMCI method is unlikely to be used by the majority of Kenyan health practitioners. Many of the IMCI protocol's aspects, however, are already part of Kenya's norms and policy on the delivery of child health care. To guarantee a critical mass for excellent management of ill children's health, WHO advises that 60 percent of health

professionals who visit children under the age of five at health facilities be trained in IMCI case management (Wamae *et al.*, 2010).

2.9. Integrated Management of Childhood Illnesses Case Management Process

Case detection is based on simple clinical symptoms and practical treatment. Treatments are developed based on action-oriented categories rather than precise diagnosis. They cover the diseases that are most likely to be represented by each classification. Doctors, nurses, and other health professionals who see sick infants and children aged one week to five years can utilize it. It is applicable to a first-level facility such as a clinic, a health center, or a hospital's outpatient department. It is presented in a series of steps figure (2.8).

2.9.1. Child Assessment

The overall utilization of the IMCI protocol among nurses was 58.7 percent. In a multivariate analysis, the odds of IMCI utilization were 2.76 times higher among nurses who had received IMCI training compared to nurses who had not received training in IMCI. When compared to their counterparts, nurses who had a habit of always referring to the chart booklet during every case management process were three times more likely to use IMCI protocols (Seid *et al.*, 2019).

Checking for general **Danger Signs**, under five aged child classified with a one general danger sign or more have a serious problem. The majority of children classified having one or more general danger sign need URGENT referral for advance level health facilities, they may need lifesaving treatment

with oxygen, Paracetamol, ORS, injectable antibiotics other treatments that may not be available in a first-level health facility. After that finish the remaining assessment immediately such as asking about cough and difficult breathing and classification, assess and classification of diarrhea, check for throat problem and classification, assess ear problem, assessing does the child have fever by history or feel hot or temperature 37.5 or above, then check for anemia and feeding problem. Urgent pre-referral treatments should be provided (WHO, 2005)

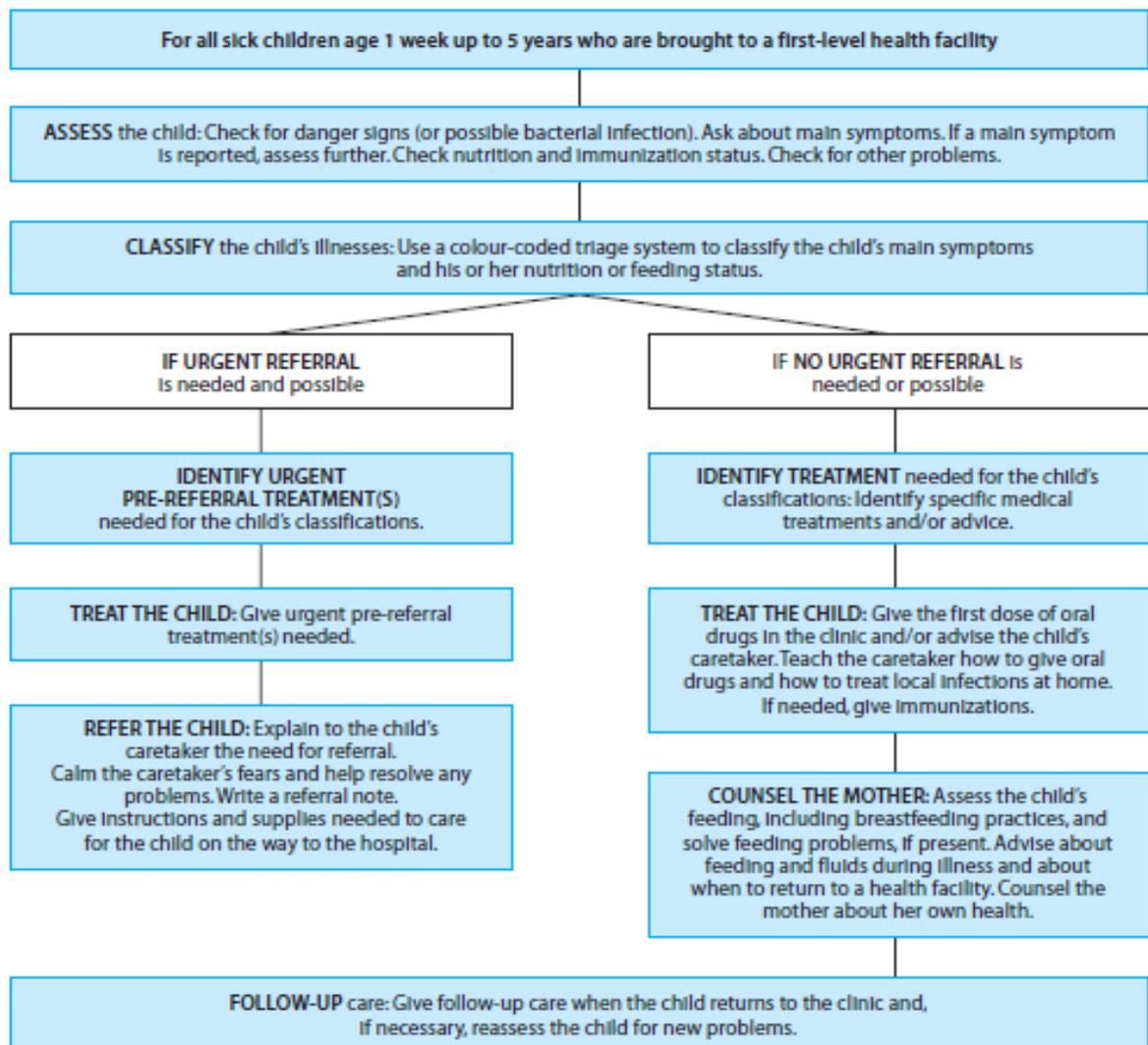


Figure (2.8) Integrated Management of Child Illness Case Management Process (WHO, 2005).

2.9.2. Child Case Classification

A nurse classify the child's disease based on the existence or absence of signs and symptoms. Because many children have many conditions, each issue is categorized based on whether it requires urgent pre-referral therapy and referral, specific medical treatment and guidance, or basic home management assistance. This categorization is important since it informs the nurse about the sort of intervention to do. The IMCI method employs color-coded categories based on severity levels. The color red denotes a severe categorization, suggesting that the child is severely unwell and needs to be hospitalized. The less serious classification, colored yellow, suggests that the child requires antibiotics or other prescriptions, whilst the least serious classification, colored green, indicates that the child requires home remedies that may readily be manufactured at home such as continue breastfeeding, Chamomile (MoH, 2021).

2.9.3. Child Treatment

IMCI advocates the implementation of evidence based guidelines for diagnosing and treating the leading causes of child fatalities (e.g., malaria, pneumonia, and diarrhea) in first-level health institutions that lack advanced diagnostic equipment and treatment. More than 110 nations are using IMCI, and studies have shown that the method can enhance the quality of care in health institutions and appears to reduce mortality. These studies, however, demonstrated significant opportunity for improvement in adherence to IMCI principles. For example, IMCI-trained health personnel appropriately treated just 58 to 73 percent of children who required an oral antibiotic. Health

personnel require assistance after IMCI training in order to enhance adherence (Seid et al., 2019).

Once the appropriate child's condition has been classified, health workers must implement the required practices related to the child's condition. Providing pre-referral care for referring sick children; Provides the appropriate first dose of medication to children who need to administer and teaches the mother how to administer oral medications, feed and provide fluids during illness and treat local infections at home; also advises on home care for sick children at home and asks the mother or caregiver to return with child in a particular order history if necessary for follow up (Muhaisen *et al.*, 2020).

2.9.4. Consultation

There are some types of advice that is very important for saving child life for example, it may not take more than informing the mother to return her child to the health center for a follow-up visit after two days. There are other types that require teaching the mother how to do a particular task and this calls for doing four basic educational steps: giving information, showing examples, allowing the mother to actual practices, providing feedback. The mother may understand, but acknowledges that she is unable to implement these instructions either because she suffers from a problem or has objections, and one of the common problems is the lack of time or resources to give this type of treatment such antibiotics. In all cases, the mother should be helped to think of solutions to overcome her problems and answer all her questions Some practical treatment advices are provided by the nurses, such as how give oral fluids during illness, how to feed the child, how to administer oral antibiotics and, how to treat local infections at home. based on the classification the nurse

asks the caregiver when to return for a follow-up visit, and also educates the mother about signs of return and notice when the child not responding or improving. The nurse also gives the mother advice on her own health (Paranhos *et al.*, 2011).

2.9.4.1. Estimating the mother's counseling priorities:

If the child only suffers from one problem that requires treatment, the mother is given all treatment instructions, but if the child suffers from several problems, the instructions received by the mother may become many. The possibility of care taker returning for a follow-up visit, in which case some advice can be postponed until her return, choosing the necessary instructions to preserve the child's life, such as: explaining how to give the antibiotic and giving more fluids during illness (MoH, 2012).

2.9.5. Follow up

The IMCI program is concerned with follow-up visits to the child, and its purposes differ from the purposes of the initial visit, where the extent of the child's response to treatment is identified, and the disease progression is followed up to avoid any complications. A dedicated card is used for follow-up visits (Sharhan & Ma'ala, 2021).

2.9.5.1. General steps for follow-up visit:

When the child attends the follow-up visit, the nurse takes the following steps: Reading the review card to know the date of the initial visit, noting that in the absence of a review card, the mother is relied on to know the date of the initial visit. Extracting the child's case registration form at the initial

visit. Ask about the emergence of new health problems. In the event of a new complaint, the child's basic data: name/ weight/ height/ head circumference/ temperature is recorded in a new registration form. In the absence of a new disease complaint, the temperature is measured and recorded with the date on the top of the initial visit registration form. Checking for general danger signs, and the order in which the child is admitted to the doctor according to the severity of the disease (IMCI Booklet, 2013).

Three types of follow-up visits for a sick child which are immediate return visit: when the child shows a sign of return at once, follow-up visit with a fixed date, and follow-up visit conditional on the lack of improvement of the current disease or the child general condition worsen (MoH, 2021).

2.9.6. Registration

The registration is essential regarding IMCI strategy such as determining medication need, categorizing the classifications and statistical consideration so the important of registration is accurately determines the number of daily visitors, contains the main vital signs such as weight, height and head circumference, registration show the relative distribution of the different disease classifications according to age groups, and thus helps in calculating the health center's needs for medicines and supplies, document the referral rate and the percentage of using different drugs, shows the rates of follow-up visits and the extent of the child's caregiver's awareness, shows the extent of the spread of some classifications in some selected governorates over others, and determine the needs of each sector or health center separately, and accordingly, future plans are drawn up in the sector, the department of health and the ministry of health (WHO, 2013d).

The registration contain three type the first is the daily IMCI record which is registered by the nursing staff from the data of the case registration form, noting that the doctor records disease classifications with this form in Arabic, the second is Review card which the nursing staff records the child's data, and records the date of the follow-up visit specified based on the doctor's decision on the case registration form, the third is Monthly report form which is organized monthly, no later than the fifth day of the following month (WHO, 2013d).

2.10. Adherence to the IMCI guidelines for children under the age of 5

Poor adherence to the guidelines frequently hinders effective IMCI implementation. Previous research has found that adherence to guidelines decreases over time due to insufficient initial training, a staff shortage, and insufficient supervision, healthcare workers typically find the IMCI chart booklet burdensome and attempt to work from memory, resulting in a decrease in quality of care. Furthermore, healthcare workers may neglect sections of assessments, resulting in incomplete assessments (Blanchet *et al.*, 2016).

Mushinda and Magumba's studied IMCI and offered a model for the comprehensive implementation of proven public health interventions. UNICEF and WHO (2000) carried out an evaluation in five African countries revealed that IMCI training resulted in greater improvements in health care performance. Children examined by IMCI-trained nurses were significantly more likely to receive appropriate treatment, and IMCI-trained nurses communicated more effectively with caregivers. Despite the fact that consultations

take longer, IMCI has been shown to be more efficient and less expensive than routine care in some facilities. Despite these advancements, absolute levels of service performance were frequently subpar. In Uganda, less than half of the children received proper care. In Peru, this figure was as low as 10%. Even the most successful utilization sites have room for improvement (Lawns *et al.*, 2004).

The skills of nurses, particularly their ability to detect illness by recognizing danger signs described for the patient or care providers/ parents, treatment skill, and ability to communicate and educate appropriately using standards, have a significant impact on the quality of the IMCI system. To achieve a good IMCI implementation result, some systematic steps must be taken, such as developing development training methods, improving training, post-training monitoring, IMCI form availability assurance, availability of drug and tool for IMCI, and technical guidance (Wiendyasari *et al.*, 2018).

Nurses' practices in the facility have an impact on the quality of IMCI implementation in the facility, either a bad or good outcome, Staff rotation, for example, might be beneficial or detrimental. In Tanzania, whose employment patterns tend to be more stable than in other nations, more than 22 percent of qualified nurses moved within less than three four years of completion of their first training. These nurses did not necessarily leave government employment, but rotation implies that IMCI implementation may not be given consistently to the same target group over time. Staff rotation is widespread in Kenyan level 3 and 2 institutions; nevertheless, good level of practice promotes compressive IMCI implementation and serves as a positive out to the facility (Maurice, 2014).

2.11. Effective interventions for Child Health

Breastfeeding exclusively for six months, followed by continued breastfeeding and appropriate complementary feeding, reducing the onset and severity of pneumonia and diarrhea, Vaccination against *Streptococcus Haemophilus influenzae* type B and pneumonia, which are most common bacterial causes of childhood pneumonia, as well as rotavirus, which represent most common cause of childhood diarrhoea deaths, significantly reduces disease burden and deaths caused by these infectious agents. As a result, an increasing number of countries which are implementing these vaccines and providing measles and pertussis vaccines significantly reduces pneumonia illness and death in children. The use of basic, standardized guidelines for the identification and treatment of diarrhoea and pneumonia in the community, primary health facilities, and at referral for hospitals, such as those for IMCI, reduces childhood mortality significantly. Regarding ORS, particularly the low osmolality formula, have been shown to be a life-saving commodity in the treatment of diarrhoea in children and also taking the zinc and multivitamins supplements in conjunction with ORS to treat children with diarrhoea reduces deaths in children under the age of five (WHO, 2021b)

2.12. IMCI Nursing Staff Responsibilities

Nursing staff responsibilities are divided into two parts, based on the level of facilities which are basic responsibilities that when there is a physician in the facility and additional responsibilities in absence of the physician

2.12.1. Primary Responsibilities:

At the beginning sort cases to prioritize doctor's presentation then receive children and obtain personal data (name, age, sex, date of visits, the name of doctors, the chief complain, type of visit (initial or follow up), and register it in the assignment registration form. In case of follow-up visit, the case registration form is extracted in the initial visit with new form work, all the private data are taken with weight, temperature & checking for general danger signs and then presenting to the doctor to assess the response to treatment and provide home care advice and register in IMCI form. After that taking vital signs (measuring temperature auxiliary, weight, height and head circumference, then starting assessment by check for general dander signs to determine the speed of the doctor presentation. regarding vaccination the nurse should check schedule and the doses of vitamin A supplement. Nutritional status should be evaluated for young children and infant and giving the first dose of treatment in the health care center that decided by the doctor if needed and provide counseling & advice on feeding and breast feeding and teaching the mother ways to use topical treatment, home care and cases that require the return of the child at once. finally record cases with IMCI a daily record and fill in the follow up card in addition to basic data recorded in child health form and preparing the monthly report (WHO, USAID, PHCPI and MOH, 2012).

2.12.2. Additional Responsibility in the Absence of a Doctor:

Checking the general danger signs and making an immediate referral to a child who suffers any of them. Assessment and classification of respiratory disease cases & describing, giving treatment and recording in the IMCI register. Classification and sorting of diarrheal cases, give, described diarrhea

medication (such as ORS), and record the case in IMCI form. Assess & classify of pharyngitis, ear infection and register in IMCI form and describe and give medication in the absence of a doctor. Eye diseases, assess and classify (WHO, USAID, PHCPI and MOH, 2012).

2.13. Previous Studies

Study No.1

(Yasin, et al. (2016) this study aimed at measuring health workers' knowledge of the Integrated Management of Neonatal and Child Health Strategy in Salahiddin Governorate PHCCs after one year of implementation. From January 12th to May 29th, 2014, a comparative cross-sectional research was conducted. Data was collected from 84 health providers (42 trained and 42 untrained) working in 20 Primary Health Care Centers (PHCCs); 7 of them were in Tikrit (Salahiddin's Capital) and the remaining 13 PHCCs were in the other districts with the goal of assessing those health workers' knowledge, attitude, and practice towards IMCI. According to the findings of this study, trained healthcare professionals had statistically substantially better knowledge (76.88, 12.99) than untrained healthcare providers (69.29, 16.60), while study findings revealed that trained medical professionals had statistically considerably greater knowledge (89.77, 4.53) than trained paramedical staff (71.10, 11.25). Furthermore, trained healthcare practitioners in Tikrit city had statistically substantially greater knowledge (85.05, 6.60) than trained healthcare providers in other districts.

Study No. 2

(Tawfiq *et al.*, 2018) conducted a study aimed to assess the effectiveness of training courses in improving quality of care in terms of health professionals' communication skills and clinical performance when they deliver health services to children under the age of five in public healthcare facilities in Afghanistan. A cross-sectional post-intervention design with regression-adjusted difference-in-differences (DiD) analysis was used, with two groups of health workers participating (treatment and control). Direct observation of health professionals during patient-provider interactions was used as the assessment technique. The researchers gathered information from 733 primary healthcare centers and 5818 patients. The results revealed that IMCI training had a significant influence on two quality-of-care indicators in 2016, and on four quality-of-care indices in 2017. Two quality-of-care indexes improved in 2016. The counseling/medical advice index increased by 8.1 %, while the physical examination index increased by 8.7 %. In 2017, the history taking index increased by 5.7 %, the information sharing index increased by 8.0 percent, the counseling/medical advice index increased by 10.9 %, and the physical examination index increased by 17.2 %.

Study No. 3

(Hussein & Farhood, 2019) conducted a study aimed to investigate doctors' and healthcare workers' knowledge and performance regarding the IMCI program, as well as to assess doctors' and healthcare workers' adherence to IMCI guidelines for managing childhood disease. The study is a cross-sectional study that was conducted on 130 healthcare personnel in primary healthcare centers in Babylon Governorate from February to May 2019 using a

predesigned semi structured questionnaire. The most important result of this study is the average age of participants was 37.8 10 years, with 40 years being the most common age group (40.8 percent), while (31.5%) were between the ages of 20 and 29, (27.7%) were between the ages of 30 and 39. The female gender predominated in the study sample, with 112 (90.8%) females and 18 (9.2%) males. Regarding occupation, (28.5%) were family medicine specialists, (27.7%) were paramedics, 23.8 % were graduate doctors, and 20% were general practitioners. (62%) had served for more than 1–10 years, while (7.7%) had served for less than a year. (76.2%) had IMCI training, compared to (23.8%) who did not. Sixty-six percent of the total study sample had fair knowledge, (37%) had poor knowledge, and (7%) only had good knowledge. More than (28%) scored fair practice, while (72%) scored poor practice. The study concluded that the majority of healthcare personnel had fair knowledge of IMNCI but poor practical skills.

Study No. 4

(Mohaisen, *et al.*, 2020) conducted a study aimed to assess consumer satisfaction and the infrastructure of primary health care centers, as well as to evaluate the practice of health care workers in implementing this strategy and also to assess the quality assurance of the IMCI program from September 2019 to June 2020 on an appropriate sample of (130) health service providers working in the integrated childhood management program and 200 participants (consumers) parents of children under the age of five. The study's findings revealed that health workers in primary health care centers performed poorly on average. The average score (1.65) was obtained, and consumer satisfaction in primary health care centers was fair, while managers' responses to the

current organizational structure of the IMCI program was good, the average score was (2.75). According to the study, there are very few trained health workers on the IMCI strategy. Consumer satisfaction is closely related to the level of education when assessing the quality of health services. Except for a lack of financial resources and a shortage of IMCI-trained health care providers, the primary health care organization's quality of primary health care services was good. This study found that adherence to practical skills and the IMCI protocol was low among health care workers caring for children under the age of five in the study area.

Study No. 5

(Sharhan & Ma'ala, 2021) conducted a study aimed to assess and evaluate the knowledge of the health care providers regarding IMCI, and implement the educational program and evaluate the effectiveness of the program and find the relationship between the health care providers and their variables. The study's findings indicate that health care providers had low knowledge prior to implementing the program. However, a post-evaluation revealed that health care providers at primary health care centers had a high level of knowledge about integrated management of childhood illness. Except for the third item of general information, there were no statistically significant differences between health care providers' knowledge and their general information; there is a statistically significant association between health care providers' knowledge and level of education; and there is a statistically significant relationship between the effectiveness of educational programs on health care providers' knowledge for the study group and their level of education at (P 0.05). The study concluded that health care providers at

primary health care centers in Amara's first health sector had a high level of knowledge about integrated management of childhood illnesses at the mid and post educational program, but only a moderate level before applying for the program.

The researcher benefit from previous studies as guide for selecting the important topics, design of the study, methodology, and variables needed to researched and studied needed to accomplish. Previous studies have emphasized the importance of the knowledge and practices of nurses and health professionals working in IMCI units and children's health, as the results of previous studies showed that increasing nurses' knowledge and developing their practices has improved the quality of health care provided to children and reduced the mortality rate, and that Iraq is one of the countries that adopt this strategy and there is still a high rate of mortality for children under the age of five, which urged us to adopt this program because of the importance of nurses in providing health services to this age group as well as their families.

Chapter Three

Methodology

Methodology

3.1. Design of the Study

A quasi-experimental study designed and carried out for achieving the objectives of present study, by application of pretest- posttest approach for both study and control group about nurses working in IMCI units from 20th September 2020 to 25th May 2022. This study design have been found and considered as an efficient one regarding the implementation and the determination of the effectiveness of an educational program.

3. 2. Administrative and Ethical Arrangements

This step was essential in the study and it included:

1. Written approval obtained from the council of the college of the Nursing / University of Babylon to conduct the study in a form of study protocol (Appendix A).
2. A permission and approval from the college of nursing / research ethics committee obtained (Appendix B).
3. A permission from college of nursing to holy Karbala department to facilitate conducting the study (Appendix D)
4. A permission obtained from Holy Karbala Health Department / Training and Human Development Center in the four Karbala health care sectors (Center Sector, Primary Health Care sector in Al Hindiaya, Primary Health Care Sector in Husseniya, and Al Hur Primary Health Care Sector) (Appendix E).
5. A verbal agreement from the study participants stating that their participation is voluntary and private.

3.3. Setting of the Study

The study is conducted in the primary health care centers of the four health care sectors in Holy Karbala health department (Center Sector, Primary Health Care sector in Al Hindiaya, Primary Health Care Sector in Husseniya, and Al Hur Primary Health Care Sector), these primary health care centers receipt a large numbers of children comes with their caregivers seeking health. The primary health care centers (IMCI) units are equipped with necessary equipment to provide services to under five children. According to latest statistical report from health department these sectors provided services for more than 26843 child last month.

3.4. Sample and Sampling

A non-probability sample (convenience sample) from the total population who meet the criteria of the study during the study interval. A total of (60) nurses selected for the study, (30) participant selected for study group and (30) were selected for control group.

Table (3.1): The distribution of (study group) study sample

No.	Primary Health Care Centers	No. of nurses (participants) in IMCI (study group)
1	Tanuba PHCC	1
2	Al- Muthafen PHCC	2
3	Al-Aoser PHCC	1
4	Kret Al-Eshan PHCC	1
5	Hay Al-Aaml PHCC	2
6	Hay Al-Askary PHCC	2

7	Al-Jadwal Al Gharbi PHCC	2
8	Al_Hafidh PHCC	2
9	Al-Salamia PHCC	2
10	Alwnd PHCC	2
11	Al-Zahraa PHCC	2
12	Al-Taf PHCC	1
13	Al Ameer PHCC	2
14	Al Kamalia PHCC	2
15	Al Janib Al-Saqer PHCC	1
16	Bab Baghdad PHCC	2
17	Al Hindiya PHCC	3
	Total	30

Table (3.2): The distribution of (Control group) sample

No.	Primary Health Care Centers	No. of nurses (participants) in IMCI (control group)
1	Al Janib Al-Saqer PHCC	2
2	Abu-Ruaia	1
3	Al-Tahadi wel Al-Smood PHCC	2
4	Al-Mouathfen PHCC	2
5	Al-Hur PHCC	2
6	Hay Al-Askary PHCC	1
7	Mlebeg PHCC	2
8	Al Yarmok PHCC	2
9	Ganaga PHCC	2

10	Aun Ibn Abd Allah PHCC	2
11	Al Hafidh PHCC	2
12	Hay Al-Abass PHCC	2
13	Hay Al-Iskan PHCC	2
14	Al Wafaa PHCC	2
15	Al Gadeer PHCC	2
16	Al Taqa PHCC	2
	Total	30

3.5. Assessment of Nurses Knowledge Needs' Regarding IMCI (preliminary study)

A questionnaire format designed to complete this section of the study. The content of questionnaire was based on a survey of related literature as well as subjective experiences with the knowledge questions. The aim of this examination was to measure the knowledge of the nurses regarding integrated management of childhood illnesses. A sample of (10) nurse working in primary health care centers were chosen to apply the assessment during the period (20th of September, 2021) - (14th of Oct, 2021). The nurses given enough time (25-30) minutes for answering the assessment need questionnaire. The result of the assessment was indicated that (61%) of the participation had knowledge deficit regarding integrated management of childhood illnesses which confirm that nurses in need for an reinforcement educational program related to integrated management of childhood illnesses for developing their knowledge and practices.

3.6. Construction and Implementation of the program (Structured Teaching Program)

Reinforcement educational program designed and introduced as a result of assessment of nurses knowledge concerning integrated management of childhood illnesses as well as through the previous studies and review of concerned literatures.

3.6.1. Program Construction

Reinforcement educational program is constructed and designed to contain of (5) sessions that pursue to achieve the purposes of the study, and helping nurses in developing their knowledge and practices concerning IMCI depending on Booklet of IMCI from MoH supported by USAID and WHO through this program which included an introduction to IMCI strategy, danger signs, classification of child diseases, diarrhea management and assessment of nutrition. The researcher participated in training course regarding IMCI program in the General Public Health Department (Appendix C)

3.6.2. Program Implementation

Reinforcement educational program implemented on (30) nurses (study group). The program implemented in (5) sessions; each session designed and scheduled for (3) hours per a day interspersed with breaks for clarification and explain the main topics of the program related to the nurses IMCI strategy knowledge and practices. The study group divided into two group due to distance between the residency of the participants and the social distancing for avoiding Corona Virus Disease -19 (COVID-19). Sessions were implemented at the **Public Health Department Hall** in Holy Karbala Primary health Care

Sector and Primary Health Care Sector in Husseniya Hall and presented by the researcher.

Sessions for all groups were led by the same team of facilitators to maintain consistency and eliminate environmental bias. As recommended by WHO, the training comprised of eight modules provided through classroom exercises and hands-on clinical practice sessions. The participants observed and experienced the IMCI methodology for assessing, classifying, and treating ill children. Both groups received the identical instructional materials, tools, curriculum, and training approaches.

3.6.3. Details of the sessions Include

The sessions include short lectures, questions and answers, brain storming, case study, discussion, and presentation for

1. First Session

The first session is divided into two lectures the first is about introduction to the IMCI program and identification of the most important scientific and logical foundation and child reception procedures and how to implement of the responsibilities of the nursing staff in the health care center regarding IMCI which include (Primary Responsibilities, Additional responsibilities in the event of a doctor's absence, and a map of the implementation sequence of the basic responsibilities of the nursing staff. The second lecture is about the procedures of child reception, recording demographic data, measuring head circumference, height and weight, temperature and checking general danger signs.

2. Second Session

Second session included lectures regarding child diseases classification and general danger signs for children 2 month to under 5 years and respiratory system diseases for children 2 month to under 5 years old

3. Third Session

In this session, diarrhea, fever, malnutrition, anemia and verification of completion of vaccination and vitamin A doses were presented.

4. Forth Session

Classification of children's diseases at the age of less than two months are discussed in this session, which included lectures about: general danger sings, bacterial infection, jaundice, assessment and classification of diarrhea, assessment of breastfeeding problems and body weight.

5. Fifth Session

The session of the fifth day contains lectures about effective communication and plans of diarrheal treatment, and finally post-test (1) exam completed.

3.7. Instrument Construction

After an intensive review of literatures, assessment needs of the study and the reinforcement educational program the researcher constructed the instrument which consists of (three) components and (69) total items (Appendix F), which comprise:

Part I: Socio-demographic and personal characteristics

This part include demographic data and personal characteristics which was comprised of (9) items (age, gender, marital status, educational achievement, residency, years of experience in IMCI, courses in IMCI, duration of courses in IMCI, and years of employment) (Appendix G).

Part II: Assessment of the Nurses Knowledge Regarding IMCI Domains

This part is for assessing the nurses knowledge regarding IMCI before and after the implementation the program, which composed of (25) items divided into (4) subdomains (history taking, classification of cases, nutrition and feeding and finally counseling and advice). The questions covers the main domains of the educational program regarding knowledge.

Part III: Practices of Nurses Regarding IMCI Domains

This part concerning with practical knowledge of the nurses regarding IMCI with overall (35) items, which divided into (4) subdomains including (history taking, classification of cases, nutrition and feeding and finally counseling and advice)

3.8. Validity of the Study Instrument

The ability of the instrument to measure the data that intended to gather is known as validity. The initial instrument draft and the program are sent to the panel of (10) expert (Appendix F) who have had more than 15 years of experience in their field and they asked to examine its content relevancy, clarity, and adequacy. Modifications are applied based on the experts suggestions and recommendations.

3.9. Pilot Study

The pilot study was applied in a different sectors on (10) nurses (males and females) who working in IMCI units during the data collection for the period 12th of December 2021 to 9th of January 2022. After applying the pilot study the result indicated that the time needed for each participant is about (25-30) minutes and the instrument was clear applicable and practical.

3.9.1. Aims of the Pilot Study are to

1. Determine the potential obstacles that may arise throughout the data gathering process.
2. Validate the instrument structure's clarity and content sufficiency through the subjects' interpretation of questions, and to identify any necessary alterations.
3. Determine the reliability of the instrument.
4. Considering the time necessary for data gathering.

3.10. Reliability

The consistency and dependability of the research instrument measured by reliability which was obtained through test–retest method. Pilot study results were statistically analyzed and the results showed that the reliability was { $r= 0.78$ } which is statistically acceptable, and the study found that the reliability estimated for the usage of the instrument was $r = 0.78$, which is statistically acceptable (Table 3.3).

Table (3.3) Reliability of the instrument by Test-Retest

Reliability	N	Pearson correlation	Actual value	Evaluation
Test	10	0.78	0.70	Accepted
Retest	10			

3.11. Data Collection Method

Self-administration approach used to answer the instrument to collect the data. The implementation of the reinforcement educational program completely and data collection conducted in the period (23 January 2022 to 31 March 2022) and required (5) lectures for 3 hours per day to implement. The pretest data collection conducted before beginning the implementation of the program, the post-test (1) data collection applied after implementation the education program directly. The post-test (2) data collected after one month of the post-test (1) date collection.

3.12. Data Analysis Approach

Data of the 60 nurses in the studied groups were checked for errors, inconsistency or incomplete filling of the questionnaire, then all data were transferred into computerized database using Microsoft Excel software and analyzed using the statistical package for social sciences version (26) software for windows. According to the type of variable, they were expressed as frequency, percentage, mean and standard deviation when applicable.

For knowledge score the responses of the nurses in both, the study group and control group, were presented as frequencies for (I know), (uncertain) and (I don't know) response based on the reply of the nurse participated in the study on each item of the 25 items of the questionnaire. The (I know) responses scored (3), uncertain scored (2) and (I don't know) response scored (1). The mean knowledge score for each of the 25 items was calculated by summation of the response score of nurses for that item divided by 30 (number of nurses in each group). The overall mean score for a domain was calculated by summation of the mean scores for all items of that domain divided by the number of items in that domain. The overall mean knowledge score for all domains was calculated by summation of the mean scores of all items divided by 25 (total number of knowledge items in the questionnaire).

For practices score the responses of the nurses in both, the study group and control group, were presented as frequencies for always, sometimes or never response based on the reply of the nurse participated in the study on each item of the 35 practices items of the questionnaire. The always responses scored 3, sometimes scored 2 and never response scored 1. The mean practices score for each of the 35 practices items was calculated by summation of the response score of nurses for that item divided by 30 (number of nurses in each group). The overall mean practices score for a domain was calculated by summation of the mean scores for all items of that domain divided by the number of items in that domain. The overall mean practices score for all domains was calculated by summation of the mean scores of all items divided by 35 (total number of practices items in the questionnaire).

For comparison of mean scores between groups the independent-two samples student's t test was used. To compare the mean scores at pre, post-test (1)

and post-test (2) within each group, repeated measure analysis of variances was used and multiple pairwise comparisons was conducted to assess the changes in mean scores from pre to post-test (1) and (2) within each group; study group and control group. The correlation of the change in the overall mean knowledge and practices scores of each of the study group and control group mean with other variables was assessed using the bivariate correlation test; Spearman's rho test, where the mean knowledge score used as dependent variable against other variables as independent ones. The correlation coefficient (R) value was calculated in this analysis; statistically, the R value ranged between 0 (complete no correlation) and 1 (perfect correlation), however, the R value close to one indicates the stronger correlation. Moreover, the negative signed R value indicates an inverse (negative) correlation. The correlation coefficient can be calculate according to the following equation (3)

All statistical procedures, analysis and testing were performed under a two tailed level of significance (P. value) of 0.05 or less to be considered as significant. Finally, the results and findings of the study were summarized in tables and figures accordingly, using the Microsoft Word Program 2016

3.13. Rating & Scoring:

Hence the scores 1, 2, 3 are used. To find a cut off point for each category, the interval between each two scores was calculated. It is the outcome of the division of the (two intervals (1-2 and 2-3)) by 3 (number of categories (1,2,3)). The interval hence is equal to (0.67). Therefore the mean score of

1. (1 – 1.670) indicate poor
2. (1.671 – 2.34) fair and
3. (2.341 – 3) good

Chapter Four
Results

Results

Table 4. 1. Distribution of the sample according to their demographic characteristics of the studied groups

Variable		Study group (n=30)		Control group (n=30)		P. value	Assessment
		No.	%	No.	%		
Gender	Female	19	63.3	21	70.0	0.534	ns
	Male	11	36.7	9	30.0		
	Total	30	100	30	100		
Marital Status	Married	27	90.0	24	80.0	0.397	ns
	Single	3	10.0	4	13.3		
	Widowed	0	0.0	2	6.7		
	Total	30	100	30	100		
Residency	Urban	18	60.0	15	50.0	0.604	ns
	Rural	12	40.0	15	50.0		
	Total	30	100	30	100		
Educational Achievement	Nursing Secondary School	8	26.7	6	20.0	0.657	ns
	Nursing Institute	20	66.6	23	76.7		
	Nursing College	2	6.7	1	3.3		
	Total	30	100	30	100		

ns: not significant, (%): percentage, P. = probability value

A total of (30) participants were enrolled in the reinforcement education program of the study in addition to (30) participants who did not participate in the program as control group. Both groups were almost matched for their baseline demographic characteristics. Females were dominant in study group and control group represented 63.3% and 70%, respectively. Vast majority of the participants, 90%, in the study group and 80% of controls were married. In the study group, 60% of urban residency, 26.7% had nursing secondary school level, 66.7% had achieved nursing institute level of education and only 6.7% had nursing college

level, the corresponding proportions of these levels in control group were 20%, 76.7% and 3.3%, respectively. In all comparisons of these variables, no statistically significant differences were found between study group and controls, (P. value > 0.05) (Table 4.1).

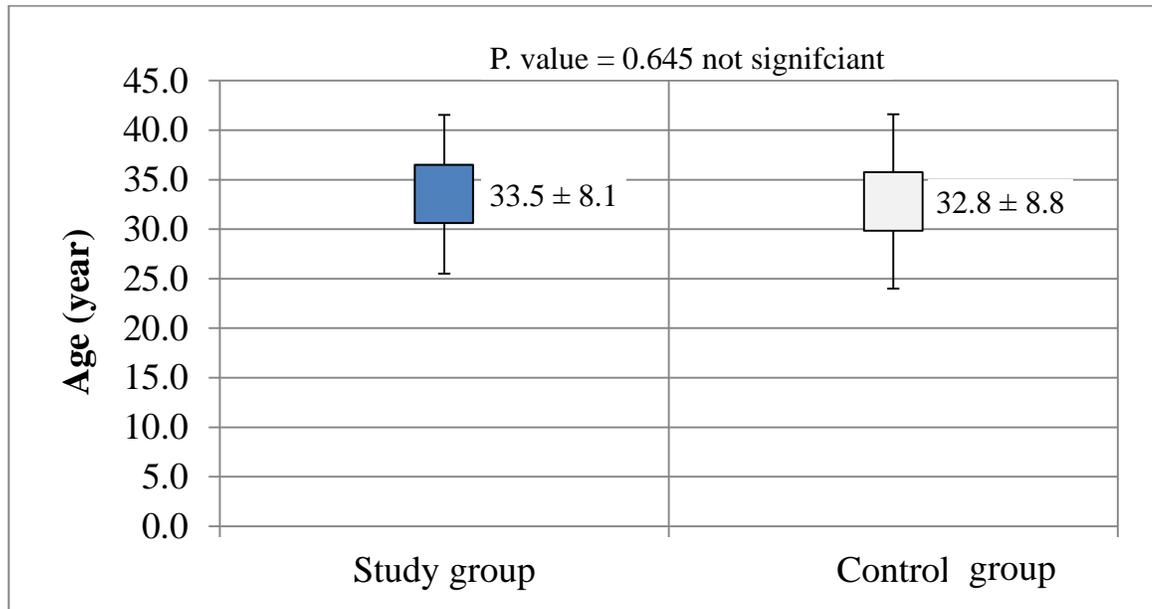


Figure 4.1. Comparison of the studied groups according to age

The mean age of study group was 33.5 ± 8.1 years and that of control was 32.8 ± 8.8 years (Figure 4.1).

Table 4.2. Distribution of the studied groups according to the years of employment

Years of Employment	Study group (n=30)		Control group (n=30)		P. value	Assessment
	No.	%	No.	%		
3 and less	0	0.0	2	6.7	0.631	ns
4-6	11	36.7	10	33.3		
7 and more	19	63.3	18	60.0		

ns: not significant, (%): percentage, P. = probability value

The distribution of the studied groups according to the years of employment revealed that none of the study group and only two participants (6.7%) in control group had less than 3 years of employment, among the study group participants 11 (36.7%) had 4-6 years and 19 (63.3%) had 7 years and more of employment years (Table 4.2).

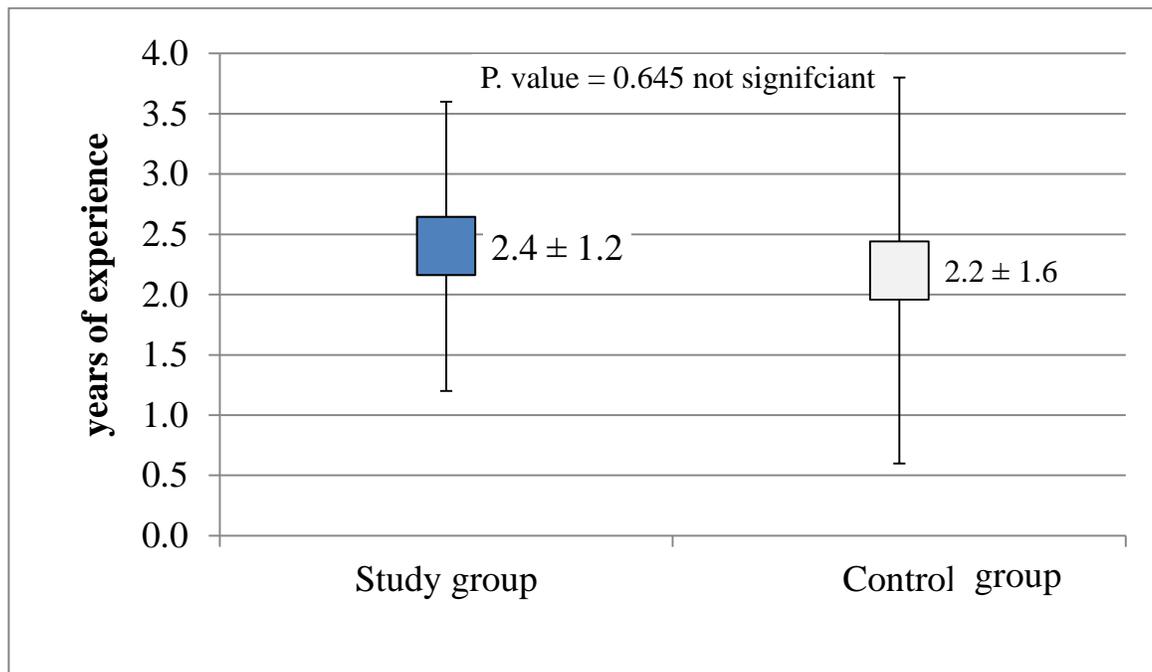


Figure 4.2. Comparison of the studied groups according to the years of experience in IMCI unit

The mean years of experience in IMCI unit was not significantly different between study group and control group, 2.4 ± 1.2 and 2.2 ± 1.6 years, respectively. The difference between both groups is neither significant in the years of employment nor the years of experience in IMCI unit, in both comparison, P. value > 0.05) (Table 4.2. & Figure 4.2.).

Table 4.3. Number of participation and duration of IMCI courses of the studied groups

Variable		Study group (n=30)		Control group (n=30)		P. value	Assessment
		No.	%	No.	%		
Number of participation in IMCI courses	None	17	56.7	15	50.0	0.504	ns
	One course	7	23.3	11	36.7		
	Two or more	6	20.0	4	13.3		
	Total	30	100	30	100		
Duration of Courses in IMCI	None	17	56.7	15	50.0	0.795	ns
	7 days	13	43.3	15	50.0		
	8 days and more	0	0.0	0	0.0		
	Total	30	100	30	100		

ns: not significant, (%): percentage, P. = probability value

In the study group, 17 participants (56.7%), did not participate previously in IMCI courses, 7 participants (23.3%) participated in only one course while 6 participants participated in two IMCI training courses. Among control group, 15 participants (50%) did not participated in IMCI training courses, 11 (36.7%) had one course and 4 (13.3%) participated in two IMCI training courses. The duration of all IMCI training courses was 7 days, with no significant difference between both groups in number or duration of IMCI training courses, (P. value > 0.05) (Table 4.3).

Table 4.4. Responses of study group participants to knowledge about history taking

	Item	I know	Uncertain	I don't know	Mean score	SD
Pre-test	1.Welcoming the mother, showing willingness to help, receiving her well is an important factor in giving her a sense of reassurance and encouraging	30	0	0	3.00	0.00
	2.Admission sick children on the doctor depend on the severity of the child's condition and the presence of danger signs	22	7	1	2.70	0.53
	3.The dose of vitamin - A - for a child under a year is (100000) international units	15	13	2	2.43	0.63
	4.The temperature can be felt by the back of the palm in the lower abdomen	3	15	12	1.70	0.65
	5.After birth, the child (newborn) given vaccine : BCG+ Oral polio virus zero dose+ Hepatitis B virus 1st dose after 24 hours of age	20	7	3	2.57	0.68
	Mean score for this domain				2.48	0.27
Post-test (1)	Item 1	30	0	0	3.00	0.00
	Item 2	30	0	0	3.00	0.00
	Item 3	29	1	0	2.97	0.18
	Item 4	27	3	0	2.90	0.31
	Item 5	27	3	0	2.90	0.31
	Mean score for this domain				2.95	0.10
Post-test (2)	Item 1	30	0	0	3.00	0.00
	Item 2	30	0	0	3.00	0.00
	Item 3	29	1	0	2.97	0.18
	Item 4	27	2	1	2.87	0.43
	Item 5	24	6	0	2.80	0.41
	Mean score for this domain				2.93	0.12

SD: standard deviation, ns: not significant

Table (4.4) Knowledge about history taking in study group before the reinforcement education program, all participants of the study group correctly respond about welcoming the mother, showing willingness to help, receiving her well is an important factor in giving her a sense of reassurance and

encouraging giving a mean knowledge score for this item of 3 out of 3. while unfortunately, only 3 participants have the knowledge about the temperature can be felt by the back of the palm in the lower abdomen, 15 were uncertain and 12 have incorrect information, giving a mean score for this item of 1.7. The overall mean score for this domain before reinforcement education program was 2.48 ± 0.27 .

After the implementation of the reinforcement education program, post-test (1), the knowledge of the study participants increased regarding all other 4 items. However, the overall mean score of this domain increased after reinforcement education at posttest one to reach 2.95 ± 0.10 . At post-test (2), the knowledge of study participants almost remain the same of that at post-test (1) except a relative reduction in the item 5 where the mean score for this item reduced from 2.90 ± 0.31 at post-test (1) to 2.8 ± 0.41 . The overall mean score for this domain at post-test (2) minimally affected where it was 2.95 ± 0.10 at post-test (1) and became 2.93 ± 0.12 .

Table 4.5. Responses of control group participants to knowledge about history taking

	Item	I know	Uncertain	I don't know	Mean score	SD
Pre-test	1.Welcoming the mother, showing willingness to help, receiving her well is an important factor in giving her a sense of reassurance and encouraging	30	0	0	3.00	0.00
	2.Admission sick children on the doctor depend on the severity of the child's condition and the presence of danger signs	14	15	1	2.43	0.57
	3.The dose of vitamin - A - for a child under a year is (100000) international units	20	10	0	2.67	0.48
	4.The temperature can be felt by the back of the palm in the lower abdomen	5	14	11	1.80	0.71
	5.After birth, the child (newborn) given vaccine : BCG+ Oral polio virus zero dose+ Hepatitis B virus 1st dose after 24 hours of age	19	7	4	2.50	0.73
	Mean score for this domain				2.48	0.22
Post-test(1)	Item 1	30	0	0	3.00	0.00
	Item 2	14	15	1	2.43	0.57
	Item 3	21	9	0	2.70	0.47
	Item 4	5	14	11	1.80	0.71
	Item 5	21	6	3	2.60	0.67
	Mean score for this domain				2.51	0.28
Post-test(2)	Item 1	30	0	0	3.00	0.00
	Item 2	14	15	1	2.43	0.57
	Item 3	22	8	0	2.73	0.45
	Item 4	6	13	11	1.83	0.75
	Item 5	20	8	2	2.60	0.62
	Mean score for this domain				2.52	0.21

SD: standard deviation, ns: not significant

Table (4.5.) demonstrate knowledge about history taking in control group, all participants of the control group correctly respond about welcoming the mother,

showing willingness to help, receiving her well is an important factor in giving her a sense of reassurance and encouraging giving a mean knowledge score for this item of 3 out of 3. For the admission sick children on the doctor depend on the severity of the child's condition and the presence of danger signs, 14 participants correctly respond, 15 were uncertain and only one participant incorrectly respond, the mean score for this item was 2.43.

Only five participants have the knowledge about the temperature can be felt by the back of the palm in the lower abdomen, 14 were uncertain and 11 have incorrectly responded, with a mean score for this item of 1.8 ± 0.71 .

The overall mean score for this domain before the implementation of the reinforcement educational program was 2.48 ± 0.22 . The overall mean score for this domain at post-test (1) was 2.51 ± 0.28 . At post-test (2), no significant change occurred in the mean scores of all items, overall mean score for this domain at post-test (2) was 2.53 ± 0.21 .

Table 4.6. Comparison of mean history taking knowledge scores of study group and control group before and after reinforcement education program

History taking	Study group		Control group		P. value (student's t test)	Assessment
	Mean	SD	Mean	SD		
Pre-test	2.48	0.27	2.48	0.19	1.000	ns
Post-test (1)	2.95	0.10	2.51	0.20	<0.001	sig
Post-test (2)	2.93	0.12	2.52	0.19	<0.001	sig
Mean Difference	0.45	0.01	0.04	0.00		
Percentage change	18.0%	5.6%	1.6%	0.5%		
P. value within group (repeated measures ANOVA)	< 0.001 sig		0.116 ns			

SD: standard deviation, ns: not significant, P. = probability value, (%): percentage

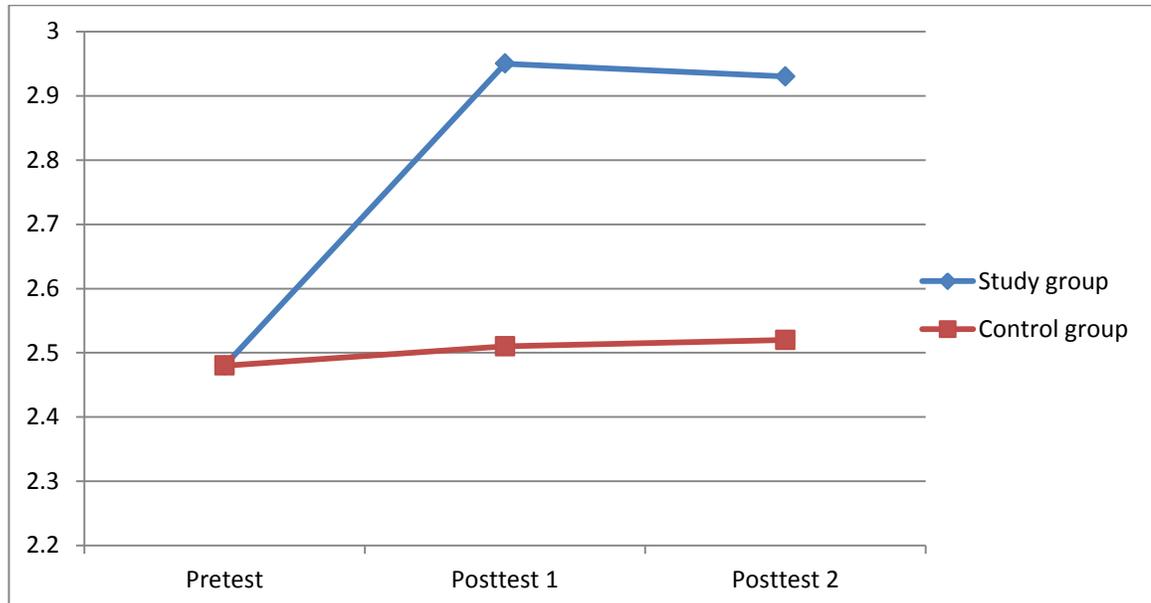


Figure 4.3. Comparing the change in history taking knowledge score of group study and control group

In summary, comparison of mean history taking knowledge score of study group and control group before and after the reinforcement education program revealed no significant difference in mean scores before reinforcement education between study group and control group, ($P>0.05$), a highly significant differences in means score at post-test (1) and post-test (2), at ($P<0.001$). Within each group, it had been observed that the change in knowledge scores regarding history taking increased significantly in the study group where the overall mean score increased from 2.48 at before education program to 2.95 at post-test (1) and almost maintained to 2.93 at post-test (2), from other point of view, the mean difference was 0.45 giving a percentage change of 18%, the change was highly significant, ($P<0.001$). In control group, the change was statistically insignificant where the mean difference was 0.04 and the percentage change was very low at 1.6%, ($P>0.05$). All the responses and comparisons are shown in (Tables 4.4, 4.5 and 4.6, & Figure 4.3).

Table 4.7. Responses of study group participants to knowledge about classification of cases

	Item	I know	Uncertain	I don't know	Mean score	SD
Pre-test	1.The presence of pus draining from the ear for a period of 14 days or more is classified as chronic otitis media	10	16	4	2.20	0.66
	2.Treating child classified (diarrhea with some dehydration) is Plan-B	15	13	2	2.43	0.63
	3.The signs blood in the stool and temperature 38.5 or more classified as a possible Shigilla	4	22	4	2.00	0.53
	4. Depending on the presence of two of the following signs: restless, irritable, sunken eyes, drinking eagerly or thirsty, skin pinch goes back slowly, the condition is classified (some dehydration)	8	15	7	2.03	0.72
	5.Wheezing is an audible whistling sound with breathing during exhalation	19	8	3	2.53	0.68
	6.Average increase in the head circumference in the first year is 10 cm	0	23	7	1.77	0.43
	7.Stridor is a hoarse sound heard during inhalation, when the child is calm	19	8	3	2.53	0.68
	8. BMI to age less than -2 z score is classified as wasting	3	23	4	1.97	0.49
Mean score for this domain					2.20	0.34
Post-test 1(0)	Item 1	29	1	0	2.97	0.18
	Item 2	30	0	0	3.00	0.00
	Item 3	24	6	0	2.80	0.41
	Item 4	25	5	0	2.83	0.38
	Item 5	25	5	0	2.83	0.38
	Item 6	17	13	0	2.57	0.50
	Item 7	27	3	0	2.90	0.31
	Item 8	24	6	0	2.80	0.41
Mean score for this domain					2.86	
Post-test(2)	Item 1	30	0	0	3.00	0.00
	Item 2	30	0	0	3.00	0.00
	Item 3	22	8	0	2.73	0.45
	Item 4	23	7	0	2.77	0.43
	Item 5	26	4	0	2.87	0.35
	Item 6	14	16	0	2.47	0.51
	Item 7	27	3	0	2.90	0.31
	Item 8	20	10	0	2.67	0.48
Mean score for this domain					2.78	

SD: standard deviation

Table (4.7) demonstrated that knowledge of nurses regarding classification of cases in the study group before the reinforcement education program. Only 10 participants of the study group correctly respond about the presence of pus draining from the ear for a period of 14 days or more is classified as chronic otitis media, giving a mean knowledge score for this item of 2.20.

For the knowledge about treating child classified (diarrhea with some dehydration) is plan-B, 15 participants correctly respond, and only 4 participants have the knowledge about the signs blood in the stool and temperature 38.5 or more classified as a possible Shigilla, 22 uncertain, with a mean score 2.0, while eight participants have correctly respond that depending on the presence of two of the following signs: restless, irritable, sunken eyes, drinking eagerly or thirsty, skin pinch goes back slowly, the condition is classified (some dehydration), giving a mean score for this item of 2.03, while 19 participants were correctly know that wheezing is an audible whistling sound with breathing during exhalation, the mean score was 2.53).

Regarding the average increase in the head circumference in the first year, none of the participants knew the correct average, 23 were uncertain and 7 participants incorrectly respond, giving a low mean score for this item of 1.77. Only 3 participants correctly identify that BMI to age less than -2 z score is classified as wasting, 23 were uncertain and 4 incorrectly respond, the mean score for this item was 1.97. The overall mean score for the 8 items in this domain before education was 2.20 ± 0.34 . At post-test (1), the responses of the study participants changed significantly after reinforcement education program in all 8 items of this domain, and the overall mean score of this domain increased from 2.20 before education to 2.86 after education at post-test (1) and maintained at 2.78 at post-test (2).

Table 4.8. Responses control group participants to knowledge about classification of cases

	Item	I know	Uncertain	I don't know	Mean score	SD
Pre-test	1.The presence of pus draining from the ear for a period of 14 days or more is classified as chronic otitis media	11	17	2	2.30	0.60
	2.Treating child classified (diarrhea with some dehydration) is Plan-B	19	11	0	2.63	0.49
	3.The signs blood in the stool and temperature 38.5 or more classified as a possible Shigilla	8	18	4	2.13	0.63
	4Depending on the presence of two of the following signs: restless, irritable, sunken eyes, drinking eagerly or thirsty, skin pinch goes back slowly, the condition is classified (some dehydration)	11	17	2	2.30	0.60
	5.Wheezing is an audible whistling sound with breathing during exhalation	18	11	1	2.57	0.57
	6.Average increase in the head circumference in the first year is 10 cm	2	27	1	2.03	0.32
	7.Stridor is a hoarse sound heard during inhalation, when the child is calm	15	14	1	2.47	0.57
	8.BMI to age less than -2 z score is classified as wasting	4	24	2	2.07	0.45
Mean score for this domain					2.32	0.38
Post-test(1)	Item 1	11	17	2	2.30	0.60
	Item 2	19	11	0	2.63	0.49
	Item 3	8	18	4	2.13	0.63
	Item 4	11	17	2	2.30	0.60
	Item 5	17	12	1	2.53	0.57
	Item 6	3	26	1	2.07	0.37
	Item 7	15	14	1	2.47	0.57
	Item 8	4	24	2	2.07	0.45
Mean score for this domain					2.32	0.37
Post-test (2)	Item 1	15	14	1	2.47	0.57
	Item 2	19	11	0	2.63	0.49
	Item 3	8	18	4	2.13	0.63
	Item 4	10	17	3	2.23	0.63
	Item 5	17	13	0	2.57	0.50
	Item 6	3	26	1	2.07	0.37
	Item 7	16	13	1	2.50	0.57
	Item 8	4	24	2	2.07	0.45
Mean score for this domain					2.31	

Table (4.8.) Knowledge about classification of cases in control group, for the knowledge about treating child classified (diarrhea with some dehydration) is plan-B, 19 participants correctly respond, the mean score for this item was 2.63.

Eight control participants have the knowledge about the signs blood in the stool and temperature 38.5 or more classified as a possible Shigilla, with a mean score for this item of 2.13.

Only two participants in the control group recognized the average increase in the head circumference in the first year, giving a mean score 2.03.

For the knowledge about stridor, 15 participants have the knowledge about it, the mean score for this item was 2.47 and only 4 participants correctly know that BMI to age less than -2 z score is classified as wasting, the mean score 2.07. The overall mean score of control group for the 8 items in this domain before education was 2.32 ± 0.38 .

At post-test (1), the responses of the control group participants did not change significantly after education program in all 8 items of this domain, and the overall mean score of this domain still 2.32 and maintained at 2.31 at post-test (2).

Table 4.9. Comparison of mean classification of cases knowledge scores of study group and control group before and after reinforcement education program

Classification of Cases	Study group		Control group		P. value (student's t test)	Assessment
	Mean	SD	Mean	SD		
Pre-test	2.20	0.28	2.32	0.21	<0.053	ns
Post-test (1)	2.86	0.12	2.32	0.21	<0.001	sig
Post-test (2)	2.78	0.15	2.31	0.22	<0.001	Sig
Mean Difference	0.58	0.02	0.01	0.00		
Percentage change	26.4%	6.7%	0.6%	0.5%		
P. value within group (repeated measures ANOVA)	<0.001 sig		0.475 ns			

SD: standard deviation, ns: not significant, P. = probability value

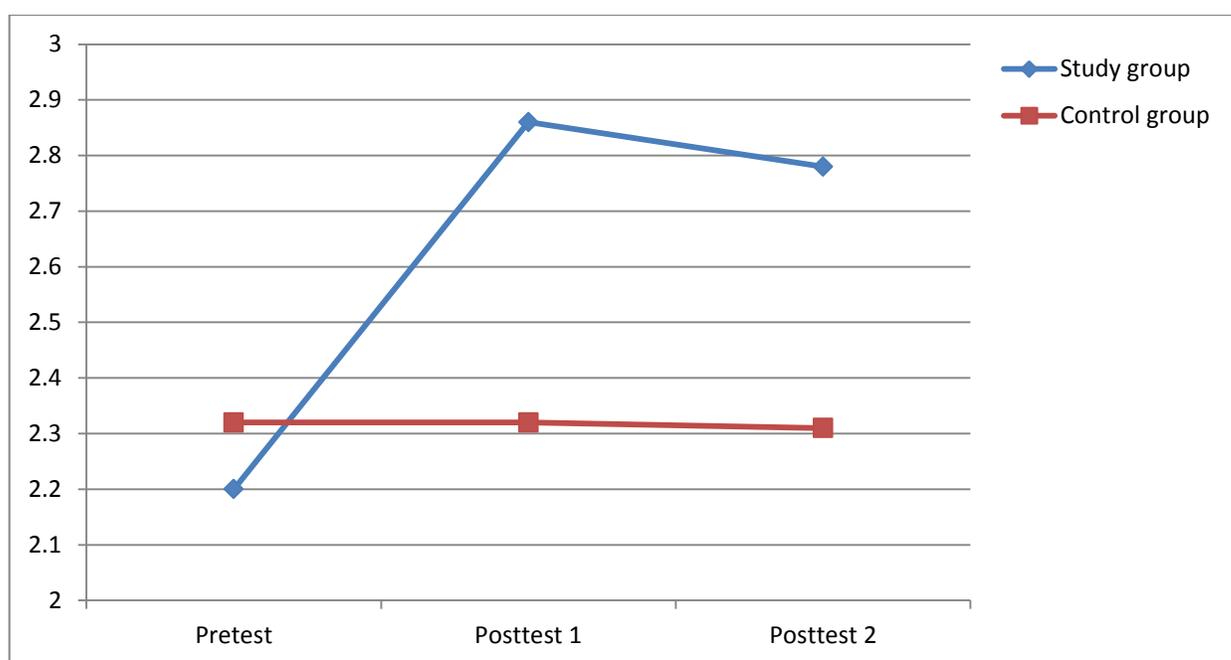


Figure 4.4. Comparing the change in classification of cases knowledge score of study group and control group

Comparison of mean knowledge scores of study group and control group regarding classification of cases before and after reinforcement education program revealed no significant difference in mean scores before reinforcement

education program between study group and control group, ($P>0.05$), a highly significant differences in means score at post-test (1) and post-test (2), at ($P<0.001$). Within each group, it had been observed that the change in knowledge scores regarding classification of cases increased significantly in the study group where the overall mean score increased from 2.20 before reinforcement education program to 2.86 at post-test (1) and almost maintained to 2.78 at post-test (2), with a mean difference of 0.58 and a percentage change of 26.4%, the change was highly significant, ($P<0.001$). In control group, the change was statistically insignificant where the mean difference was only 0.01 and the percentage change was very low at 0.6%, ($P>0.05$). All the responses and comparisons are shown in (Tables 4.7, 4.8 and 4.9, & Figure 4.4).

Table 4.10. Responses of study group participants to knowledge about nutrition and feeding

	Item	I know	Uncertain	I don't know	Mean score	SD
Pre-test	1.Breastfeeding is at least (8) times during (24) hour	19	9	2	2.57	0.63
	2.Can give a little of water to the child who suckles exclusive breastfeeding in the summer	23	2	5	2.60	0.77
	3."Appropriate age to start supplementary foods is after 6 months of age"	22	5	3	2.63	0.67
	4.A child classified (persistent diarrhea) will be referred to the hospital immediately	5	19	6	1.97	0.61
	5. The most dangerous side effect of diarrhea, which endangers a child's life, is dehydration.	30	0	0	3.00	0.00
	6.To prepare ORS you should use 1 liter (5 glasses of 200 ml capacity) clean and secure water	28	2	0	2.93	0.25
	7.Counting of fast breathing for child aged from 2-12 months is 40 breaths per minute or more	3	18	9	1.80	0.61
	Mean score for this domain				2.51	0.27
Post-test (1)	Item 1	30	0	0	3.00	0.00
	Item 2	30	0	0	3.00	0.00
	Item 3	27	3	0	2.90	0.31
	Item 4	25	5	0	2.83	0.38
	Item 5	30	0	0	3.00	0.00
	Item 6	30	0	0	3.00	0.00
	Item 7	24	6	0	2.80	0.41
	Mean score for this domain				2.94	0.16
Post-test (2)	Item 1	30	0	0	3.00	0.00
	Item 2	30	0	0	3.00	0.00
	Item 3	27	3	0	2.90	0.31
	Item 4	24	5	1	2.77	0.50
	Item 5	30	0	0	3.00	0.00
	Item 6	30	0	0	3.00	0.00
	Item 7	20	10	0	2.67	0.48
	Mean score for this domain				2.91	0.18

SD: standard deviation

Table (4.10.) shows that Twenty two participants have the knowledge about appropriate age to start supplementary foods, 5 uncertain and 3 participants incorrectly respond, with a mean score for this item of 2.63.

Five participants have correctly respond that a child classified (persistent diarrhea) will be referred to the hospital immediately, 1 were uncertain and 6 participants have incorrect responses, giving a mean score for this item of 1.97.

All study group participants were correctly know that the most dangerous side effect of diarrhea, which endangers a child's life, is dehydration, the mean score for this item was 3.0).

For the knowledge about counting of fast breathing for child aged from 2-12 months is only 3 participants have the correct knowledge, 18 uncertain and 9 participants had incorrect responses, the mean score for this item was 1.80.

The overall mean score for the 7 items in this domain before education was 2.51 ± 0.27 .

After the implementation reinforcement education program at post-test (1), the responses of the study participants changed significantly after reinforcement education program in all the 7 items of this domain, and the overall mean score of this domain increased from 2.51 before reinforcement education to 2.94 after reinforcement education at post-test (1) and maintained at 2.91 at post-test (2)

Table 4.11. Responses of control group participants to knowledge about nutrition and feeding

	Item	I know	Uncertain	I don't know	Mean score	SD
Pre-test	1.Breastfeeding is at least (8) times during (24) hour	19	9	2	2.57	0.63
	2. Can give a little of water to the child who suckles exclusive breastfeeding in the summer	25	4	1	2.80	0.48
	3.Appropriate age to start supplementary foods is after 6 months of age	25	5	0	2.83	0.38
	4.A child classified (persistent diarrhea) will be referred to the hospital immediately	3	24	3	2.00	0.45
	5.The most dangerous side effect of diarrhea, which endangers a child's life, is dehydration.	28	1	1	2.90	0.40
	6.To prepare ORS you should use 1 liter (5 glasses of 200 ml capacity) clean and secure water	27	3	0	2.90	0.31
	7.Counting of fast breathing for child aged from 2-12 months is 40 breaths per minute or more	2	21	7	1.83	0.53
	Mean score for this domain				2.56	
Post-test (1)	Item 1	20	8	2	2.60	0.62
	Item 2	25	4	1	2.80	0.48
	Item 3	25	5	0	2.83	0.38
	Item 4	3	24	3	2.00	0.45
	Item 5	28	1	1	2.90	0.40
	Item 6	27	3	0	2.90	0.31
	Item 7	4	20	6	1.93	0.58
	Mean score for this domain				2.58	
Post-test (2)	Item 1	21	8	1	2.67	0.55
	Item 2	26	3	1	2.83	0.46
	Item 3	25	5	0	2.83	0.38
	Item 4	3	24	3	2.00	0.45
	Item 5	28	1	1	2.90	0.40
	Item 6	27	3	0	2.90	0.31
	Item 7	6	19	5	2.03	0.61
	Mean score for this domain				2.61	

SD: standard deviation

Table (4.11) shows that only 3 participants have correctly respond that child classified to have (persistent diarrhea) will be referred to the hospital immediately, 24 were uncertain, giving a mean score for this item of 2.00. Regarding the knowledge about the most dangerous side effect of diarrhea, which endangers a child's life, is dehydration, 28 participants correctly replied, one participant was uncertain and one participant gave the incorrect response, the mean score for this item was 2.90. Out of the 30 control group, 27 know the correct method of ORS preparation, the mean score for this item was 2.90. Regarding the knowledge about counting of fast breathing for child aged from 2-12 months, only two participants correctly replied, giving a low mean score for this item of 1.83. The overall mean score for this domain before reinforcement education program was 2.56 ± 0.34 . At post-test (1), the responses of the control group participants did not change significantly after education program in all of the 7 items of this domain, and the overall mean of this domain did not significantly increased it was 2.56 before education program and 2.58 at post-test (1), and 2.61 at post-test (2).

Table 4.12. Comparison of mean nutrition and feeding knowledge score of study group and control group before and after reinforcement education program

Nutrition and feeding	Study group		Control group		P. value (student's t test)	Assessment
	Mean	SD	Mean	SD		
Pre-test	2.51	0.24	2.56	0.17	<0.356	ns
Post-test (1)	2.94	0.10	2.58	0.15	<0.001	sig
Post-test (2)	2.91	0.15	2.61	0.16	<0.001	sig
Mean Difference	0.41	0.01	0.05	0.00		
Percentage change	16.2%	5.6%	2.0%	0.6%		
P. value within group (repeated measures ANOVA)	<0.001 sig		0.231 ns			

SD: standard deviation, ns: not significant, P. = probability value

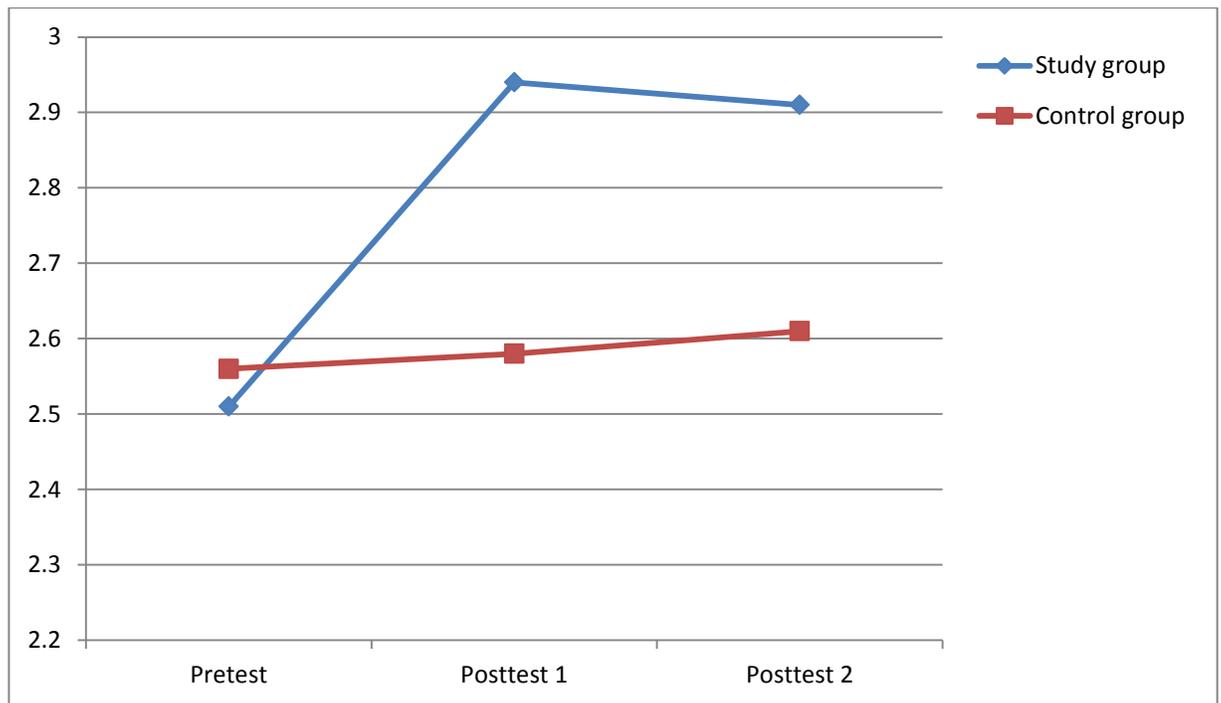


Figure 4.5. Comparing the change in nutrition and feeding knowledge score of study group and control group

Comparison of mean knowledge score of study group and control group regarding the knowledge about nutrition and feeding before and after reinforcement education program revealed no significant difference in mean scores before education program between study group and control group, ($P > 0.05$), a highly significant differences in means score at post-test (1) and post-test (2), at ($P < 0.05$). Within each group, it had been found that the change in knowledge scores regarding nutrition and feeding increased significantly in the study group where the overall mean score increased from 2.51 before education program to 2.94 while, at post-test (1) and almost maintained to 2.91 at post-test (2), with a mean difference of 0.41 and a percentage change of (16.2%), the change was highly significant, ($P < 0.05$).

Table 4.13. Responses of study group participant to knowledge about counseling and advice

	Item	I know	Uncertain	I don't know	Mean score	SD
Pre-test	1.In case of a feeding problem, follow-up will take place after two days	6	20	4	2.07	0.58
	2.The proper time for starting breastfeeding is within first hour after delivery	28	2	0	2.93	0.25
	3.Increased fluid is one of three basic advices that should be given to the mother from nurse for any sick children under two years of age	24	4	2	2.73	0.58
	4. The head circumference of a child at the age of 3-6 months increases at a rate of 1 centimeter per month	4	25	1	2.10	0.40
	5.Zinc is given to treat pneumonia and diarrhea once daily for 10-14 days	5	13	12	1.77	0.73
	Mean score for this domain				2.32	0.26
Post-test (1)	Item 1	26	4	0	2.87	0.35
	Item 2	30	0	0	3.00	0.00
	Item 3	30	0	0	3.00	0.00
	Item 4	22	8	0	2.73	0.45
	Item 5	29	1	0	2.97	0.18
	Mean score for this domain				2.91	0.20
Post-test (2)	Item 1	25	5	0	2.83	0.38
	Item 2	30	0	0	3.00	0.00
	Item 3	30	0	0	3.00	0.00
	Item 4	21	9	0	2.70	0.47
	Item 5	28	2	0	2.93	0.25
	Mean score for this domain				2.89	0.26

SD: standard deviation

Table (4.13.) Only 6 participants of the study group correctly replied that in case of feeding problem, follow-up will take place after two days, giving a mean knowledge score for this item of 2.07. For the knowledge about the appropriate time to start breastfeed within first hour after delivery 28 participants correctly respond, the mean score for this item was 2.93. Twenty four participants have the correct knowledge about increased fluid as one of three basic advices that should be given to

the mother from nurse for any sick children under two years of age, 4 uncertain and 2 had incorrect responses, with a mean score for this item of 2.73

Unfortunately, only five participants knew about the zinc given to treat pneumonia and diarrhea once daily for 10-14 days, 13 participants were uncertain, the mean score for this item was 1.77. The overall mean score for the 5 items in this domain before education was 2.32 ± 0.26 . The responses of the study participants changed significantly after reinforcement education program, the overall mean score of this domain increased to 2.91 after education at post-test (1) and 2.89 at post-test (2).

Table 4.14. Responses of control group participants to knowledge about counseling and advice

	Item	I know	Uncertain	I don't Know	Mean score	SD
Pre-test	1.In case of a feeding problem, follow-up will take place after two days	6	20	4	2.07	0.58
	2. The proper time for starting breastfeeding is within first hour after delivery	27	3	0	2.90	0.31
	3.Increased fluid is one of three basic advices that should be given to the mother from nurse for any sick children under two years of age	22	7	1	2.70	0.53
	4. The head circumference of a child at the age of 3-6 months increases at a rate of 1 centimeter per month	4	26	0	2.13	0.35
	5.Zinc is given to treat pneumonia and diarrhea once daily for 10-14 days	2	11	17	1.50	0.63
	Mean score for this domain				2.26	0.33
Post-test (1)	Item 1	7	20	3	2.13	0.57
	Item 2	27	3	0	2.90	0.31
	Item 3	22	7	1	2.70	0.53
	Item 4	4	26	0	2.13	0.35
	Item 5	3	11	16	1.57	0.68
	Mean score for this domain				2.29	0.23
Mean score for this domain at post-test (2)					2.31	0.24

Table (4.14.) only 6 participants of the control group correctly replied that in case of feeding problem, follow-up will take place after two days, 20 participants were uncertain, giving a mean knowledge score for this item of 2.07.

For the knowledge about the appropriate time to start 27 participants correctly respond, the mean score for this item was 2.90. Two participants were correctly know about the zinc given to treat pneumonia and diarrhea once daily for 10-14 days, the mean score was 1.50.

The overall mean score for the 5 items in this domain before reinforcement education was 2.26 ± 0.33 . At post-test (1), the responses of the control group participants did not significantly changed after education program in all the 5 items of this domain, and the overall mean score of this domain was 2.26 ± 0.33 before education, 2.29 ± 0.23 after education at post-test (1) and 2.31 at post-test (2).

Table 4.15. Comparison of mean counseling and advice knowledge scores of study group and control group before and after reinforcement education program

Counseling	Study group		Control group		P. value (student's t test)	Assessment
	Mean	SD	Mean	SD		
Pre-test	2.32	0.27	2.26	0.25	0.369	ns
Post-test (1)	2.91	0.15	2.29	0.26	<0.001	sig
Post-test (2)	2.89	0.16	2.31	0.27	<0.001	sig
Mean Difference	0.57	0.02	0.05	0.001		
Percentage change	24.7%	7.2%	2.1%	0.5%		
P. value within group (repeated measures ANOVA)	<0.001 sig		0.102 ns			

SD: standard deviation, ns: not significant, P. = probability value

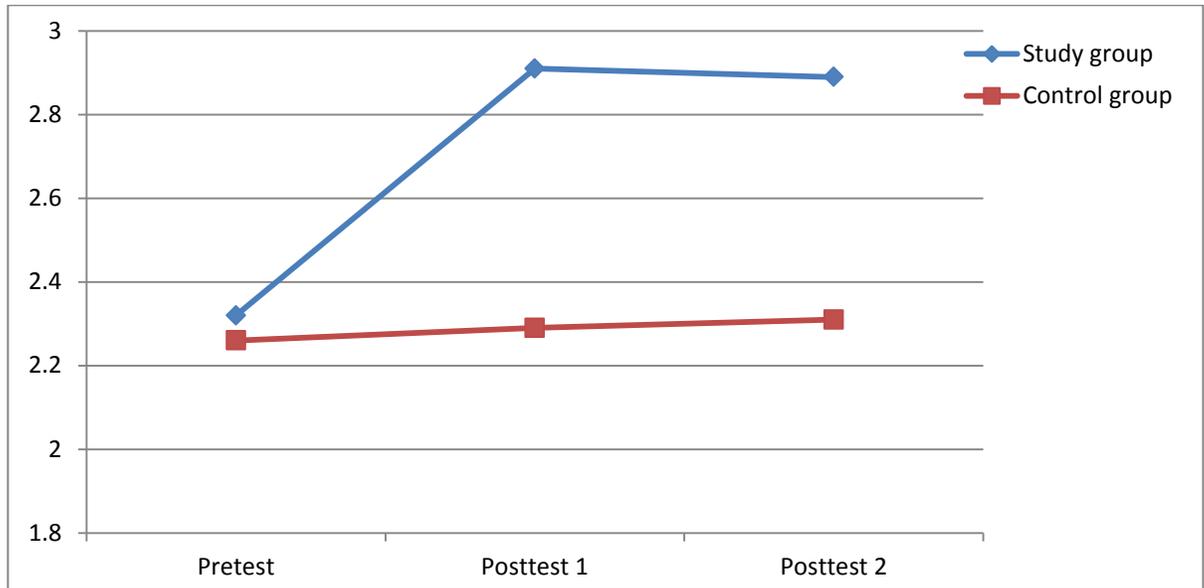


Figure 4.6. Comparing the change in counseling knowledge score of study group and control group

Comparison of mean knowledge score of study group and control group regarding the knowledge about counseling and advice scores before and after reinforcement education program revealed no significant difference in mean scores before reinforcement education program between study group and control group, ($P > 0.05$), a highly significant differences in means score at post-test (1) and post-test (2), at ($P < 0.001$). Within each group, it had been found that the change in knowledge scores regarding counseling and advice increased significantly in the study group where the overall mean score increased from 2.32 before reinforcement education program to 2.91, at post-test (1) and almost maintained to 2.89 at post-test (2), with a mean difference of 0.57 and a percentage change of 24.7%, the change was highly significant, ($P < 0.001$). In control group, the change was statistically insignificant where the mean difference was only 0.05 and the percentage change was 2.1%, ($P > 0.05$). All the responses and comparisons are shown in (Tables 4.13 and 4.14 & 4.15 & Figure 4.6).

Table 4.16. Comparison of overall mean knowledge scores for all domains of study group and control group before and after reinforcement education program

Overall for all Domains	Study group		Control group		P. value (student's t test)	Assessment
	Mean	SD	Mean	SD		
Pre-test	2.36	0.19	2.40	0.11	0.285	ns
Post-test (1)	2.90	0.09	2.42	0.11	<0.001	sig
Post-test (2)	2.87	0.10	2.44	0.11	<0.001	Sig
Mean Difference	0.51	0.02	0.04	0.001	<0.001	sig
Percentage change	21.8%	9.1%	1.6%	1.1%		
P. value within group (repeated measures ANOVA)	< 0.001 sig		0.166 ns			

SD:standard deviation, ns: not significant, P. = probability value

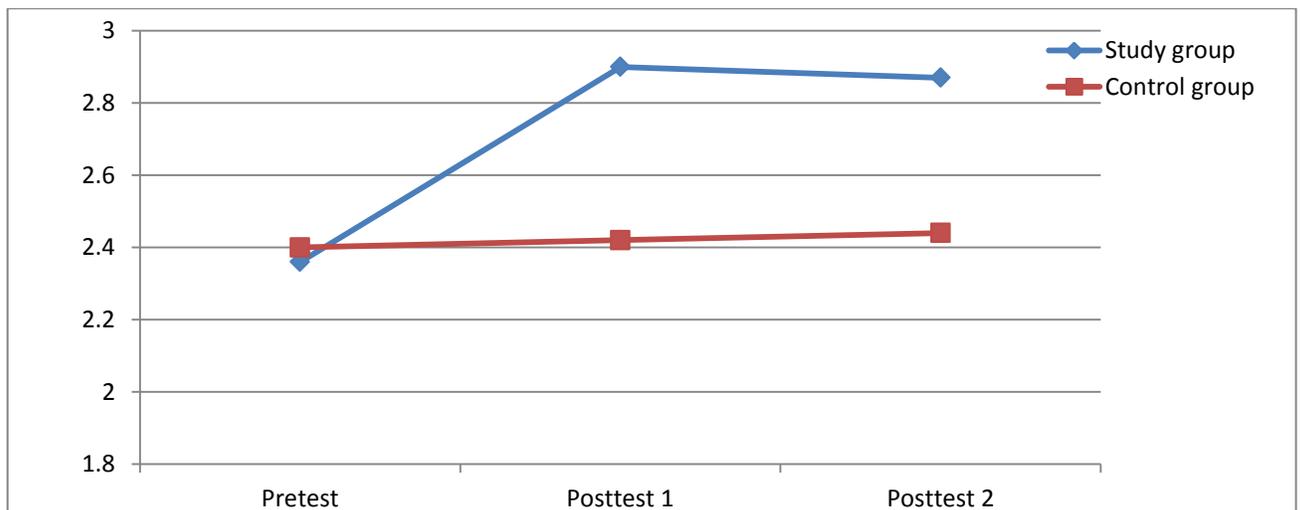


Figure 4.7. Comparing the change in overall mean knowledge scores of study group and control group

Comparison of mean knowledge score of study group and control group for all domains revealed no significant difference in mean scores before reinforcement education program (pretest) between both groups, ($P > 0.05$), a highly significant differences in means score at post-test (1) and post-test (2), at ($P < 0.001$). Within each group, it had been found that the change in overall knowledge scores increased significantly in the study group where the overall mean score for all domains

increased from 2.36 ± 0.19 before education program to 2.90 ± 0.09 at post-test (1) with a mean difference of 0.51 and a percentage change of 21.8%, the change was highly significant, ($P < 0.001$). In control group, the change was statistically insignificant where the mean score before education was 2.40 ± 0.11 , at post-test (1) was 2.42 ± 0.11 with a mean difference of only 0.04 and the percentage change was 1.6%, ($P > 0.05$). The comparisons are summarized in (Table 4.16 & Figure 4.7).

Table 4.17. Comparison of overall level of knowledge of study group and control group before and after reinforcement education program

Knowledge		Study group		Control group		P. value	Assessment
		No.	%	No.	%		
Pre-test	Good	18	60.0	20	66.6	0.158	Ns
	Fair	12	40.0	10	33.3		
	Poor	0	0.0	0	0.0		
Post-test (1)	Good	30	100.0	21	70.0	0.030	Sig
	Fair	0	0.0	9	30.0		
	Poor	0	0.0	0	0.0		
Post-test (2)	Good	30	100.0	20	66.6	0.060	Ns
	Fair	0	0.0	10	33.3		
	Poor	0	0.0	0	0.0		

SD: standard deviation, ns: not significant, P. = probability value

The level of knowledge of participants of the study group was good in 18 (60%) participants and fair in 12 (40%) participant while none had poor knowledge before education program, after reinforcement education program at post-test (1), all participants in this group became of good knowledge level, similarly at post-test (2). In control group, no similar change was reported, where the number of participants with good knowledge was 20 before education and 10 participants had fair knowledge, after education program, no significant change reported, the number of good knowledge participants was 21 and it was 20 at post-test (2). The differences between both groups was statistically insignificant before education and it was significant at post-test (1) and not significant at post-test (2), regarding the frequency of good knowledge.

Table 4.18. Practices of study group participants about history taking

	Item	Always	Sometime	Never	Mean score	SD
Pre test	1. Greets the child's caregiver	25	5	0	2.83	0.38
	2. Asks about the child's complaint(s) and the duration	19	11	0	2.63	0.49
	3. Triage cases in order to prioritize seeing a doctor	4	25	1	2.10	0.40
	4. Check out for general danger sings	2	16	12	1.67	0.61
	5. Asks about fever and the duration of fever if present	16	13	1	2.50	0.57
	6. Asks if the child is unable to breastfeed or drink	0	23	7	1.77	0.43
	7. Asks whether the child vomits everything	7	19	4	2.10	0.61
	8. Ask if the child have cough or difficult breathing	22	7	1	2.70	0.53
	9. I look for edema of both feet	2	10	18	1.47	0.63
	10. Check the child immunization schedule and history	24	6	0	2.80	0.41
	11. Record height and weight with a growth chart	19	10	1	2.60	0.56
	12. Ask at least one question about the mother's health	6	18	6	2.00	0.64
Mean score for this domain					2.28	0.23
Post-test (1)	Item 1	29	1	0	2.97	0.18
	Item 2	29	1	0	2.97	0.18
	Item 3	24	6	0	2.80	0.41
	Item 4	22	8	0	2.73	0.45
	Item 5	29	1	0	2.97	0.18
	Item 6	27	3	0	2.90	0.31
	Item 7	26	4	0	2.87	0.35
	Item 8	30	0	0	3.00	0.00
	Item 9	9	20	1	2.27	0.52
	Item 10	29	1	0	2.97	0.18
	Item 11	29	1	0	2.97	0.18
	Item 12	21	9	0	2.70	0.47
Mean score for this domain					2.84	0.09
Post-test (2)	Item 1	29	1	0	2.97	0.18
	Item 2	29	1	0	2.97	0.18
	Item 3	25	5	0	2.83	0.38
	Item 4	23	7	0	2.77	0.43
	Item 5	27	3	0	2.90	0.31
	Item 6	24	6	0	2.80	0.41
	Item 7	26	4	0	2.87	0.35
	Item 8	29	1	0	2.97	0.18
	Item 9	11	17	2	2.30	0.60
	Item 10	30	0	0	3.00	0.00
	Item 11	29	1	0	2.97	0.18
	Item 12	20	10	0	2.67	0.48
Mean score for this domain					2.83	0.09

Table (4.18) shows that twenty five participants of the study group replied that they always greets the child's caregiver, giving mean practice score 2.83.

The number of participants that always practicing asking about the child's complaint(s) and the duration was 19. Only 4 participants triage cases in order to prioritize seeing a doctor, only two always check out for general danger sings, none of participants always ask if the child is unable to breastfeed or drink, while only two participants always looking for edema of both feet, and only 6 participants always ask at least one question about the mother's health. However, the overall mean practice score for this domain before education was 2.28 ± 0.23 .

At post-test (1), the practices of the study group was significantly improved and the overall mean practice score for this domain increased to 2.84 ± 0.09 and maintained at 2.83 ± 0.09 , all these findings are summarized in (Table 4.18).

Table 4.19. Practices of control group participants about history taking

	Item	Always	Sometime	Never	Mean score	SD
Pre-test	1. Greets the child's caregiver	23	7	0	2.77	0.43
	2. Asks about the child's complaint(s) and the duration	16	14	0	2.53	0.51
	3. Triage cases in order to prioritize seeing a doctor	2	27	1	2.03	0.32
	4. Check out for general danger sings	1	19	10	1.70	0.53
	5. Asks about fever and the duration of fever if present	17	13	0	2.57	0.50
	6. Asks if the child is unable to breastfeed or drink	3	24	3	2.00	0.45
	7. Asks whether the child vomits everything	8	18	4	2.13	0.63
	8. Ask if the child have cough or difficult breathing	20	10	0	2.67	0.48
	9. look for edema of both feet	0	17	13	1.57	0.50
	10. Check the child immunization schedule and history	26	4	0	2.87	0.35
	11. Record height and weight with a growth chart	22	8	0	2.73	0.45
	12. Ask at least one question about the mother's health	5	23	2	2.10	0.48
	Mean score for this domain				2.32	0.19
Post-test (1)	Item 1	23	7	0	2.77	0.43
	Item 2	16	14	0	2.53	0.51
	Item 3	2	27	1	2.03	0.32
	Item 4	1	20	9	1.73	0.52
	Item 5	17	13	0	2.57	0.50
	Item 6	3	24	3	2.00	0.45
	Item 7	7	19	4	2.10	0.61
	Item 8	20	10	0	2.67	0.48
	Item 9	0	17	13	1.57	0.50
	Item 10	27	3	0	2.90	0.31
	Item 11	24	6	0	2.80	0.41
	Item 12	5	23	2	2.10	0.48
	Mean score for this domain				2.33	0.18
Post-test (2)	Item 1	24	6	0	2.80	0.41
	Item 2	16	14	0	2.53	0.51
	Item 3	2	27	1	2.03	0.32
	Item 4	1	21	8	1.77	0.50
	Item 5	16	14	0	2.53	0.51
	Item 6	3	24	3	2.00	0.45
	Item 7	8	19	3	2.17	0.59
	Item 8	19	11	0	2.63	0.49
	Item 9	0	18	12	1.60	0.50
	Item 10	27	3	0	2.90	0.31
	Item 11	24	6	0	2.80	0.41
	Item 12	6	22	2	2.13	0.51
	Mean score for this domain				2.34	0.18

Table (4.19) showed that twenty three participants of the control group replied that they always greet the child's caregiver, the mean practice score 2.83.

Only one participant always check out for general danger sings, 17 participants always ask about fever and the duration of fever if present, 3 participants always ask if the child is unable to breastfeed or drink, 8 always ask whether the child vomits everything, 20 always ask if the child have cough or difficult breathing, none of participants always looking for edema of both feet, 26 participants always check the child immunization schedule and history, 22 record height and weight with a growth chart and only 5 participants always ask at least one question about the mother's health. The higher mean score among these 12 practice items reported in the check the child immunization schedule and history, it was 2.87, while the lowest score of 1.57 reported with looking for edema in both feet. However, the overall mean practice score for this domain before education was 2.32 ± 0.19 . At post-test (1), the practices of the control group not significantly changed (Table 4.19).

Table 4.20. Comparison of history taking practice score of study group and control group before and after reinforcement education program

History taking	Study group		Control group		P. value (student's t test)	Assessment
	Mean	SD	Mean	SD		
Pre-test	2.28	0.23	2.32	0.19	0.435	ns
Post-test (1)	2.84	0.09	2.33	0.18	<0.001	sig
Post-test (2)	2.83	0.09	2.34	0.18	<0.001	sig
Mean Difference	0.55	0.02	0.02	0.00	<0.001	sig
Percentage change	24.3%	7.9%	0.9%	0.5%		
P. value within group (repeated measures ANOVA)	<0.001 sig		0.153 ns			

Figure SD: standard deviation, ns: not significant, P. = probability value

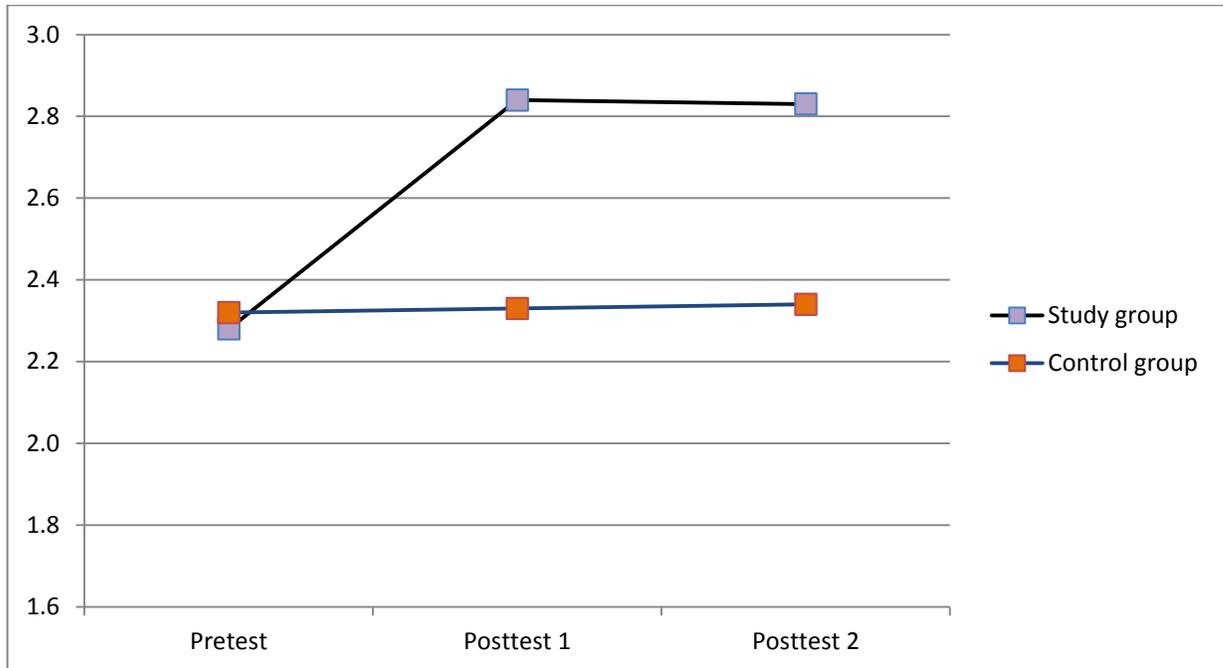


Figure 4.8. Comparing the change in history taking practices score for study group and control group

Comparison of mean practices score for study group and control group regarding the practice about history taking before and after reinforcement education program revealed no significant difference in mean scores before education program between study group and control group, ($P > 0.05$), a highly significant differences in means score at post-test (1) and post-test (2), at ($P < 0.001$). Within each group, it had been found that the change in practice scores regarding history taking increased significantly in the study group where the overall mean score increased from 2.28 before education program to 2.84 at post-test (1) and almost maintained to 2.83 at post-test (2), with a mean difference of 0.55 and a percentage change of 24.3%, the change was highly significant, ($P < 0.001$). In control group, the change was statistically insignificant where the mean difference was only 0.02 and the percentage change was 0.9%, ($P > 0.05$). As shown in (Table 4.20 & Figure 4.8).

Table 4.21. Practices of study group participants about classification of cases

	Item	Always	Sometime	Never	Mean score	SD
Pre-test	1. Measure the temperature at the beginning of the examination	13	15	2	2.37	0.61
	2. Measure the child's mid-upper arm circumference (MUAC)	3	18	9	1.80	0.61
	3. listening to the child's chest using a stethoscope to examine the child's chest whether the child has a cough	0	9	21	1.30	0.47
	4. Pinches the skin of the abdomen when the child suffer from diarrhea.	5	18	7	1.93	0.64
	5. Examines anterior fontanel in less than 9 months child suffering diarrhea	1	17	12	1.63	0.56
	6. Wear a medical face mask when examining the throat	4	17	9	1.83	0.65
	7. Count breathing for 60 seconds	13	14	3	2.33	0.66
	8. Ask about convulsions	9	15	6	2.10	0.71
	9. Take off the child heavy clothes and shoes before putting them directly on the scale	21	9	0	2.70	0.47
Mean score for this domain					2.00	0.31
Post-test (1)	Item 1	29	1	0	2.97	0.18
	Item 2	13	15	2	2.37	0.61
	Item 3	3	20	7	1.87	0.57
	Item 4	24	6	0	2.80	0.41
	Item 5	18	11	1	2.57	0.57
	Item 6	8	22	0	2.27	0.45
	Item 7	30	0	0	3.00	0.00
	Item 8	28	2	0	2.93	0.25
	Item 9	30	0	0	3.00	0.00
Mean score for this domain					2.64	0.19
Post-test (2)	Item 1	30	0	0	3.00	0.00
	Item 2	14	14	2	2.40	0.62
	Item 3	4	18	8	1.87	0.63
	Item 4	25	5	0	2.83	0.38
	Item 5	18	11	1	2.57	0.57
	Item 6	8	22	0	2.27	0.45
	Item 7	30	0	0	3.00	0.00
	Item 8	27	3	0	2.90	0.31
	Item 9	28	2	0	2.93	0.25
Mean score for this domain					2.64	0.21

Table (4.20) thirteen participants of the study group replied that they always measure the temperature at the beginning of the examination, 15 were sometimes and 2 were never, the mean practice score for this item was 2.37 ± 0.61 .

The number of participants that always practiced measuring the child's mid-upper arm circumference (MUAC) was 3, none of the participants always listened to the child's chest using a stethoscope to examine the child's chest whether the child has a cough, 5 participants always pinched the skin of the abdomen when the child suffer from diarrhea.

Only one participant practiced examining anterior fontanel in less than 9 months child suffering diarrhea. while 4 participants always wear a medical face mask when examining the throat, 13 participants always count breathing for 60 seconds, 9 participants always ask about convulsions, and 21 participants always take off the child heavy clothes and shoes before putting them directly on the scale and this item get the higher practice score of 2.70 ± 0.47 before reinforced education while the lowest practice score before reinforced education of 1.30 ± 0.47 reported in the listening to the child's chest using a stethoscope to examine the child's chest whether the child has a cough. Overall mean practice score for the practices regarding classification of cases domain in the study group was 2.00 ± 0.31 .

At post-test (1), the practices of the study group significantly improved and the overall mean practice score for this domain increased to 2.64 ± 0.19 and it was 2.64 ± 0.21 at post-test (2). These findings are demonstrated in (Table 4.21).

Table 4.22. Practices of control group participants about classification of cases

	Item Control group	Always	Sometime	Never	Mean score	SD
Pre-test	1. Measure the temperature at the beginning of the examination	19	11	0	2.63	0.49
	2. Measure the child's mid-upper arm circumference (MUAC)	2	22	6	1.87	0.51
	3. Listening to the child's chest using a stethoscope to examine the child's chest whether the child has a cough	3	8	19	1.47	0.68
	4. Pinches the skin of the abdomen when the child suffer from diarrhea.	4	21	5	1.97	0.56
	5. Examines anterior fontanel in less than 9 months child suffering diarrhea	2	20	8	1.80	0.55
	6. Wear a medical face mask when examining the throat	6	19	5	2.03	0.61
	7. Count breathing for 60 seconds	13	16	1	2.40	0.56
	8. Ask about convulsions	9	20	1	2.27	0.52
	9. Take off the child heavy clothes and shoes before putting them directly on the scale	23	7	0	2.77	0.43
Mean score for this domain					2.13	0.21
Post-test (1)	Item 1	19	11	0	2.63	0.49
	Item 2	2	22	6	1.87	0.51
	Item 3	3	8	19	1.47	0.68
	Item 4	4	23	3	2.03	0.49
	Item 5	2	20	8	1.80	0.55
	Item 6	6	19	5	2.03	0.61
	Item 7	14	16	0	2.47	0.51
	Item 8	9	20	1	2.27	0.52
	Item 9	23	7	0	2.77	0.43
Mean score for this domain					2.15	0.38
Post-test (2)	Item 1	19	11	0	2.63	0.49
	Item 2	2	22	6	1.87	0.51
	Item 3	3	9	18	1.50	0.68
	Item 4	4	23	3	2.03	0.49
	Item 5	2	20	8	1.80	0.55
	Item 6	6	19	5	2.03	0.61
	Item 7	14	16	0	2.47	0.51
	Item 8	9	20	1	2.27	0.52
	Item 9	23	7	0	2.77	0.43
Mean score for this domain					2.15	0.38

Table (4.22) shows that 23 participants always take off the child heavy clothes and shoes before putting them directly on the scale the higher practice score reported in this domain with a mean of 2.77 ± 0.43 while the lowest practice score before education of 1.47 ± 0.68 reported in the listening to the child's chest using a stethoscope to examine the child's chest whether the child has a cough. Overall mean practice score for the practices regarding classification of cases domain in the control group was 2.13 ± 0.21 . At post-test (1), the practices of the control group the overall mean practice score was 2.15 ± 0.38 and it was 2.15 ± 0.38 at post-test (2).

Table 4.23. Comparison classification of cases practice score of study group and control group before and after reinforcement education program

Classification of cases	Study group		Control group		P. value (student's t test)	Assessment
	Mean	SD	Mean	SD		
Pre-test	2.00	0.31	2.13	0.21	0.071	ns
Post-test (1)	2.64	0.19	2.15	0.38	<0.001	sig
Post-test (2)	2.64	0.21	2.15	0.38	<0.001	sig
Mean Difference	0.64	0.02	0.02	0.00	<0.001	sig
Percentage change	32%	6.9%	0.9%	0.5%		
P. value within group (repeated measures ANOVA)	<0.001 sig		0.159 ns			

SD: standard deviation, ns: no significant difference, P. = probability value

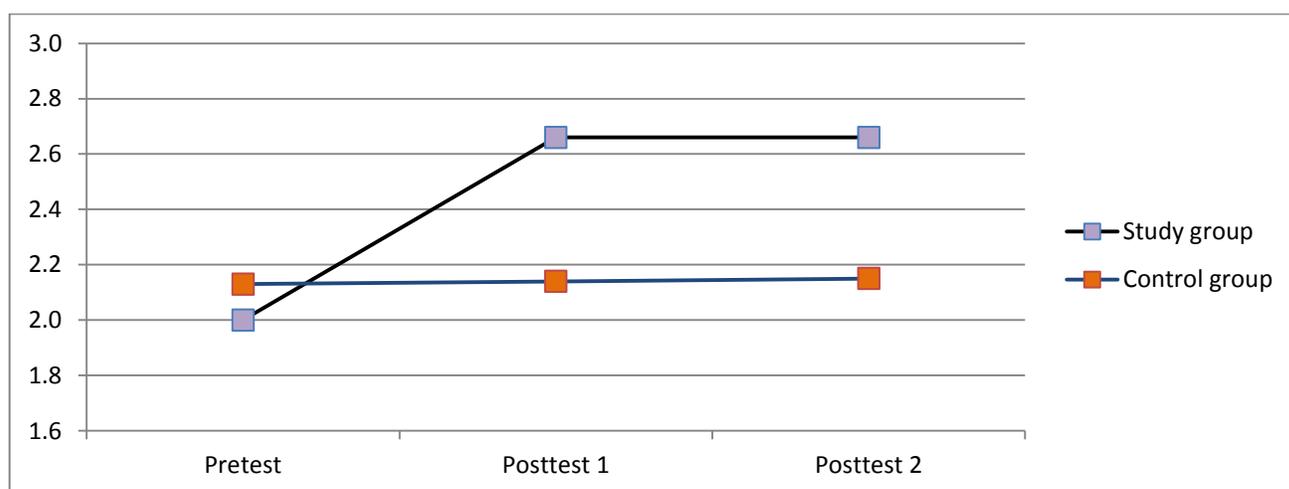


Figure 4.9. Comparing the change in classification of cases practice scores of study group and control group

Comparison of mean practice score for study group and control group regarding the practice about classification of cases before and after reinforcement education program revealed no significant differences in means score before education program between study group and controls, ($P>0.05$), a highly significant differences in means score at post-test (1) and post-test (2), at ($P<0.001$). Within each group, it had been found that the change in practice scores regarding classification of cases increased significantly in the study group where the overall mean score increased from 2.00 before reinforcement education program to 2.64 at post-test (1) and maintained at 2.64 at post-test (2), with a mean difference of 0.64 and a percentage change of 32%, the change was highly significant, ($P<0.001$). In control group, the change was statistically insignificant where the mean difference was only 0.02 and the percentage change was 0.9%, ($P>0.05$). As shown in (Table 4.23 & Figure 4.9).

Table 4.24. Practices of study group participants about nutrition and feeding

	Item	Always	Sometime	Never	Mean score	SD
Pre-test	1. Give the mother two ORS packets when she return home to finish treating the child's diarrhea	24	5	1	2.77	0.50
	2. Give advice on the frequency of feeding	24	6	0	2.80	0.41
	3. Advise the caregiver to continue to give as much ORS solution as the child old (2-less 5) years wants, but at least 1/2 cup after each loose stool	8	19	3	2.17	0.59
	4. Help the caregiver prepare and administer the first dose of oral medication when needed	0	10	20	1.33	0.48
	5. Refer the child with Red Mid Upper Arm Circumference strip	9	14	7	2.07	0.74
	6. I measure the height or length index for age Z score +3 means very long	11	17	2	2.30	0.60
	7. Check for feeding problem through the following signs (Not able to feed) (Not suckling at all) (No attachment at all)	6	11	13	1.77	0.77
Mean score for this domain					2.16	0.43
Post-test (1)	Item 1	30	0	0	3.00	0.00
	Item 2	28	2	0	2.93	0.25
	Item 3	28	2	0	2.93	0.25
	Item 4	5	19	6	1.97	0.61
	Item 5	18	11	1	2.57	0.57
	Item 6	26	4	0	2.87	0.35
	Item 7	21	4	5	2.53	0.78
Mean score for this domain					2.69	0.25
Post-test (2)	Item 1	30	0	0	3.00	0.00
	Item 2	28	2	0	2.93	0.25
	Item 3	27	3	0	2.90	0.31
	Item 4	4	20	6	1.93	0.58
	Item 5	21	8	1	2.67	0.55
	Item 6	26	4	0	2.87	0.35
	Item 7	20	5	5	2.50	0.78
Mean score for this domain					2.69	0.33

SD: standard deviation

Table (4.24) shows that the higher mean practice score of 2.80 is reported in the item of giving advices on the frequency of feeding and the lowest practice score before reinforcement education was of 1.33 ± 0.48 reported in helping the caregiver prepare and administer the first dose of oral medication when needed. The overall mean practice score regarding nutrition and feeding domain in the study group was 2.16 ± 0.43 .

At post-test (1), the practices of the study group were significantly improved and the overall mean practice score for this domain was 2.16 ± 0.43 before reinforcement education and increased to 2.69 ± 0.25 at post-test (1), 2.69 ± 0.33 at post-test (2). These findings are demonstrated in (Table 4.24).

Table 4.25. Practices of control group participants about nutrition and feeding

	Item	Always	Sometime	Never	Mean score	SD
Pre-test	1. Give the mother two ORS packets when she return home to finish treating the child's diarrhea	27	3	0	2.90	0.31
	2. Give advice on the frequency of feeding	23	7	0	2.77	0.43
	3. Advise the caregiver to continue to give as much ORS solution as the child old (2-less 5) years wants, but at least 1/2 cup after each loose stool	4	25	1	2.10	0.40
	4. Help the caregiver prepare and administer the first dose of oral medication when needed	1	16	13	1.60	0.56
	5. Refer the child with Red Mid Upper Arm Circumference strip	3	26	1	2.07	0.37
	6. I measure the height or length index for age Z score +3 means very long	7	22	1	2.20	0.48
	7. Check for feeding problem through the following signs (Not able to feed) (Not suckling at all) (No attachment at all)	10	17	3	2.23	0.63
Mean score for this domain					2.27	0.30
Post-test (1)	Item 1	27	3	0	2.90	0.31
	Item 2	23	7	0	2.77	0.43
	Item 3	4	25	1	2.10	0.40
	Item 4	1	16	13	1.60	0.56
	Item 5	3	26	1	2.07	0.37
	Item 6	7	22	1	2.20	0.48
	Item 7	11	17	2	2.30	0.60
Mean score for this domain					2.28	0.30
Post-test (2)	Item 1	27	3	0	2.90	0.31
	Item 2	23	7	0	2.77	0.43
	Item 3	4	26	0	2.13	0.35
	Item 4	1	17	12	1.63	0.56
	Item 5	3	26	1	2.07	0.37
	Item 6	9	20	1	2.27	0.52
	Item 7	11	16	3	2.27	0.64
Mean score for this domain					2.29	0.30

SD: standard deviation

Table (4.25) practices of control group participants about nutrition and feeding Twenty seven participants of the control group replied that they always give the mother two ORS packets when she returns home to finish treating the child's diarrhea, 3 were sometimes and none was never, the mean practice score for this item was 2.90 ± 0.50 which represent the higher reported practice score in this domain.

The lowest practice score before reinforcement education was of 1.60 ± 0.56 reported in helping the caregiver prepare and administer the first dose of oral medication when needed. The overall mean practice score regarding nutrition and feeding domain before education in the control group was 2.27 ± 0.30 .

At post-test (1), the practices of the control group were not significantly changed and the overall mean practice score for this domain was 2.27 ± 0.30 before education, 2.28 ± 0.30 at post-test (1) and 2.29 ± 0.30 at post-test (2).

These findings are demonstrated in (Table 4.25).

Table 4.26. Comparison Nutrition and feeding practice score of study group and control group before and after reinforcement education program

Nutrition and feeding	Study group		Control group		P. value (student's t test)	Assessment
	Mean	SD	Mean	SD		
Pretest	2.16	0.43	2.27	0.30	0.085	ns
Posttest 1	2.69	0.25	2.28	0.30	< 0.001	sig
Posttest 2	2.69	0.33	2.29	0.30	< 0.001	sig
Mean Difference	0.53	0.02	0.02	0.00	< 0.001	sig
Percentage change	24.5%	7.8%	0.9%	0.5%		
P. value within group (repeated measures ANOVA)	<0.001 sig		0.157 ns			

Figure SD: standard deviation, ns: not significant, P. = probability value

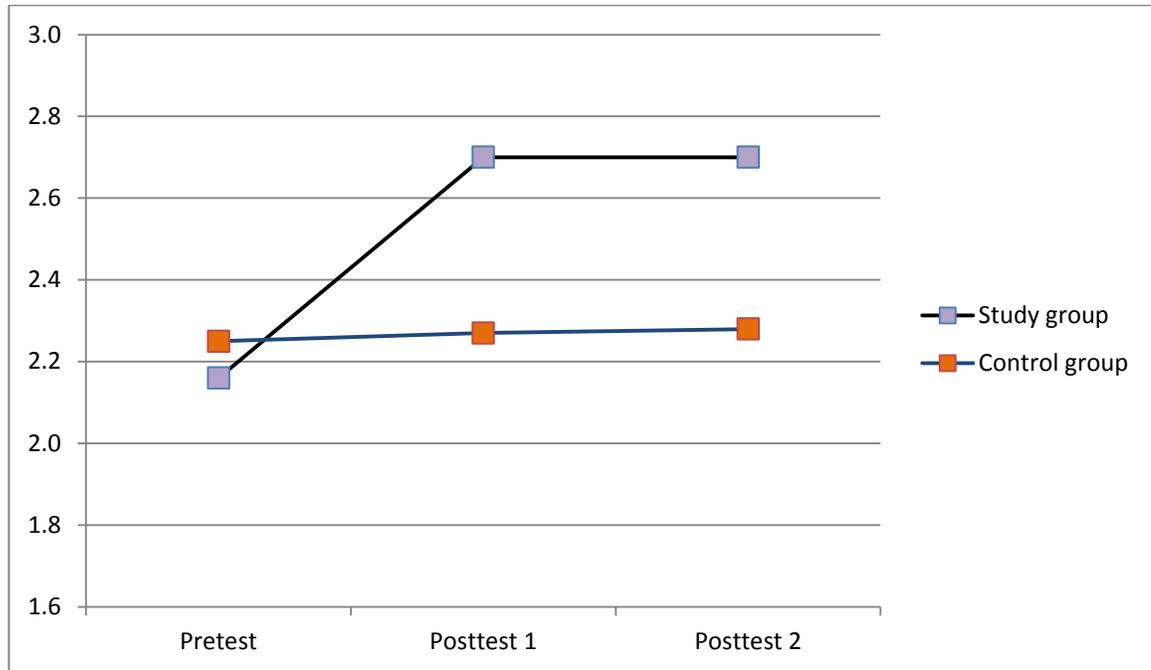


Figure 4.10. Comparing the change in nutrition and feeding practice score for study group and controls group

Comparison of mean practice score for study group and control group regarding the practices about nutrition and feeding before and after reinforcement education program revealed no significant difference in mean scores before education program between study group and controls, ($P>0.05$), a highly significant differences in means score at post-test (1) and post-test (2), at ($P<0.001$). Within each group, it had been found that the change in practice scores regarding nutrition and feeding increased significantly in the study group where the overall mean score increased from 2.16 before reinforcement education program to 2.69 at post-test (1) and maintained at 2.69 at post-test (2), with a mean difference of 0.53 and a percentage change of 24.5%, the change was highly significant, ($P<0.001$). In control group, the change was statistically insignificant where the mean difference was 0.02 and the percentage change was only 0.9%, ($P>0.05$). As shown in (Table 4.26 & Figure 4.10).

Table 4.27. Practices of study group participants about counseling

	Item	Always	Sometime	Never	Mean score	SD
Pre-test	Consistently demonstrate to the caregiver how to administer the child's medication	2	21	7	1.83	0.53
	Advise mother when to return immediately	16	14	0	2.53	0.51
	Give advice to continue breastfeeding	26	4	0	2.87	0.35
	Discusses child feeding during the illness	3	26	1	2.07	0.37
	Discuss about breastfeeding for under-2 children	22	7	1	2.70	0.53
	Checking if the child is on time for vaccination	28	2	0	2.93	0.25
	Asking if the caregiver have any questions	3	24	3	2.00	0.45
	Mean score for this domain				2.42	0.21
Post-test (1)	Item 1	9	20	1	2.27	0.52
	Item 2	29	1	0	2.97	0.18
	Item 3	30	0	0	3.00	0.00
	Item 4	26	4	0	2.87	0.35
	Item 5	30	0	0	3.00	0.00
	Item 6	30	0	0	3.00	0.00
	Item 7	24	6	0	2.80	0.41
	Mean score for this domain				2.86	0.12
Post-test (2)	Item 1	11	17	2	2.30	0.60
	Item 2	30	0	0	3.00	0.00
	Item 3	30	0	0	3.00	0.00
	Item 4	23	7	0	2.77	0.43
	Item 5	30	0	0	3.00	0.00
	Item 6	30	0	0	3.00	0.00
	Item 7	20	10	0	2.67	0.48
	Mean score for this domain				2.83	0.16

Table (4.27) related to Practices about counseling in the study group Among the study group the higher mean score item was checking whether the child is due for

vaccination with a mean of 2.93 ± 0.25 while the lowest score in the consistently demonstrate to the caregiver how to administer the child's medication with a mean of 1.83 ± 0.53 . The overall mean practice score regarding counseling domain in the study group was 2.42 ± 0.21 . At post-test (1), the practices of the study group were significantly improved and the overall mean practice score for this domain was 2.42 ± 0.21 before reinforcement education and increased to 2.86 ± 0.12 at post-test (1), it was 2.83 ± 0.16 at post-test (2), these findings are demonstrated in (Table 4.27).

Table 4.28. Practices of control group participants about counseling

	Item	Always	Sometime	Never	Mean score	SD
Pre-test	1. Consistently demonstrate to the caregiver how to administer the child's medication	2	26	2	2.00	0.37
	2. Advise mother when to return immediately	18	12	0	2.60	0.50
	3. Give advice to continue breastfeeding	26	4	0	2.87	0.35
	4. Discusses child feeding during the illness	5	24	1	2.13	0.43
	5. Discuss about breastfeeding for under-2 children	20	10	0	2.67	0.48
	6. Checking if the child is on time for vaccination	28	2	0	2.93	0.25
	7. Asking if the caregiver have any questions	6	24	0	2.20	0.41
	Mean score for this domain				2.49	0.19
Post-test (1)	Item 1	2	26	2	2.00	0.37
	Item 2	18	12	0	2.60	0.50
	Item 3	26	4	0	2.87	0.35
	Item 4	5	24	1	2.13	0.43
	Item 5	19	11	0	2.63	0.49
	Item 6	28	2	0	2.93	0.25
	Item 7	6	24	0	2.20	0.41
	Mean score for this domain				2.49	0.19

Table (4.28) regarding Practices about counseling related to control group. Only 2 participants in the control group consistently demonstrate to the caregiver how to administer the child's medication, 18 always advise mother when to return

immediately, 26 always give advice to continue breastfeeding, 5 always discuss child feeding during the illness, 20 always discuss about breastfeeding for under-2 children, 28 always checking if the child is on time for vaccination and 6 participants always ask whether the child's caregiver have any question.

The higher mean score item was checking whether the child is due for vaccination with a mean of 2.93 ± 0.25 while the lowest score in the teaching the caregiver how to administer the child's medication with a mean of 2.00 ± 0.37 .

The overall mean practice score regarding counseling domain in the study group was 2.49 ± 0.19 . At post-test (1), the practices of the control group were almost not changed and no significant difference was reported, the mean score at post-test (1) was 2.49 ± 0.19 and 2.51 ± 0.21 at post-test 2. These findings are demonstrated in (Table 4.28).

Table 4.29. Comparison counseling practice score of study group and controls before and after reinforcement education program

Counseling	Study group		Control group		P. value (student's t test)	Assessment
	Mean	SD	Mean	SD		
Pre-test	2.42	0.21	2.49	0.19	0.167	ns
Post-test (1)	2.86	0.12	2.49	0.19	<0.001	sig
Post-test (2)	2.83	0.16	2.51	0.21	<0.001	sig
Mean Difference	0.41	0.01	0.02	0.001	<0.001	sig
Percentage change	17.1%	6.5%	0.5%	0.6%		
P. value within group (repeated measures ANOVA)	<0.001 sig		0.317 ns			

Figure SD: standard deviation, ns: not significant, P. = probability value

Comparison of mean practice scores of study group and control group regarding the practices about counseling before and after reinforcement education program revealed no significant difference in mean scores before education program between study group and control group, ($P > 0.05$), a highly significant differences in means score at post-test (1) and post-test (2), at

($P < 0.001$). Within each group, it had been found that the mean practice scores regarding counseling increased significantly in the study group where the overall mean score increased from 2.42 before reinforcement education program to 2.86 at post-test (1) and maintained at 2.83 at post-test (2), with a mean difference of 0.41 and a percentage change of 17.1%, the change was highly significant, ($P < 0.001$). In control group, the change was statistically insignificant where the mean difference was only 0.02 and the percentage change was only 0.9%, ($P > 0.05$). As shown in (Table 4.29 & Figure 4.11).

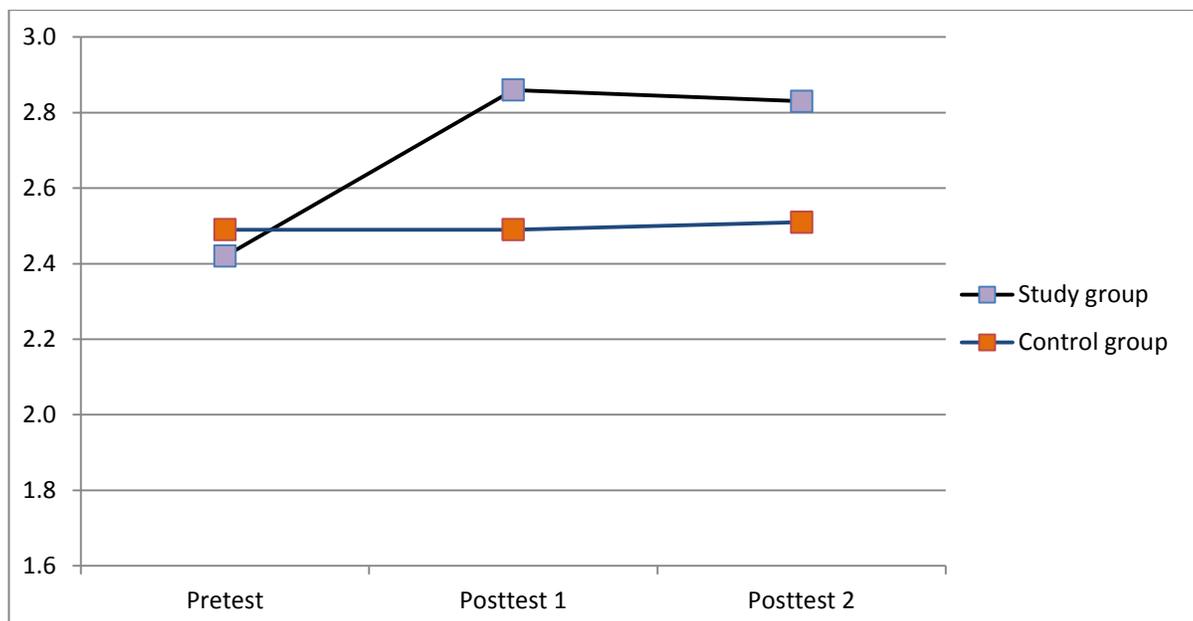


Figure 4.11. Comparing the change in counseling practice scores of study group and control group

Table 4.30. Comparison overall practice score for all domain of study group and control group before and after reinforcement education program

Practices	Study group		Control group		P. value (student's t test)	Assessment
	Mean	SD	Mean	SD		
Pre-test	2.21	0.20	2.29	0.17	0.095	Ns
Post-test (1)	2.76	0.09	2.30	0.16	<0.001	sig
Post-test (2)	2.75	0.11	2.31	0.16	<0.001	sig
Mean Difference	0.54	0.02	0.02	0.001	<0.001	sig
Percentage change	24.4%	9.1%	0.9%	0.7%		
P. value within group (repeated measures ANOVA)	<0.001 sig		0.150 ns			

Figure SD: standard deviation, ns: not significant, P. = probability value

Comparison of overall mean practice scores of study group and control group for all domains revealed no significant difference in mean scores before reinforcement education program (pretest) between both groups, ($P > 0.05$), a highly significant differences in means score at post-test (1) and post-test (2), at ($P < 0.001$). Within each group, it had been found that the change in overall practice scores increased significantly in the study group where the overall mean score for all domains increased from 2.21 ± 0.20 before reinforcement education program to 2.76 ± 0.09 at post-test (1) and almost maintained to 2.75 ± 0.11 at post-test (2), with a mean difference of 0.54 and a percentage change of 24.4%, the change was highly significant, ($P < 0.001$). In control group, the change was statistically insignificant where the mean score before reinforcement education was 2.29 ± 0.17 , at post-test (1) was 2.30 ± 0.16 and at post-test (2) it was 2.31 ± 0.16 with a mean difference of only 0.02 and the percentage change was 0.9%, ($P > 0.05$). The comparisons are summarized in (Tables 4.30 & Figure 4.12).

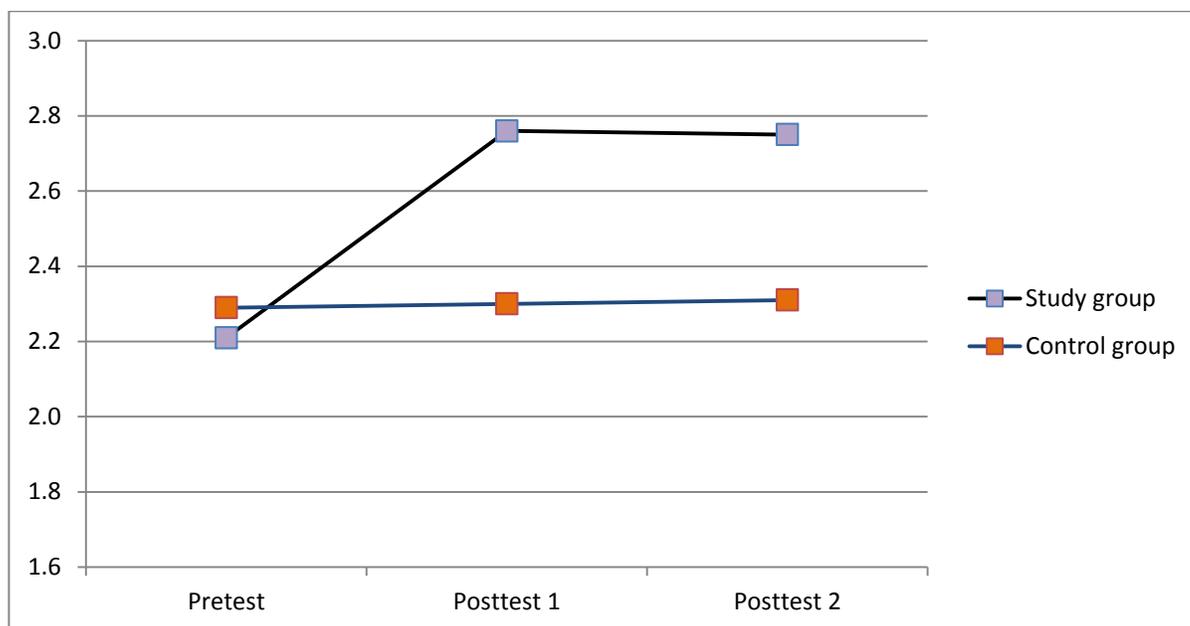


Figure 4.12. Comparing the change in overall practice score of study group and control group

Table 4.31. Comparison levels of overall practice of study group and control group before and after reinforcement education program

Practice		Study group		Control group		P. value	Assessment
		No.	%	No.	%		
Pre-test	Good	11	36.7	13	43.3	0.792	Ns
	Fair	19	63.3	17	56.7		
	Poor	0	0.0	0	0.0		
Post-test (1)	Good	30	100.0	12	40.0	<0.001	Sig
	Fair	0	0.0	18	60.0		
	Poor	0	0.0	0	0.0		
Post-test (2)	Good	30	100.0	12	40.0	<0.001	Sig
	Fair	0	0.0	18	60.0		
	Poor	0	0.0	0	0.0		

Table (4.32) the level of practice of participants in the study group was good in 11 (36.7%) participants and fair in 19 (63.3%) participant while none

had poor practice before reinforcement education program, after reinforcement education program at post-test (1), all participants in this group became of good practice level, similarly at post-test (2). In control group, no similar change was reported, where the number of participants with good practice was 13 before reinforcement education and 17 participants had fair practice, after reinforcement education program, no significant change reported, the number of good practice participants was 12 and it was 12 at posttest 2. The differences between both groups was statistically insignificant before education and it was significant at post-test (1) and at post-test (2), regarding the frequency of good practice, ($P < 0.001$).

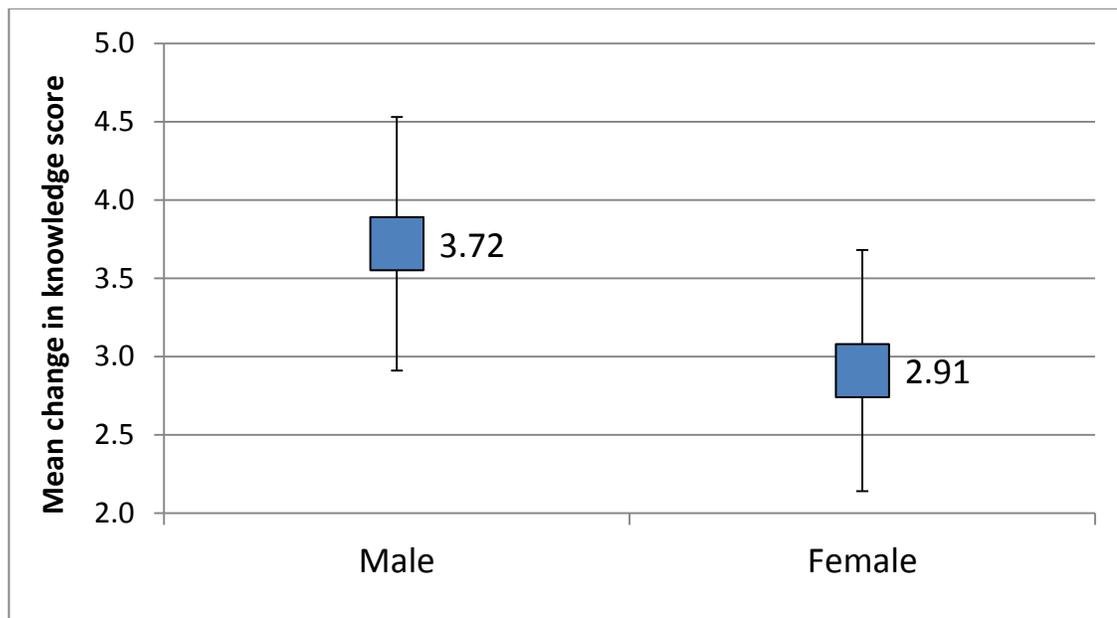


Figure 4.14. Comparing the change in knowledge score in males than females

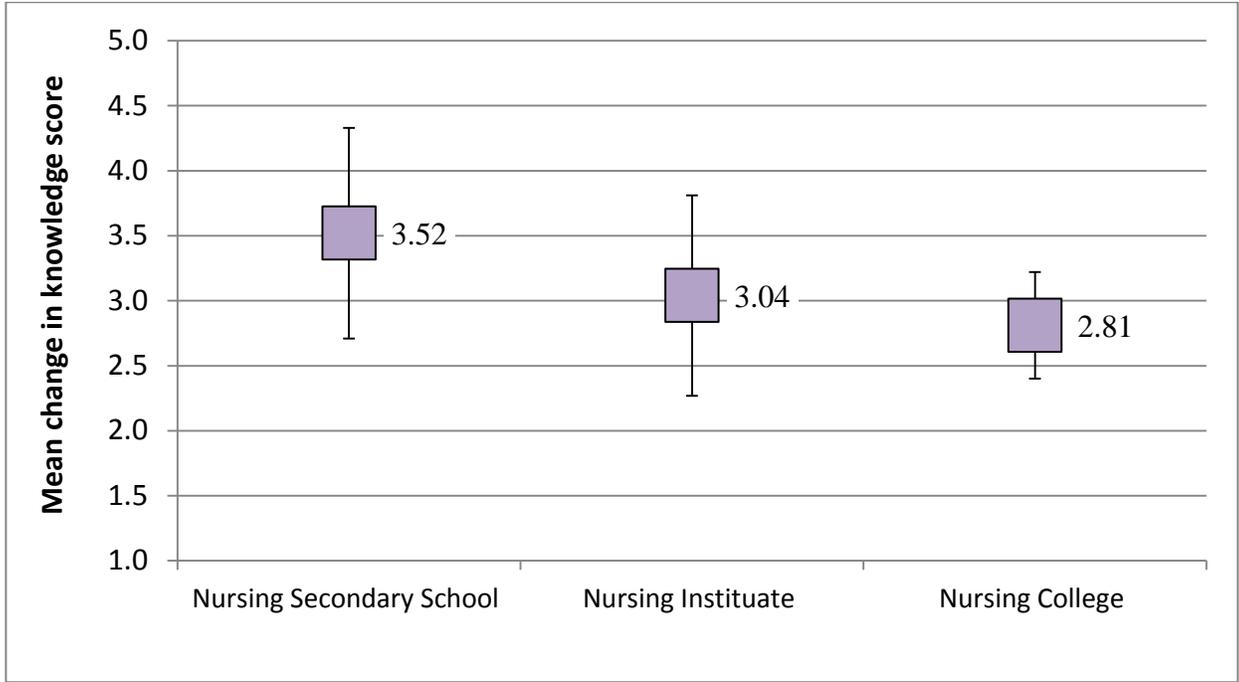


Figure 4.15. Comparing the change in knowledge score according to level of education.

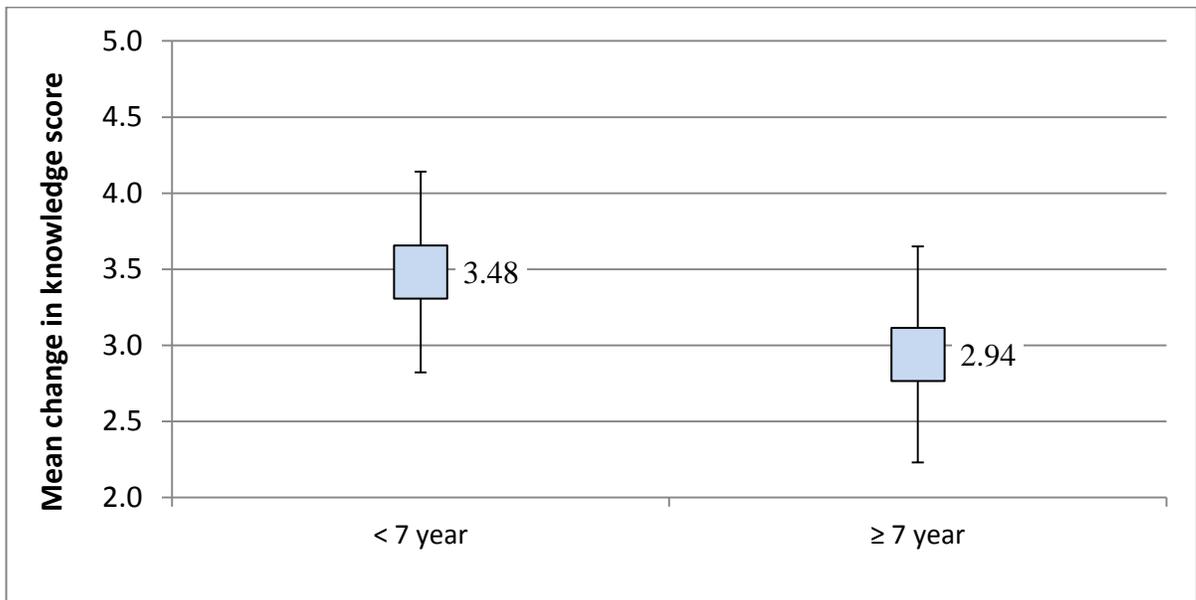


Figure 4.16. Comparing the change in knowledge score according to years of employment

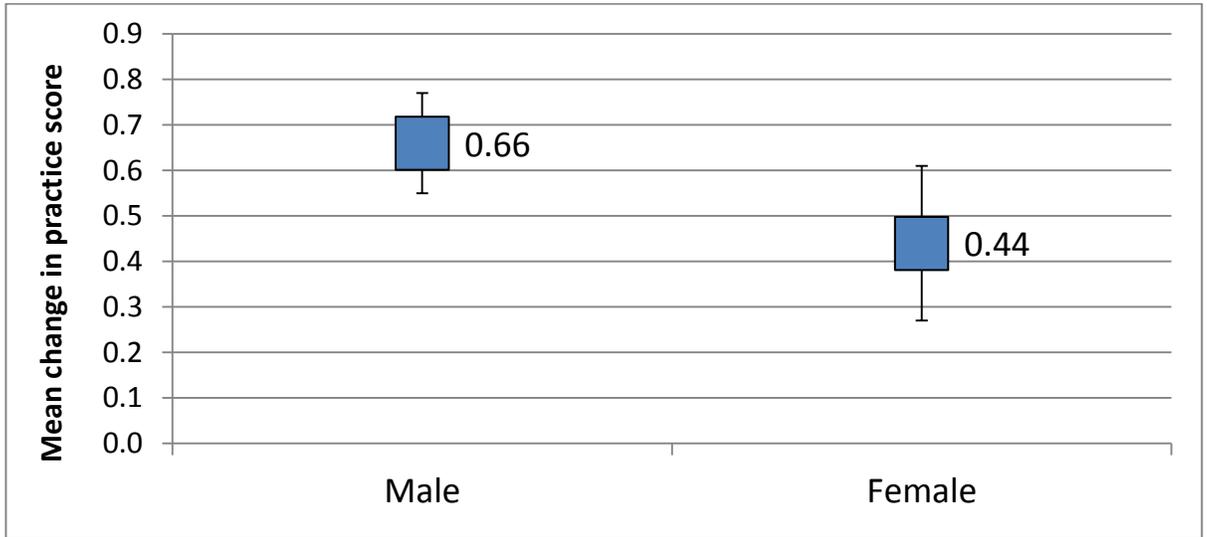


Figure 4.18. Comparing the change in practice score in males than females

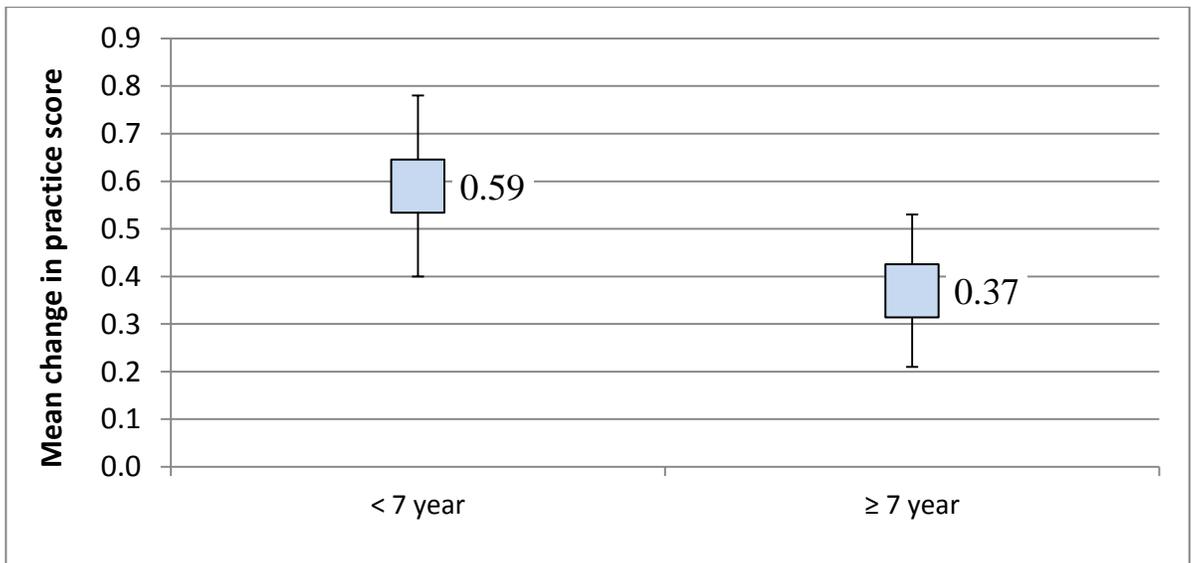


Figure 4.19. Comparing the change in practice score according to years of employment

Chapter Five

Discussion

Discussion of the study results

In this chapter a systematic, organized discussion and scientific interpretation of the study findings reinforced by evidence from related studies and the related literature will be available.

5.1. Discussion of socio-demographic characteristic of the studied groups

The results of the present study showed that the majority of the study group and control group were female. Nurses working in IMCI units are dealing with children less than five which are brought by their mothers so the presenting of female nurses making the communication and the child management more easily, also the community's view for nursing profession differed from the previous one, and the profession became more popular for both genders this result something popular with a study done by (Muhaisen *et al.*, 2021) which revealed that majority of the study group was female, while (Seid & Sendo, 2018) found that majority of participants were male. In regard of marital status majority of both study group and control group were married this result is something popular as most nurses are employed and earning some enough budget so they have the opportunity to marry, while regarding residency the finding of this study found that majority of the study group were urban residence this results comes along with (Hussein & Farhood, 2019) which found that most prevalence of the study sample in Babylon were married, while (Muhaisen *et al.*, 2021) found that most of the participants in Babylon were urban residency.

Regarding educational achievement the majority of the study sample where had nursing institute, the distribution of nurses in hospitals and PHCCs is depending on the allocation and the shortage of MoH which permit only the

nurses who have diploma degree in nursing to work in such institutions. This result supported by (Abd Al-Wahid & Nagi, 2015) who found that the highest percentage of the study sample was technician institute graduate and represented (58.6%) of the study sample.

The mean age (mean \pm SD) group of the study sample was (33.5 \pm 8.1) and the control group (32.8 \pm 8.8), the IMCI units are vital units which need to be operated by young nurses, this period of age is considered the period of giving because the person is active and energetic, as well as, earned enough experience that helps him to accomplish his tasks in a better way. To ensure the sample homogeneity investigator tried to select a similar sample characteristics as well as this results agreed with (Al-Samarrai & Jadoo, 2018) results who indicated that the mean age of the participants was (mean + SD) 33.18 + 5.82. (Figure 4.1)

Concerning years of experience, most of the IMCI nurses have 7 and more years, while less than half of the participants have (4-6) years of experience in employment, the years of experience are very important in the employee's practical life, as he acquires experience from the field of work and from his colleagues who have experience, as well as training courses during the service which increases the level of knowledge and practices, this results confirmed by a study conducted by (Muhaisen *et al.*, 2021) that found that most of the study sample have experience more than 8 years in employment as showed in table (4.2).

The results of the present study showed that the study sample had experience less than three years in IMCI units, job description law is consider very important which give the nurses the opportunity to work in one

field and reduces transferring from one specialty to another, this results demonstrated in (Figure 4.2)

Regarding number of participation and duration of IMCI courses of the studied groups, results revealed that more than half of the participants , did not participate previously in IMCI courses, and only seven participants participated in only one course while only six participants participated in two IMCI training courses or more and all courses where extended for 7 days, The IMCI program has recently started to be applied comprehensively, in addition to the fact that the nursing staff is not fixed in the units in which they work and the nursing specialty system is not activated, so there is a continuous shifting from other units which they are not trained, and since we have witnessed the spread of Covid 19 disease, this has reduced the establishment of training courses for the nursing and medical staff, this result supported by (Muhaisen *et al.*, 2021) study who found that the majority of participants did not participate in IMCI courses, while (Hussein & Farhood, 2019) mentioned that the majority of participants were participated in IMCI courses (Table 4.3).

Regarding training of health workers according to Kiplagat (2014) who studied the factors influencing the implementation of IMCI in Mwanza in Tanzania, he urged that the trained healthcare workers of (50%) on IMCI approach is still below the WHO recommendation that at least 60% of health care workers seeing sick children in the health facilities are trained in IMCI.

5.2. Responses of study participants regarding knowledge

Regarding knowledge about history taking and communication skills the overall mean score for this domain before implementation the reinforcement education program was 2.48 ± 0.27 , while at post-test (1) the overall mean knowledge score of this domain increased significantly after implementing the program at post-test (1) to 2.95 ± 0.10 . At post-test (2), the knowledge of study participants almost remain the same of that at post-test (1) except a relative reduction in the item (After birth, the child (newborn) given vaccine : BCG+ Oral polio virus zero dose+ Hepatitis B virus 1st dose after 24 hours of age) where the mean score for this item reduced from 2.90 ± 0.31 at post-test (1) to 2.8 ± 0.4 . One of the basic steps of the nursing process is the assessment, which includes receiving the patient, effective communication, and obtaining the basic information necessary for case managements, on which the implementation of the remaining steps of the nursing process depends, as shown after the implementation of the program, there is a noticeable improvement in the level of knowledge of the nurses regarding history taking and communication this agree with a study done by (Tawfeq *et al.*, 2020) who found that the improvement between trained and non-trained nurses regarding history taking was 5.7% (P=.006). Table (4.6) showed that the sample level of knowledge improvement

Concerning classification of cases knowledge the mean scores for study group before implementing the reinforced education program was poor, while after implementing the program increased significantly to good level with a percentage change (26.4%). Classification of cases is very important domain in IMCI strategy and other domains depend on it such as treatment, nutrition, medical advices and follow up visits, the WHO and UNICEF frequently

updates the guideline regarding classification of cases for children aged less than two months and from two months to less than five years. Regarding classification of cases, the participants scored the lowest arithmetic mean among knowledge domain score between the four domain, the improvement in knowledge regarding classification after the reinforcement educational program was significant. The deficit in taking the history accurately led to misclassification of some of the cases, this result comes along with result obtained by (Sharhan & Ma'ala, 2021) who illustrated that there are high significant differences between study group and control group before and after educational program regarding most of classification items. Table (4.9)

Through the data analysis the mean score of knowledge related to nutrition and feeding of study group before and after education program revealed the participants gained knowledge regarding this domain with percentage change (16.2%), many studies emphasize on the relationship of nutrition and the child's health, nurses knowledge playing vital role in guiding mothers to provide safe and healthy feeding for their child's, this result agreed with study done by (Amaral & Victora, 2008) who conducted a study for assessment of training courses regarding IMCI on nurses who concluded that a positive impact on nutritional status and improved communication in the group that received IMCI training, this result presented in (Table 4.12).

In relation to counseling and advice knowledge scores of study group before and after implementation of reinforcement education program, showed that there was improvement in knowledge scores regarding counseling and advice significantly in the study group, the level was poor before implementation the education program, at post-test (1) the nurses getting good

level of assessment and almost maintained at post-test (2), with a mean difference of 0.57 and a percentage change of (24.7%), the change was highly significant, ($P < 0.001$). The participants in the present study were have low knowledge level regarding follow up visits and the updating in the guideline of IMCI so the reinforced programs are essential in developing their knowledge, this result agree with (Tawfeq *et al.*, 2020) results who found the treatment effects regarding counsel and medical advices index, for 2016 the training effect was (8.1%) at ($P = .018$); while it was higher (10.9%) at ($P = .003$) in 2017 .(Table 4.15)

5.3. Discussion of participants overall knowledge score

Related to the overall knowledge scores of study group for all domains before reinforcement education program pre-test revealed a highly significant differences in means score at post-test (1) and post-test (2), at ($P < 0.001$). Within each group, it had been found that the improvement in overall knowledge scores increased significantly in the study group where the overall mean score for all domains increased from (2.36 ± 0.19) before implementation of reinforcement education program to (2.90 ± 0.09) at post-test (1) and almost maintained to 2.87 at post-test (2), with a mean difference of (0.51) and a percentage change of (21.8%), the change was highly significant, ($P < 0.001$). This improvement in nurses' knowledge regarding history taking, cases classification, nutrition and feeding, and counseling and advice indicates the achievement of the essential part of the present study. The results of present study regarding overall knowledge score was similar to study done by (Sharhan & Ma'ala, 2021) who confirmed that there is highly significant differences between study group and control group at (post-test (1) and post-test (2) for overall total knowledge of health care providers concerning integrated

management of childhood illness at (p value < 0.01) after implementation the education program. (Tables 4.16 & Figure 4.7).

The results of the present study showed that the level of knowledge of participants of the study group was good in more than half of the participants and fair in less than half participant while none had poor knowledge before education program, after education program at post-test (1), all participants in this group became of good knowledge level, similarly at post-test (2). The differences between both groups was statistically insignificant before education and it was significant at post-test (1) regarding the frequency of good knowledge. The program provided for the nurses whom have experience in IMCI units and some of them are participated previously in IMCI courses so the implementation of reinforcement education program was to improve the knowledge of nurses and thus this knowledge improves their practice in a better way. Table (4.17).

5.4. Responses of studied group participants regarding practices

Study finding in relation to practices scores of study group regarding the practices about history taking before and after implementation of the education program revealed observed improvement and a highly significant differences in means score at post-test (1) and post-test (2), at ($P < 0.001$). It has been found that the improvement in practice scores regarding history taking increased significantly in the study group where the overall practice level was poor before implementation of reinforcement of education program and improved to good level at post-test (1) and almost maintained good level at post-test (2), with a mean difference of (0.55) and a percentage change of (24.3%), the change was highly significant, ($P < 0.001$). The participants need more

emphasize and motivation for practicing some items of history taking domain such as (check out for general danger signs, look for edema of both feet, asking questions about the mother's health which is reinforce the child health). When the nurses have adequate knowledge regarding the specialty in which they work and reinforced by training on the program they working on, it gives them the ability to practice the knowledge they have in a better way, this result agree with (Sallam *et al.*, 2016) who found that nurses working according IMCI approach assessed, classified and diagnosed children earlier, much better and less daily cost than nurses using traditional approach. This results demonstrated in (Table 4.20 & Figure 4.8).

Concerning practice score regarding classification of cases for study group scored the lowest mean score between the four domain of the study before the implementation of the reinforcement educational program which was pre-test (2.00) which is reflected as a result of the decrease in the arithmetic mean of the knowledge score of classification of cases. According to the WHO, at least two out of every five health workers must follow the IMCI guideline for efficient childhood management, with poor IMCI guideline implementation, the potential impact of the IMCI approach on under-five morbidity and mortality is lost. Another supporting evidence of present study findings comes from previous study conducted by (Tawfiq, 2009) who indicated that there was high agreement in classification of IMCI trained health care providers in conditions requiring urgent referral, treatment, or specific nutrition advices. Large proportions of cases incorrectly classified by the health care providers were under-classified as milder cases in non IMCI centers, the reasons included are inaccurate history taking, incomplete or incorrect

assessment, not taking assessment findings into account, or giving no classification at all. This results illustrated in Table (4.23).

Results regarding practice about nutrition and feeding scores of study group before and after implementation of reinforcement education program revealed that there is significant improvement in practices regarding nutrition and feeding and a highly significant differences in mean scores at post-test (1) and post-test (2), at ($P < 0.001$). Within each group, it had been found that the change in practice scores regarding nutrition and feeding increased significantly in the study group where the overall mean score increased from (2.16) before implementation of education program to (2.69) at post-test (1) and maintained at (2.69) at post-test (2), with a mean difference of (0.53) and a percentage change of (24.5%), the change was highly significant, ($P < 0.001$).

A significant problem was the transfer of trained personnel, especially since not all personnel were sent for IMCI training. Concerns have been raised about the transparency of who is sent to training, which can exacerbate the problem. This result go along with (Horwood *et al.*, 2009) who found that health workers are implementing IMCI, but assessments were frequently incomplete and 9(12%) health workers checked general danger signs in every child, and 14(18%) assessed all the main symptoms in every child. Nutritional status was not classified in half of children and (46.8%) of children with severe classifications were correctly identified. (Table 4.26 & Figure 4.10).

In the study finding related to practice scores of study group regarding counseling and advice before and after implementation of the reinforcement education program revealed a highly significant differences in means score at post-test (1) and post-test (2), at ($P < 0.001$). It had been found that the mean

practice scores regarding counseling increased significantly in the study group where the overall mean score increased from (2.42) before education program to (2.86) at post-test (1) and maintained at (2.83) at post-test (2), with a mean difference of 0.41 and a percentage change of 17.1%, the change was highly significant, ($P < 0.001$). This results disagree with (Ali, 2015) results who found that half of the caregiver were not receive counseling on feeding including breastfeeding, (58%) were not seek counseled when to come back immediately, and also (83%) were not counseled her own health. As shown in (Table 4.29 & Figure 4.11).

5.5. Discussion of study group overall level of practices

The overall evaluation of the level of practice of participants in the study group was fair in majority of participant and good in only less than half of the participants before implementation the reinforcement education program, while after implementation education program at post-test (1), all participants in this group became of good practice level, similarly at post-test (2). The differences between both (study and control) groups was statistically insignificant before implementation education program and it was significant at post-test (1) and at post-test (2), regarding the frequency of good practice, ($P < 0.001$), this results comes along with (Al-Samarrai & Jadoo, 2018) and other studies further concur with our findings regarding level of practices they concluded that trained caregivers had statistically significant better practice (73.48 ± 13.46) compared to non- trained caregivers (63.95 ± 17.44), the results of this study demonstrated in (Table 4.31).

5.6. Association between demographic characteristic of study group and the change in knowledge score

Regarding association between demographic data the change in level of knowledge score after the implementation the reinforcement education program there was significant and inversely correlation with the age of the participants in the study group, meaning that the younger participants get more benefit from the program, ($R = -0.803$, $P. \text{ value} < 0.001$), age is a very vital variable in the development of level of knowledge and practices, so younger nurses may have the vitality and desire to receive information faster and better to develop their skills in practices, while (Sharhan & Ma'ala, 2021) results who did not find a significant relationship between pre- and post-education program and age of health care providers, this results illustrated in (Table 4.32).

Regarding gender males get more benefit from program than females, ($R = 0.542$, $P. \text{ value} = 0.002$), this result disagree with (Alhussen, 2015) who found that there is no significant association between nurse's practices and gender. (Table 4.32 & Figure 4.14).

A significant inverse correlation was found between educational achievement and change in the knowledge of participants after education program, ($R = -0.446$, $P=0.013$). The change in the arithmetic mean of knowledge score may be a result of the gap between the level of actual knowledge of nurses with low level of educational achievement and the knowledge required to apply the IMCI program, so the nurses with higher educational achievement have a better level of knowledge before implementation the reinforcement education program, this results disagree with (Muhaisen *et al.*, 2020) who found no statistical significant association

between educational achievement of the participants and their knowledge, this result showed in (Table 4.32).

Related to years of employment was significantly associated with change in the knowledge levels of participants, ($R=0.467$, $P=0.009$), conversely, considering that an increase in the age of nurses with years of experience leads to increased knowledge and practice and have a positive impact on the application of the program, the years of experience of nurses in this study is quite dissimilar to the Indian study, which found the proportion of professionals who had been working at their current facility for 1–3 years (1.5%) and 4–5 years (19.6%). (Table 4.32) showed this results.

5.7. Association between demographic characteristic and change in practices score

Regarding association with change in practice scores after education program, age, gender and years of employment showed significant effect on the change in practice scores after education program in the study group, r value was -0.781, 0.488 and 0.570, respectively, P . value <0.05 . This results came with line with the second part of studies implemented for evaluating the performance, These studies provided evidence of adequate performance levels among healthcare professionals trained in IMCI demonstrated that feedback from other trained staff improved performance even further, and demonstrated the importance of IMCI for careers in counseling. The uncontrolled studies assessed the adequacy of the performance, that is, whether IMCI-trained healthcare workers had high levels of performance for the evaluation, classification, and counseling of children and their careers. The finding of present study showed in (Table 4.33).

Conclusions
and
Recommendations

Conclusions and Recommendations

6.1. Conclusions

- 6.1.1.** Most of the participants did not participate previously in integrated management of childhood illnesses training courses.
- 6.1.2.** About half of nurses working in integrated management of childhood illnesses units have fair level of knowledge regarding IMCI strategy before implementation of the reinforcement educational program.
- 6.1.3.** Most of nurses working in integrated management of child illness units have fair level of practices regarding implementation of the integrated management of childhood illnesses strategy.
- 6.1.4.** The present reinforcement education program implemented was effective in increasing the nurses knowledge and practices regarding integrated management of childhood illnesses
- 6.1.5.** Association between nurses knowledge and practices with the age and educational achievement, are significantly and inversely correlated while, years of employment and males gender was significantly associated with change in the knowledge and practices levels of participants.

6.2. Recommendations

- 6.2.1.** Involve all members of the integrated management of childhood illnesses units, especially nurses in training courses and increase educational sessions regarding the importance adhering the implementation of the program
- 6.2.2.** Provision of sufficient number of efficient nurses to each integrated management of childhood illnesses unit in the primary health care centers.
- 6.2.3.** Integrated management of childhood illnesses program should be implemented widely to increase training coverage in order to expand the number of health workers with integrated management of childhood illnesses skills.
- 6.2.4.** Follow-up visits to the workplaces of health professionals to make sure that all health workers in this field are exposed to the updated courses regarding integrated management of childhood illnesses and examine skill practices and reinforce competence earned during training.
- 6.2.5.** Introducing and emphasizing in a more comprehensive way the integrated management of childhood illnesses program in the curricula of nursing institutes and colleges
- 6.2.6.** Coordination between nurses, supervisors, and mentors for providing effective support environment, basic equipment, adequate unit space, referral system and regarding updating in the strategy of IMCI implementation by WHO, Ministry of Health.
- 6.2.7.** Conducting further studies including evaluation of integrated management of childhood illnesses services in the country.

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القرآن الكريم، سورة المجادلة ، آية 11

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Appendices

Appendix (A)

University of Babylon
College of Nursing
Research Ethics Committee

جامعة بابل
كلية التمريض
لجنة اخلاقيات البحث العلمي

Issue No:
Date: / /2021

Approval Letter

To,
Hussam Hashim Abdulla

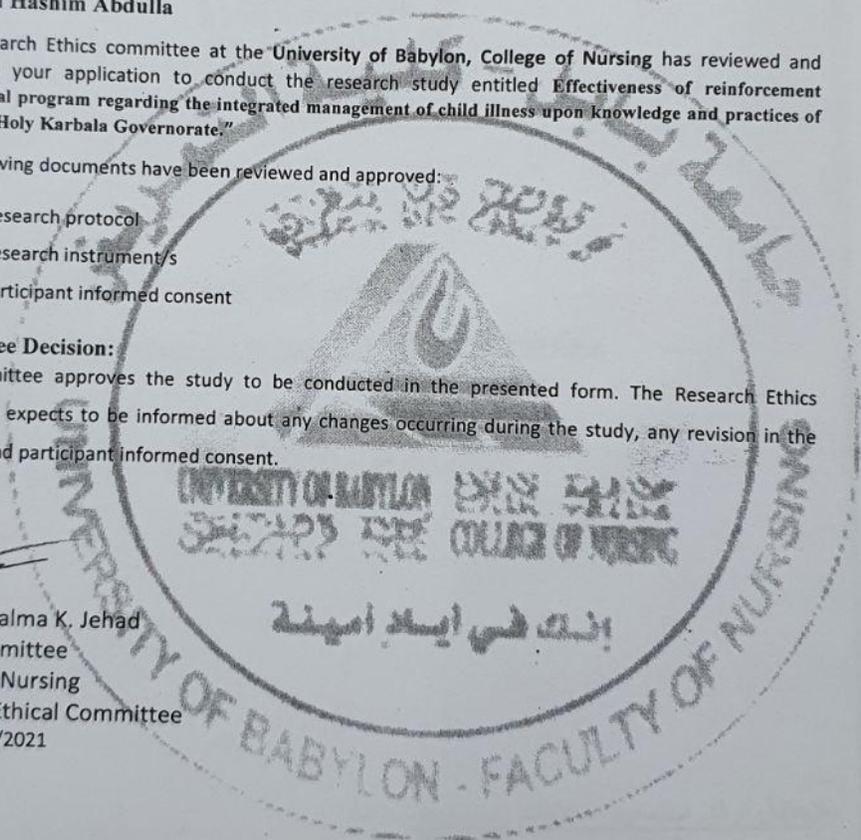
The Research Ethics committee at the University of Babylon, College of Nursing has reviewed and discussed your application to conduct the research study entitled "Effectiveness of reinforcement educational program regarding the integrated management of child illness upon knowledge and practices of nurses in Holy Karbala Governorate."

The Following documents have been reviewed and approved:

1. Research protocol
2. Research instrument/s
3. Participant informed consent

Committee Decision:
The committee approves the study to be conducted in the presented form. The Research Ethics committee expects to be informed about any changes occurring during the study, any revision in the protocol and participant informed consent.

Prof. Dr. Salma K. Jihad
Chair Committee
College of Nursing
Research Ethical Committee
/ /2021



(Appendix B)

University of Babylon
College of Nursing
Research Ethics Committee

جامعة بابل
كلية التمريض
لجنة اخلاقيات البحث العلمي
العدد والتاريخ: / /

محضر الجلسة الثالثة للعام الدراسي ٢٠٢١-٢٠٢٢

عقدت لجنة اخلاقيات البحث العلمي المشكلة بالامر الاداري في العدد ٢٦٨١ في ٢٠٢١/٩/١٤ اجتماعها الثالث في تمام الساعة الثانية عشر ظهرا من يوم الاحد المصادف ٢٠٢١/١١/٧ بحضور جميع اعضاء اللجنة.

قامت اللجنة بمراجعة الطلبات وخطة الدراسة واستمارات اخلاقيات البحث المقدمة من قبل طلبة الدراسات العليا وبينت اللجنة الملاحظات التالية:

١. طلبية الدراسات العليا المدرجة اسماؤهم وعناوين بحوثهم قد استكملوا جميع متطلبات اخلاقيات البحث العلمي الخاصة ببحوثهم الحالية.
٢. الاستمارات المحشوة الحالية خالية من اي معوقات اخلاقية، لذلك وافقت اللجنة على اجراء الدراسات المدرجة بصيغتها الحالية.
٣. في حالة اجراء اي تعديل او تغيير في استمارات البحث او عنوان الدراسة يتم عرضه على اللجنة لغرض مراجعته قبل الشروع بالدراسة.

العنوان انكليزي	العنوان العربي	اسم المشرف	اسم الطالب	
Effectiveness of reinforcement educational program regarding the integrated management of child illness upon knowledge and practices of nurses in Holy Karbala Governorate	فعالية البرنامج التثقيفي المعزز للرعاية المتأخلة لصحة الطفل على معارف وممارسات الممرضين في محافظة كربلاء المقدسة	ا.د.سلمى كاظم جهاد	حسام هاشم عبد الله	1.
Effectiveness of unconscious patients communication models educational program on the critical care unit nurses knowledge and practice at al-Hilla Teaching Hospitals	فعالية نموذج البرنامج التعليمي للتواصل مع المرضى فاقد الوعي على معارف وممارسات الممرضين في وحدة العناية الحرجة في مستشفيات الحلة التعليمية	ا.م.د. سحر ادهم عني	كريم وحيد محمد	2.
Effectiveness of structured educational program of pulmonary care for coronavirus disease 19 on the critical care unit nurses knowledge and perception at al-Hilla Teaching Hospitals	فعالية البرنامج التثقيفي المنظم للرعاية الربوية لمرضى فيروس كورونا ١٩ في وحدة الرعاية الحرجة معرفه وأدراك الممرضين في مستشفيات الحلة التعليمية	ا.م.د. سحر ادهم علي	علي احمد زغير	3.

ا.م.د. سحر ادهم علي
عضوا

ا.د.ندي خزعل كاظم
عضوا

م.د. وفاء احمد امين
عضوا

ا.م.د. نهاد محمد قاسم
عضوا

ا.د.سلمى كاظم جهاد
رئيس اللجنة

سحده منه انى السيد معاون العميد للشؤون العلمية و الدراسات العليا

(Appendix C)

العدد: ٤١٦٢
التاريخ: 2021/ ٩ / ١٤

محافظة كربلاء المقدسة
دائرة صحة محافظة كربلاء المقدسة
قسم الصحة العامة
شعبة الصحة الانجابية

الى / مستشفى الهندية العام
الموضوع / دورة IMNCH

تحية طيبة

نؤيد لكم اشترك السيد حسام هاشم عبد الله / ممرض اختصاص بدورة برنامج IMNCH التي اقامتها
شعبتنا بتاريخ 4- 2021/7/8 .

للتفضل بالاطلاع...مع التقدير

الدكتور
خالد حليم حسن الاعرجي
مدير قسم الصحة العامة
2021/ ٩ / ١٤

نسخه منه الى:
- شعبة الصحة الإنجابية / للحفاظ في ملف IMNCH .

Alia/2021

(Appendix D)

Ministry of Higher Education and Scientific Research
جامعة البصرة
وزارة التعليم العالي والبحث العلمي

University of Babylon
College of Nursing
جامعة بابل
كلية التمريض
لجنة الدراسات العليا

Ref. No.:
Date:

العدد: ٢٠٥٥
التاريخ: ٢٠٢١ / ١١ / ١٨

الى / دائرة صحة كربلاء / مركز التدريب والتنمية البشرية / م / تسهيل مهمة
م / تسهيل مهمة

تحية طبية:
يطيب لنا حسن التواصل معكم ويرجى تفضلكم بتسهيل مهمة طالب الدكتوراه (حسام هاشم عبد الله) لغرض جمع عينة دراسة الدكتوراه والخاصة بالبحث الموسوم:

فاعلية البرنامج التثقيفي المعزز للرعاية المتكاملة لصحة الطفل على معارف وممارسات الممرضين في محافظة كربلاء.

Effectiveness of Reinforcement Educational Program Regarding the Integrated Management of Child Illness upon Nurses Knowledge and Practices in Holy Karbala Governorate.

مع الاحترام ...

المرافقات //
• بروتوكول .
• استبانة

م. د. نهاد محمد قاسم الدوري
معاون العميد للشؤون العلمية والدراسات العليا
٢٠٢١ / ١١ / ١٨

صورة عه الي //
• مكتب السيد العميد للتفضل بالاطلاع مع الاحترام .
• لجنة الدراسات العليا
• المسادرة .

E-mail:nursing@uobabylon.edu.iq
www.uobabylon.edu.iq

07711632208
009647711632208

وطني
المكتب

STARS
SEARCHING *****
INDEXING *****
FILES *****

(Appendix E)

جمهورية العراق

Holy Karbala governorate
Karbala Health Department
General manager's office
Training and Human Development
Center

محافظة كربلاء المقدسة
دائرة صحة كربلاء المقدسة
مركز التدريب والتنمية البشرية
شعبة ادارة المعرفة
وحدة البحوث
العدد: ٢٩٦٨
التاريخ: ٢٠٢١ / ١٢ / ٧

إلى/ جامعة بابل كلية التمريض
الموضوع /تسهيل مهمة
تحية طيبه....

كتابكم المرقم ٣٥٥٥ في ٢٠٢١/١١/١٨
نود إعلامكم بأنه لا مانع لدينا من تسهيل مهمة الطالب (حسام هاشم عبد الله)
دراسات عليا لإنجاز بحثه الموسوم حول: (فاعليه البرنامج التثقيفي المعزز للرعاية المتكاملة
لصحة الطفل على معارف وممارسات الممرضات في محافظة كربلاء المقدسة)) في مؤسستنا الصحية
/قطاعات الرعاية الصحية الاولية كافة على ان لا تتحمل دائرتنا اي نفقات مادية مع
الاحترام .

الدكتورة
تقوى خضر عبد الكريم
الدكتورة
تقوى خضر عبد الكريم
مدير مركز التدريب والتنمية البشرية
٢٠٢١/١٢/٧

نسخة منه الى
مركز التدريب والتنمية البشرية مع الأوليات/ شعبة ادارة المعرفة/ وحدة البحوث مع الاوليات
قطاع الرعاية الصحية الاولية في الهنديه كتابكم ذي العدد ٣٩٩١ في ٢٠٢١/١٢/١ لاتخاذ مايلزم وحسب الضوابط مع الاحترام
قطاع الرعاية الصحية الاولية في الحسينيه كتابكم ذي العدد ٤٢٦٥ في ٢٠٢١/١٢/٢ لاتخاذ مايلزم وحسب الضوابط مع الاحترام
قطاع المركز كتابكم ذي العدد ١٠٤٦٩ في ٢٠٢١/١٢/١ لاتخاذ مايلزم وحسب الضوابط مع الاحترام
قطاع الحر كتابكم ذي العدد ٨٧٩ في ٢٠٢١/١٢/١٦ لاتخاذ مايلزم وحسب الضوابط مع الاحترام

Appendices

(Appendix F)

قائمة اسماء خبراء تحكيم الاستبانة

ت	اسم الخبير	اللقب العلمي	الشهادة	الاختصاص	سنوات الخدمة	مكان العمل
1	د. قحطان هادي حسين	أستاذ	دكتوراه فلسفه في التمريض	صحة مجتمع	38	جامعة بابل
2	د. أمين عجيل الياسري	أستاذ	دكتوراه فلسفه في التمريض	صحة مجتمع	37	جامعة بابل كلية التمريض
3	د. عبدالمهدي عبدالرضا	أستاذ	دكتوراه فلسفه في التمريض	صحة انفسيه	33	جامعة بابل كلية التمريض
4	د. فاطمة وناس خضير	أستاذ	دكتوراه فلسفه في التمريض	صحة مجتمع	26	جامعة الكوفة كلية التمريض
5	د. خميس بندر عبيد	استاذ	دكتوراه فلسفه في التمريض	صحة اطفال	25	جامعة كربلاء كلية التمريض
6	د. سلمان حسين فارس	أستاذ مساعد	دكتوراه فلسفه في التمريض	صحة مجتمع	30	جامعة كربلاء كلية التمريض
7	د. وسام جبار قاسم	أستاذ	دكتوراه فلسفه في التمريض	صحة مجتمع	25	جامعة بغداد كلية التمريض
8	د. رعد كريم فرج	استاذ مساعد	دكتوراه فلسفه في التمريض	صحة مجتمع	20	جامعة بغداد كلية التمريض
9	د. منصور عبدالله فلاح	استاذ مساعد	دكتوراه فلسفه في التمريض	صحة مجتمع	17	جامعة الكوفة كلية التمريض
10	د. محمد باقر حسن	أستاذ مساعد	دكتوراه فلسفه في التمريض	صحة اطفال	17	جامعة الكوفة كلية التمريض

(Appendix G 1)

التاريخ و التوقيع:

Questionnaire

رقم الاستمارة

Part I: Socio-demographic and personal characteristics

1- Age years

2- Gender: Male Female

3- Marital status: Married Single Divorced Widowed Separated

4- Educational Achievement:

Nursing Secondary School Graduate

Nursing Institute Graduate

Nursing College Graduate

Nursing Post Graduate

5- Residency : Rural Urban

6- Years of experience in **Integrated Management of Childhood Illness** unit year

7- Number of participation in **IMCI** courses

Non 1 2 and more

8- Duration of courses in IMCI: 7 days 8 days and more

9- Years of employment: less than 3 years 4-6 years 7 and above

Appendices

Part II : Knowledge of nurses regarding IMCI Domains

A	History taking	I know	Uncertain	I don't know
1	Welcoming the mother, showing willingness to help, receiving her well is an important factor in giving her a sense of reassurance and encouraging her to cooperate with the nurse			
2	Admission sick children on the doctor depend on the severity of the child's condition and the presence of danger signs			
3	The dose of vitamin - A - for a child under a year is (100000) international units			
4	The temperature can be felt by the back of the palm in the lower abdomen			
5	After birth, the child (newborn) given vaccine : BCG+ Oral polio virus zero dose+ Hepatitis B virus 1st dose after 24 hours of age			
B	Classification of Cases			
1	The presence of pus draining from the ear for a period of 14 days or more is classified as chronic otitis media			
2	Treating child classified (diarrhea with some dehydration) is Plan-B			
3	Present of blood in the stool and temperature 38.5 or more classified as a possible Shigilla			
4	Depending on the presence of two of the following signs: restless, irritable, sunken eyes, drinking eagerly or thirsty, skin pinch goes back slowly, the condition is classified (some dehydration)			
5	Wheezing is an audible whistling sound with breathing during exhalation			
6	Average increase in the head circumference in the first year is 10 cm			
7	Stridor is a hoarse sound heard during inhalation, when the child is calm			
8	BMI to age less than -2 z score is classified as wasting			

Appendices

C	Nutrition and Feeding			
1	Breastfeeding is at least (8) times during (24) hour			
2	Can give a little of water to the child who suckles exclusive breastfeeding in the summer			
3	Appropriate age to start supplementary foods is after 6 months of age			
4	A child classified (persistent diarrhea) will be referred to the hospital immediately			
5	Dehydration is the most serious complications of diarrhea, which threatens a child's life			
6	To prepare ORS you should use 1 liter (5 glasses of 200 ml capacity) clean and secure water			
7	Counting of fast breathing for children aged from 2-12 months is 40 breaths per minute or more			
D	Counseling and Advice			
1	In case of a feeding problem, follow-up will take place after two days.			
2	The appropriate time to start breastfeed is within first hour after delivery			
3	Increasing fluid is one of three basic advices that should be given to the mother from nurse for any sick children under two years of age			
4	The head circumference of a child at the age of 3-6 months increases at a rate of 1 centimeter per month			
5	Zinc is given to treat pneumonia and diarrhea once daily for 10-14 days			

Appendices

Part III: Practices of Nurses Regarding IMCI Domains

No.		Always	Sometime	Never
A	History taking			
1	Greets the child's caregiver/patient			
2	Asks about the child's complaint(s) and the duration			
3	Triage cases in order to prioritize referral to the doctor			
4	Check out for general danger sings			
5	Asks about fever and the duration of fever if present			
6	Asks if the child is unable to breastfeed or drink			
7	Asks whether the child vomits everything			
8	Ask if the child have cough or difficult breathing			
9	I look for edema of both feet			
10	Check the child immunization schedule and history			
11	Record height and weight with a growth chart			
12	Ask at least one question about the mother's health			
B	Classification of cases			
1	Measure the temperature at the beginning of the examination			
2	Measure the child's mid-upper arm circumference (MUAC)			
3	Listen to the child's chest by stethoscope if the child has a cough			
4	Pinches the skin of the abdomen when the child suffer from diarrhea.			
5	Examines anterior fontanel in under-9 months old child with diarrhea			
6	Wear a medical face mask when examining the mouth			
7	Count breathing for 60 seconds			
8	Ask about convulsions			
9	Take off the child heavy clothes and shoes before putting them directly on the scale			

Appendices

C	Nutrition and feeding			
1	Give the mother two ORS packets when she went home to complete treatment for child having diarrhea			
2	Give advice on the frequency of feeding			
3	Advise the caregiver to continue to give as much ORS solution as the child old (2-less 5) years wants, but at least 1/2 cup after each loose stool			
4	Help the caregiver prepare and administer the first dose of oral medication when needed			
5	Refer the child with Red Mid Upper Arm Circumference strip			
6	I measure the height or length index for age Z score +3 means very long			
7	Check for feeding problem through the following signs (Not able to feed) (Not suckling at all) (No attachment at all)			
D	Counseling			
1	Explain to the caregiver how to give the prescribed medicine to the child			
2	Advise mother when to return immediately			
3	Give advice to continue breastfeeding			
4	Discusses child feeding during the illness			
5	Discuss about breastfeeding for under-2 children			
6	Checks whether the child is due for vaccination			
7	Ask whether the child's caregiver have any question			

Appendix (G 2)

رقم الاستبانة

دائرة صحة كربلاء المقدسة

قطاع الرعاية الصحية الاولية

مركز الرعاية الصحية الولية

الجزء الأول: الخصائص الاجتماعية والديمغرافية والشخصية

1- العمر سنة

2- الجنس : ذكر انثى

3- الحالة الزوجية: متزوج اعزب مطلق ارمل منفصل

4- التحصيل الدراسي:

خريج اعدادية تمريض

خريج معهد تمريض

خريج كلية تمريض

خريج دراسات عليا

5- السكن: مدينة ريف

6- سنوات العمل في وحدة الرعاية المتكاملة لأمراض الطفولة سنة

7- عدد المشاركات في دورات الرعاية المتكاملة لأمراض الطفولة

لا يوجد 1 2 او اكثر

8- مدة دورات الرعاية المتكاملة لصحة الطفل

7يوم 8 يوم واكثر

9- عدد سنوات الخدمة

3 سنة او اقل 4-6 سنة 7 فاكثر

Appendices

الجزء الثاني: معارف الممرضين فيما يخص الرعاية المتكاملة لأمراض الطفولة

الرقم	الفقرة	اعرف	غير متأكد	لا اعرف
A	استقبال الطفل			
1	إن الترحيب بالأم وابداء الاستعداد للمساعدة وحسن استقبالها ومراعاة راحتها، يعد عاملاً هاماً في إعطائها إحساساً بالطمأنينة ويشجعها على التعاون مع الفريق الصحي			
2	ادخال الاطفال المرضى الى الطبيب يعتمد على خطورة حالة الطفل و وجود علامات الخطر			
3	تكون جرعة فيتامين -A- للأطفال اقل من سنة هي (100.000) وحدة دولية			
4	يمكن تحسس درجة الحرارة بظاهر الكف في اسفل البطن			
5	بعد الولادة يعطى الطفل لقاح بي سي جي + لقاح شلل الاطفال جرعة صفر +لقاح التهاب الكبد الفيروسي نمط ب جرعة اولى بعد 24 ساع من العمر			
B	تصنيف الحالات			
1	وجود قيح يسيل من الاذن لفترة 14 يوم او اكثر يصنف على انه التهاب الاذن الوسطى المزمن			
2	علاج الاسهال مع بعض الجفاف خطة - ب -			
3	في حالة وجود دم بالبراز وارتفاع الحرارة 38.5 او اكثر فإنه يصنف احتمال داء الشيغيلات (زحار باسيلي)			
4	اعتمادا على وجود اثنان من العلامات التالية : متهيج، قلق، عينان غائرتان ، يشرب بلهفه، ثنية الجلد تعود الى مكانها ببطء يتم تصنيف حالة الطفل (بعض الجفاف)			
5	الازيز هو صوت صفير مسموع مع التنفس اثناء الزفير			
6	معدل الزيادة لمحيط الرأس في السنة الأولى 10 سم			
7	الصرير هو صوت خشن مسموع اثناء الشهيق والطفل هادئ			
8	إذا كان مؤشر كتلة الجسم الى العمر اقل z score -2- فإنه يصنف ك هزال			
C	الارضاع والتغذية			
1	يكون الارضاع من الثدي (8) مرات خلال (24)			
2	لا يحتاج الطفل الذي يرضع رضاعة طبيعية خالصة بعض الماء في فصل الصيف			

Appendices

			العمر المناسب للبدء بإعطاء الاغذية التكميلية اقل عمر 6 اشهر	3
			الطفل المصنف (اسهال مستمر) يحال الى المستشفى فوراً	4
			الجفاف من أخطر مضاعفات الإسهال الذي يهدد حياة الطفل	5
			لتحضير أملاح الإماهة الفموية ، يجب استخدام لتر واحد (5 أكواب سعة 200 مل) من الماء النظيف والمعقم	6
			زيادة سرعة التنفس للأطفال عمر من شهرين الى اقل من 12 شهر هو 40 مرة تنفس او اكثر / دقيقة	7
			الاستشارة والنصح	D
			في حالة وجود مشكلة تغذية تكون هناك متابعة محددة بعد يومين .	1
			الوقت المناسب لبدء الرضاعة الطبيعية هو خلال الساعة الأولى بعد الولادة	2
			زيادة السوائل هي واحدة من ثلاث نصائح أساسية يجب أن تعطى للأم من المرضعة لأي طفل مريض أقل من عامين	3
			يزداد محيط رأس الطفل في سن 3-6 أشهر بمعدل 1 سم في الشهر	4
			يعطى الزنك لعلاج ذات الرئة والإسهال مرة واحدة يومياً لمدة 10 - 14 يوماً	5

الجزء الثالث: ممارسات الممرضين فيما يخص الرعاية المتكاملة لأمراض الطفولة

ابدا	بعض الاحيان	دائماً		
			استقبال الطفل	A
			أحیی مقدم الرعاية الصحية الطفل	1
			أسأل عن شكوى الطفل والمدة	2
			أفرز الحالات من أجل إعطاء الأولوية لرؤية الطبيب	3
			أسأل عما إذا كان الطفل يعاني من الحمى	4
			أسأل عن مدة الحمى إذا كان الطفل يعاني من الحمى	5
			أسأل عما إذا كان بإمكان المريض شرب حليب الثدي أو الرضاعة	6
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			أعط الأم 4 اكياس من أملاح الإمهاء الفموية (ORS) عند عودتها إلى المنزل لاستكمال علاج الطفل المصاب بالإسهال	1
			تقديم المشورة للاستمرار بالإرضاع	2
			اطلب من مقدم الرعاية الاستمرار في إعطاء أكبر قدر ممكن من محلول أملاح الإمهاء الفموية كما يريد الطفل ، ولكن على الأقل 2/1 كوب بعد كل خروج رخو	3
			أساعد مقدم الرعاية في تحضير الجرعة الأولى من الدواء الفموي و اعطائها للطفل عند الحاجة	4
			إحالة الطفل في حالة قراءة شريط محيط منتصف أعلى الذراع (MUAC) احمر	5
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			أتحقق من وجود مشكلة في التغذية من خلال العلامات التالية (عدم القدرة على الرضاعة) (عدم الرضاعة على الإطلاق) (لا يوجد تعلق بالثدي على الإطلاق)	7
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			أشرح لمقدم رعاية الطفل حول زيارات المتابعة	2
			أقدم المشورة للاستمرار بالإرضاع	3
			أناقش إطعام الأطفال أثناء المرض	4
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			أسأل عما إذا كان لدى مقدم الرعاية للطفل أي سؤال	7



PRIMARY HEALTH
CARE PROJECT



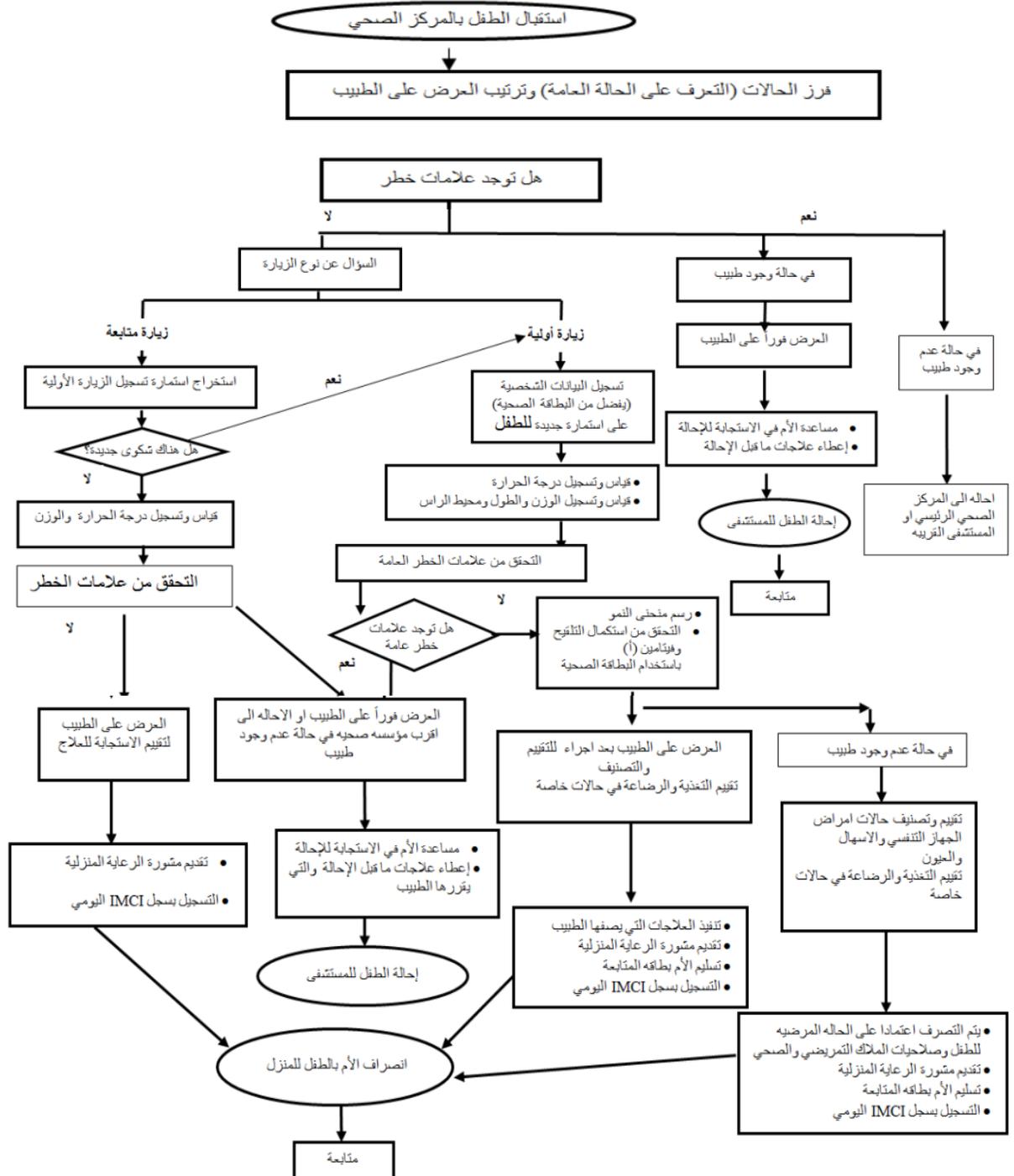
كتيب الرعاية المتكاملة لأمراض الطفولة

(IMCI)

للملاكات التمريضية والصحية

May 2012

خريطة تسلسل تنفيذ المسؤوليات الأساسية للكادر التمريضي



تسجيل البيانات الأساسية للطفل باستمارة التسجيل

استقبال الطفل وسؤال الأم عن البيانات الشخصية (يفضل من البطاقة الصحية)، وقياس درجة الحرارة والوزن، الطول او القامة وتسجيل البيانات باستمارة التسجيل

وزارة الصحة	اسم الطبيب:
دائرة صحة محافظة	التاريخ: 201 / /
قطاع	للعناية الصحية الأولية
مركز	للعناية الصحية الأولية

RECORDING FORM OF THE CHILD AGE 2 MONTHS UP TO 5 YEARS

نموذج تسجيل الطفل من عمر شهرين لأقل من 5 سنوات

الاسم: _____ العمر: _____ الوزن: _____ كغم

الطول او القامة _____ سم محيط الرأس _____ سم درجة الحرارة: _____ م°

شكوى الطفل _____ زيارة أولية: _____ زيارة متابعة: _____

- في المراكز الصحية التي بها أكثر من طبيب، يترك تسجيل اسم الطبيب ليسجل بمعرفة الطبيب القائم بالفحص
 - يسجل العمر بالأيام الكاملة للأطفال أقل من شهرين من العمر، أما الأطفال من عمر شهرين لأقل من 5 سنوات فيسجل العمر بالشهور الكاملة التي أتمها الطفل
 - تسجل درجة الحرارة كما هي بعد أخذها من تحت الإبط
 - يقاس الطول او القامة لكافة الاعمار ويقاس محيط الرأس لما دون السننتين
 - يسجل الوزن بالكيلو غرام والغرامات لأقرب 100 غرام
 - توضع علامة (√) على نوع الزيارة، أولية أو متابعة
- تسجل شكوى الأم بألفاظها وباختصار

وزارة الصحة	اسم الطبيب:
دائرة صحة محافظة	التاريخ: 201 / /
قطاع	للعناية الصحية الأولية
مركز	للعناية الصحية الأولية

RECORDING FORM OF THE YOUNG INFANT UP TO 2 MONTHS

نموذج تسجيل الطفل لعمر أقل من شهرين

الاسم: _____ العمر: _____ الوزن: _____ كغم

الطول _____ سم محيط الرأس _____ سم درجة الحرارة: _____ م°

شكوى الطفل _____ زيارة أولية: _____ زيارة متابعة: _____

معدل محيط الراس عند الولادة (35) سم	
يزداد محيط الراس بمعدل 2 سم لكل شهر	0 - 3 اشهر
يزداد محيط الراس بمعدل 1 سم لكل شهر	3 - 6 اشهر
يكون محيط الراس 43 سم عند الشهر السادس	
يزداد محيط الراس بمعدل 0,5 سم لكل شهر	6-12 شهر
يكون محيط الراس 50-46 سم عند السنة الاولى	
يكون اليافوخ الامامي مسدودا عند 15-18 شهر من العمر	1-3 سنه
يزداد محيط الراس بمعدل 2,5 سم في السنة	
معدل الزيادة في السنة الأولى 10 سم	
معدل الزيادة في السنة الثانية 2 سم	

أولاً: الطفل من عمر شهرين لأقل من 5 سنوات

التحقق من علامات الخطر العامة

الطفل الذي لديه اي علامة من علامات الخطر العامة يحتاج الى احوالة فورية

التصنيف	التقييم وجود اي علامة من هذه العلامات
	اسأل لاحظ وجود
مرض شديد جداً	<ul style="list-style-type: none"> الطفل غير قادر على الرضاعة أو الشرب الطفل يتقيأ كل ما يتناوله حدوث اختلاجات للطفل خلال المرض الحالي دروخة أو فقدان الوعي اختلاجات حالية

الدخول فوريا للطبيب دون انتظار

(2) امراض الجهاز التنفسي

أ- تصنيف امراض الجهاز التنفسي

اسأل

نعم لا

هل يعاني الطفل من السعال او صعوبة في التنفس ؟

العلاج	التصنيف	العلامات
<ul style="list-style-type: none"> اعط الجرعة الاولى من المضاد الحيوي الملائم علاج الازير ان وجد امنع حدوث هبوط السكر في الدم احله فوريه الى المستشفى 	مرض شديد جدا او ذات الرئه الشديد	<ul style="list-style-type: none"> اي علامه من علامات الخطر العلامه او انسحاب الجزء السفلي من الصدر الى الداخل او صرير عند طفئ هوائ او (نأ كان هناك ازير ، علاج الازير ومن ثم اعد التقييم)
<ul style="list-style-type: none"> اعطاء المضاد الحيوي المناسب لمدة 5 ايام علاج الازير ان وجد استخدم العلاج المنزلي لتطيف البلعوم (السوائل الشطيفيه) المراجعه بعد يومين ارشذ الام عن العلامات التي تستدعي العوده فورا 	ذات الرئه	<ul style="list-style-type: none"> زيده في سرعه التنفس (انأ) وجد الازير علاج الازير ومن ثم اعد التقييم)
<ul style="list-style-type: none"> علاج الازير ان وجد انأ استمر السعال اكثر من 21 يوما يستوجب اطة الطفل استخدم العلاج المنزلي لتطيف البلعوم (السوائل الشطيفيه) ارشذ الام عن العلامات التي تستدعي العوده فورا مراجعه الطفل بعد يومين عند وجود ازير المراجعه بعد 5 ايام عند عدد التنصن 	لا يوجد ذات الرئه سعال او رشح	<ul style="list-style-type: none"> لا توجد اي علامه من العلامات السابقه (نأ كان هناك ازير علاج الازير)



تصحب الزيادة في سرعه التنفس طبقاً للجدول التالي:

عمر الطفل	زيادة سرعه التنفس
من شهرين إلى أقل من 12 شهر	50 مرة تنفس أو أكثر/دقيقه
من 12 شهراً لأقل من 5 سنوات	40 مرة تنفس أو أكثر/دقيقه

ب-تحقق عن مشاكل البلعوم:

العلامات	التصنيف	العلاج
حس مع إحدى العلامات التالية: ❖ عدم القدرة على البلع ❖ وجود غشاء فوق البلعوم	خراج البلعوم أو احتدال نظرياً (الخناق)	← إعطاء الجرعة الأولى من البروكسانين بنسولين (في حالة عدم وجود حساسية للبنسلين) ← إعطاء جرعة واحد من الپاراسيتامول في المركز الصحي لتخفيف الألم أو الحس ← يحال فوراً إلى المستشفى
حس أو صعوبة في البلع أو كلاهما مع اثنين من العلامات التالية: ❖ عقد لغزوي متضخم ومزله في الجزء الأمامي من الحلق ❖ احمرار (احتقان) البلعوم ❖ افرازات على شكل نقاط بيضاء على البلعوم	التهاب البلعوم السحبي	← إعطاء المضاد الحيوي الخاص بالتهاب البلعوم السحبي ← إعطاء پاراسيتامول لتخفيف الألم أو الحرارة (38 درجة أو أكثر) ← استخدام علاج آمن (سؤال تطبيقي). ← مراجعته بعد 5 أيام إذا لم يتحسن ← ارشد الأم حول علامات العودة القويه
صعوبة في البلع أو لا توجد علامات كافية لتصنيف التهاب البلعوم السحبي	التهاب البلعوم غير السحبي	← تطيق البلعوم بعلاج المزيل للآمن (سؤال تطبيقي) ← إعطاء پاراسيتامول لتخفيف الألم أو الحرارة (38 درجة أو أكثر) ← المتابعه بعد 5 أيام إذا لم يتحسن ← ارشد الأم حول علامات العودة القويه
لا توجد اعراض أو علامات في البلعوم (وجود أو عدم وجود حس)	لا توجد مشكله في البلعوم	← علاج الحس أن وجدت ← اعط پاراسيتامول لتخفيف الألم أو الحس (38 درجة أو أكثر)



ج- مشاكل الاذن:

أسأل هل توجد مشكلة في الاذن؟ نعم..... لا.....

المعالج	التصنيف	العلامات
<ul style="list-style-type: none"> < اعطاء الجرعة الاولى من المضاد الحيوي المناسب < اعطى جرعة من الابراسيتامول لتخفيف الالم < امنع حدوث انخفاض السكر في الدم < احاله قوريه الى المستشفى 	<p>التهاب عظم الخشاء (الماستويد)</p>	<p>• تورم مزلم خلف الاذن</p>
<ul style="list-style-type: none"> < اعطاء المضاد الحيوي المناسب لمدة 10 ايام < اعطاء باراسيتامول لتخفيف الالم < جفف الاذن بواسطة قتيله < المتابعه بعد 5 ايام < ارشد الام علامات العوده القوريه 	<p>التهاب الاذن الحاد</p>	<p>• ألم شديد في الاذن او وجود قيح يسيل من الاذن لفترة اقل من 14 يوما</p>
<ul style="list-style-type: none"> < جفف الاذن بواسطة قتيله < الاحاله الى اختصاصي الالتهب والاذن والحنجرة 	<p>التهاب الاذن المزمن</p>	<p>• وجود قيح يسيل من الاذن لفترة 14 يوما او اكثر</p>
<ul style="list-style-type: none"> < احاله الى اختصاصي الالتهب والاذن والحنجرة 	<p>لايوجد التهاب في الاذن</p>	<p>• لا يوجد ألم شديد في الاذن لايلاحظ وجود قيح يسيل من الاذن</p>



(3) تقييم وتصنيف الإسهال

أسأل هل يعاني الطفل من الإسهال؟ نعم لا

هناك ثلاثة أنواع محتملة لتصنيف الإسهال طبقاً لما يلي:

هل يعاني الطفل من الإسهال؟

العلاج	التصنيف	العلامات
<ul style="list-style-type: none"> في حالة عدم وجود أي تصنيف شديد للطفل تعطي السوائل لمعالجة الجفاف الشديد (الخطه ج) في حالة وجود تصنيف شديد: يحال الطفل إلى المستشفى مع إرشاد الأم بانتقاء رشفات من مطول الكسترولايت أثناء الإسهال اتصح الأم بالاستمرار بالرشفاته من الشاي في حالة وجود كوليرا بالمنطقة يعطى المضد الحيوي الخاص بالكوليرا 	جفاف شديد	<ul style="list-style-type: none"> التن من العلامات التالية: مذروخ أو فاقد الوعي عينان غائرتان غير قادر على الشرب أو يشرب بضعف تثنية الجذع تعود ببطء شديد جنا
<ul style="list-style-type: none"> إعطاء السوائل والطعام لمعالجة الجفاف (الخطه ب) في حالة وجود تصنيف شديد: يحال فوراً إلى المستشفى مع إعطاء رشفات من مطول الكسترولايت من قبل الأم أثناء الإسهال اتصح الأم بالاستمرار بالرشفاته من الشاي إذا كانت هناك حالات كوليرا في المنطقة اعطى المضد الحيوي الخاص بالكوليرا المراجعة بعد 5 أيام إذا لم يتحسن اتصح الأم عن تناولات العودة القويه بالطفل 	بعض الجفاف	<ul style="list-style-type: none"> التن من العلامات التالية: منبهج قلق عينان غائرتان يشرب ببطء تثنية الجذع تعود إلى مكانها ببطء
<ul style="list-style-type: none"> إعطاء السوائل والطعام لمعالجة الإسهال في المنزل (خطه أ) في حالة وجود حالات كوليرا في المنطقة اعط المضد الحيوي الخاص بالكوليرا المراجعة بعد 5 أيام إذا لم يتحسن اتصح الأم بالعلامات التي تستدعي العودة فوراً 	لا يوجد جفاف	لا توجد علامات كافية لتصنيف جفاف شديد أو بعض الجفاف

إذا نعد اسأل:
*كم هي المدة؟
*هل يوجد دم بالبراز؟

انظر و تحسس
*ملاحظة حالة الطفل العامة؟
-مذروخ أو فاقد الوعي؟
-قلق أو منبهج؟
*ملاحظة العينين الغائرتين
*تقديم سائل للطفل وملاحظة هل هو:
-غير قادر على الشرب أو يشرب بضعف؟
-يشرب ببطء أو عثلاثان؟
*ترفع جذع البطن بواسطة السببه والإيهام ثم تركه هل يرجع إلى مكانه:
-ببطء شديد (أكثر من 2 ثنيه)؟
-ببطء
*هل حرارة الطفل مرتفعه (38.5 درجة مئوية أو أكثر) وحالته سيئه.

طبقاً لدرجة الجفاف

إذا استمر الإسهال 14 يوم أو أكثر

وجود دم بالبراز

<ul style="list-style-type: none"> علاج الجفاف قبل الإسهال إلا إذا كان للطفل تصنيف شديد آخر احاله إلى المستشفى 	إسهال مستمر شديد	<ul style="list-style-type: none"> إسهال لمدة 14 يوم أو أكثر + جفاف شديد أو بعض الجفاف
<ul style="list-style-type: none"> اتصح الأم بإعطاء الطفل المصاب بالإسهال المستمر المتابعه بعد 5 أيام 	إسهال مستمر	<ul style="list-style-type: none"> إسهال مستمر لمدة 14 يوم أو أكثر + لا يوجد جفاف (لا توجد علامات جفاف ظاهرة كافية)
<ul style="list-style-type: none"> احاله إلى المستشفى 	احتمال شيكولا (زحل ياسيلي)	<ul style="list-style-type: none"> دم بالبراز + حرارة 38.5 م أو أكثر و الطفل حالته سيئه
<ul style="list-style-type: none"> علاج لمدة 10 أيام باستخدام شراب العلاجيل المراجعة بعد 2 يوم 	دم بالبراز	<ul style="list-style-type: none"> دم بالبراز

(4) سوء التغذية وفقر الدم (أنيميا)

الوزن بالنسبة للطول او القامة

تحقق من الحالة التغذويه:

العلاج	التصنيف	العلامات
<ul style="list-style-type: none"> < قم باعطاء فيتامين A < امنع هبوط السكر بالدم < امنع انخفاض حرارة جسم الطفل < احاله فوريه الى المستشفى 	نقص تغذيه شديد او هزال شديد	<ul style="list-style-type: none"> ❖ الوزن بالنسبة للقامة او (الطول) او مؤشر كتلة الجسم بالنسبة للعمر اقل من -3 z score ، او ❖ علامات الهزال الشديد او وئمة القدمين
<ul style="list-style-type: none"> < قم بتقييم اطعام (تغذيه) الطفل وتقديم النصح والمشوره للام حول التغذيه وحسب جدول تقييم التغذيه < متابعه بعد ٥ ايام في حالة وجود مشكله تغذيه < ارشاد الام حول علامات العوده الفوريه متابعه بعد ٣٠ يوما 	هزال	<ul style="list-style-type: none"> ❖ الوزن الى الطول او القامة او مؤشر كتلة الجسم الى العمر اقل من -2 z score
<ul style="list-style-type: none"> < تقييم الحالة التغذويه للطفل وتقديم النصح والمشوره للام 	لا يوجد سوء تغذيه	❖ لا توجد اي من العلامات السابقه

التصنيف

تحقق من الحالة التغذويه
*علامات الهزال الشديد او وئمة القدمين (هزال شديد)
*الوزن بالنسبة للقامة او (الطول) او مؤشر كتلة الجسم بالنسبة للعمر اقل من -3 z score (هزال شديد)
*الوزن بالنسبة للقامة او (الطول) او مؤشر كتلة الجسم بالنسبة للعمر اقل من -2 z score (هزال)

العلاج	التصنيف	العلامات
<ul style="list-style-type: none"> < قم باعطاء فيتامين A < امنع هبوط السكر بالدم < امنع انخفاض حرارة جسم الطفل < احاله فوريه الى المستشفى 	نقص الوزن شديد	❖ اذا كان مؤشر الوزن الى العمر اقل من -3 z score
<ul style="list-style-type: none"> < قم بتقييم اطعام (تغذيه) الطفل وتقديم النصح والمشوره للام حول التغذيه وحسب جدول تقييم التغذيه < متابعه بعد ٥ ايام في حالة وجود مشكله تغذيه < ارشاد الام حول علامات العوده الفوريه متابعه بعد ٣٠ يوما 	نقص الوزن	❖ الوزن بالنسبة للعمر اقل من -2 z score
<ul style="list-style-type: none"> < تقييم الحالة التغذويه للطفل وتقديم النصح والمشوره للام 	لا يوجد نقص الوزن	❖ لا توجد اي من العلامات السابقه

التصنيف

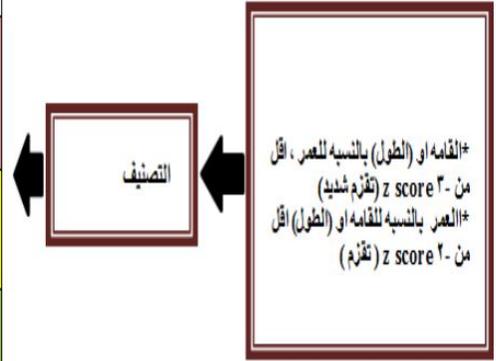
تحقق من الحالة التغذويه
*الوزن بالنسبة للعمر اقل من -3 z score (نقص الوزن الشديد)
*الوزن بالنسبة للعمر اقل من -2 z score (نقص الوزن)

الوزن بالنسبة للعمر

القامة او الطول بالنسبة للعمر

تحقق من الحالة التغذويه:

العلاج	التصنيف	العلامات
<ul style="list-style-type: none"> أحالة غير فورية 	تقرم شديد	<ul style="list-style-type: none"> القامة او (الطول) بالنسبة للعمر ، أقل من -3 z score (تقرم شديد)
<ul style="list-style-type: none"> تقديم النصح والمشورة للام مراقبة توجه النمو 	تقرم	<ul style="list-style-type: none"> العمر بالنسبة للقامة او (الطول) أقل من -2 z score
<ul style="list-style-type: none"> تقييم الحالة التغذويه للطفل وتقديم النصح والمشورة للام 	لا يوجد تقرم	<ul style="list-style-type: none"> لا توجد اي من العلامات السابقة



العلاج	التصنيف	العلامات
<ul style="list-style-type: none"> تقديم النصح والمشورة للام متابعة بعد (٣٠) يوم عدم انزال وزنه وانما الحفاظ على الوزن الحالي مع زيادة الطول والعمر لحين وصوله للطبيعي أحالة غير فورية للمستشفى 	السمنه	<ul style="list-style-type: none"> الوزن بالنسبة للقامة او (الطول) او مؤشر كتلة الجسم بالنسبة للعمر أكثر من $+2$ z score
<ul style="list-style-type: none"> فم بتقييم اطعام (تغذية) الطفل وتقديم النصح والمشورة للام حول التغذية وحسب جدول تقييم التغذية متابعه بعد ٣٠ يوم 	زيادة الوزن	<ul style="list-style-type: none"> الوزن بالنسبة للقامة او (الطول) أكثر من $+2$ z score ، مؤشر كتلة الجسم بالنسبة للعمر أكثر من $+2$ z score
<ul style="list-style-type: none"> فم بتقييم اطعام (تغذية) الطفل وتقديم النصح والمشورة للام حول التغذية وحسب جدول تقييم التغذية متابعه بعد ٣٠ يوم 	احتمال زيادة الوزن	<ul style="list-style-type: none"> الوزن بالنسبة للقامة او (الطول) او مؤشر كتلة الجسم بالنسبة للعمر أكثر من $+1$ z score
<ul style="list-style-type: none"> تقييم الحالة التغذويه للطفل وتقديم النصح والمشورة للام 	لا يوجد زيادة في الوزن	<ul style="list-style-type: none"> لا توجد اي من العلامات السابقة



الوزن بالنسبة للقامة او مؤشر كتلة الجسم بالنسبة للعمر

Appendices

مؤشرات النمو				Z-score
مؤشر كتلة الجسم BMI / العمر (كغم/م ²)	الوزن / الطول او القامة	الوزن / العمر	الطول او القامة / العمر	
السمنة	السمنة	استعمال مخططات (2):	طول الوالدين او الاحالة (1)	اكثر من 3
زيادة الوزن	زيادة الوزن	- الوزن / الطول او القامة		اكثر من 2
إحتمالية خطورة زيادة الوزن (3)	إحتمالية خطورة زيادة الوزن (3)	- BMI / العمر		اكثر من 1
				صفر (الوسيط)
				اقل من -1
الهزال	الهزال	نقص الوزن	التقرم (4)	اقل من -2
الهزال الشديد	الهزال الشديد	نقص الوزن الشديد	التقرم الشديد (4)	اقل من -3

تفسير النقطة المرسومة على مخطط النمو

ملاحظة 1: يجب استعمال منحنيات النمو الاربعه وحسب الجنس والفنه العمريه.

ملاحظة 2: اذا وقعت النقطة المرسومة على خط Z-SCORE فتعتبر ضمن الفئة الأقل خطورة

(1) الطفل في هذه الحالة طويل جدا. زيادة الطول حالة نادرة، وهناك احتمال الاصابة بامراض الغدد الصم مثل السرطان الذي يفرز هرمون النمو (growth hormone). يحال الطفل لغرض التقييم حول امراض الغدد الصم اذا كان يحتاج ذلك (مثلا اذا كان طول والديه طبيعي و لديهم طفل طويل لعمره).

(2) من الممكن ان تكون لديه مشكلة في النمو والافضل يقيم باستعمال الوزن / الطول أو القامة أو باستعمال مؤشر كتلة الجسم / العمر.

(3) اذا كانت النقطة المرسومة اكثر من واحد هناك احتمال الخطورة. اذا كان التوجه (trend) نحو -2 z score يوجد خطورة.

(4) زيادة الوزن محتملة عند الاطفال المصابين بالتقرم أو التقرم الشديد

تحقق عن الشحوب:

العلاج	التصنيف	العلامات
<ul style="list-style-type: none"> ◀ منع هبوط السكر في الدم ◀ احاله فوريه الي المستشفى 	فقر دم شديد	<ul style="list-style-type: none"> ❖ شحوب شديد في باطن الكف او في الاغشيه المخاطيه او كلاهما
<ul style="list-style-type: none"> ◀ تكبيم الحاله التغذويه للطفل وتقديم النصح والمشوره للام ◀ في حاله وجود مشكله في التغذيه، متابعه خلال ٥ ايام ◀ قم باعطاء الحديد (ماعدا ذا كان يعاني الطفل من فقر دم الخلايا المنجليه او الثلاسيميا) ◀ ارشد الام حول علامات العوده الفوريه بالطفل ◀ متابعه خلال ١٤ يوم 	فقر دم	<ul style="list-style-type: none"> ❖ بعض الشحوب في باطن الكف او بعض الشحوب في الاغشيه المخاطيه او كلاهما
<ul style="list-style-type: none"> ◀ تقديم النصح والمشوره للام حول التغذيه 	لا يوجد فقر دم	<ul style="list-style-type: none"> ❖ لا يوجد شحوب في باطن الكف ❖ لا يوجد شحوب في الاغشيه المخاطيه

التصنيف

تحقق من فقر الدم
 *شحوب شديد في باطن الكف او في الاغشيه المخاطيه او كلاهما
 *بعض الشحوب في باطن الكف او بعض الشحوب فس الاغشيه المخاطيه او كلاهما

(5) التحقق من استكمال جرعات التحصين وفيتامين أ-

برنامج التحصين الموسع/جدول التلقيحات

بدأ العمل به بتاريخ 2/كانون الثاني/2012

العمر	التلقيح
بعد الولادة	لقاح بي- سي- جي ،لقاح شلل الاطفال الفموي جرعة الصفر، (لقاح التهاب الكبد الفيروسي نمط ب ج 1 خلال اول 24 ساعة)
شهرين	لقاح الخماسي (لقاح الخناق،لقاح الكزاز ،لقاح السعال الديكي،لقاح الهيروفيلس انفلونزا نمط ب+ لقاح التهاب الكبد الفيروسي نمط ب) لقاح الفايروس الدوار ج 1 +لقاح شلل الاطفال الفموي ج 1
4 شهر	لقاح الرباعي (لقاح الخناق،لقاح الكزاز ،لقاح السعال الديكي،لقاح الهيروفيلس انفلونزا نمط ب) لقاح الفايروس الدوار ج 2+لقاح شلل الاطفال الفموي ج 2
6 شهر	لقاح الخماسي (لقاح الخناق،لقاح الكزاز ،لقاح السعال الديكي،لقاح الهيروفيلس انفلونزا نمط ب،لقاح الكبد الفيروسي نمط ب) لقاح الفايروس الدوار ج 3 +لقاح شلل الاطفال الفموي ج 3
9 شهر	لقاح الحصبة المنفرده + فيتامين A 100 ألف وحده دوليه
15 شهر	الحصبة المختلطة (لقاح الحصبة + لقاح الحصبة الألمانية + لقاح النكاف)
18 شهر	لقاح الرباعي (لقاح الخناق،لقاح الكزاز ،لقاح السعال الديكي،لقاح الهيروفيلس انفلونزا نمط ب) ،شلل الاطفال الفموي منشطة اولي +جرعه من فيتامين A 200 ألف وحده دوليه
4 - 6 سنة	جرعة الثلاثي (الخناق،الكزاز ،السعال الديكي) منشطة ثانيه، شلل الاطفال فموي منشطة ثانيه، لقاح الحصبة المختلطة جرعه ثانيه

نموذج تسجيل الطفل من عمر شهرين لأقل من 5 سنوات

دائرة صحة:
 قطاع: للرعاية الصحية الأولية
 مركز: للرعاية الصحية الأولية
 اسم الطبيب:
 التاريخ: / / 201

الاسم: العمر: الوزن: كغم الطول أو القامة: سم محيط الراس:
 درجة الحرارة: م°
 سبب الزيارة:
 زيارة أولية:
 زيارة متابعة:

ASSESS(circle all signs present)	التصنيف	TREAT
<p>هل يعاني الطفل من أي من علامات الخطر العامة؟ نعم لا اسأل عن الطفل: غير قادر على الرضاعة أو الشرب؟ يتقيأ كل ما يتناوله؟ حدثت لتطفل المتلاجات خلال المرض الحالي؟ لاحظ: متروخ أو قذح الوحي اختلاجات حالية</p>		
<p>هل يعاني الطفل من السعال أو صعوبة في التنفس؟ نعم لا اسأل كم هي المدة • انظر واستمع: 1- حد للتنفس في الثقيلة الواعدة (ثقيلة) تنفس سريع 2- انظر الى وجود انسحاب الجزء السفلي من الصدر الى الداخل 3- انظر واستمع الى وجود سرير 4- انظر واستمع الى وجود زفير يجب ان يكون الطفل هادئ</p>		
<p>هل يعاني الطفل من الإسهال؟ نعم لا لمدة يوم يوجد دم بالبراز ملاحظة حادة للطفل العامة هل هو: متروخ أو قذح الوحي؟ قلق أو متهيج؟ ملاحظة العينين القاترتين تقديم سوائل للطفل وملاحظة هل هو: غير قادر على الشرب أو يشرب بنشاط؟ يشرب بنهارة صلبان؟ ارتفع جلد البطن بواسطة السبلة والإبهام ثم تركه هل يرجع الى مكانه: بيضاء شديدة (في وقت أطول من ثلثين؟) بيضاء؟ هل حرارة الطفل مرتفعة (38.5 م° أو أكثر) وحالته سيئة</p>		
<p>تحقق عن مشاكل البلعوم: • اسأل: هل يوجد حمى؟ (عن طريق التمسس أو التاريخ المرضي الحالي أو درجة حرارة 37.5 أو أكثر) هل الطفل غير قادر على البلع؟ هل هناك صعوبة في البلع؟ • انظر وتمسس: تمسس عند لمعاينه متشنجة ومولمة في الجزء الأمامي من الحلق انظر الى وجود احقان (احمرار) في البلعوم انظر الى وجود تشنج (الفرجات) على شكل نطق بيضاء في البلعوم انظر الى وجود غشاء فوق البلعوم</p>		
<p>هل يعاني الطفل من مشكلة في الأذن؟ نعم لا اسأل: هل هناك ألم شديد في الأذن؟ هل هناك قيح يسهل من الأذن؟ إذا نعم ماهي المدة؟ يوم انظر وتمسس: انظر الى وجود قيح يسهل من الأذن؟ تمسس وجود تورم مؤلم خلف الأذن</p>		

Appendices

التصنيف																									
ASSESS(circle all signs present)																									
DOES THE CHILD HAVE FEVER (by history or feels hot/temperature 37.5c or above) For how long?-----Days If more than 7 days, has fever been present every day? Is the child coming from Malaria area? Has child had measles within the last three months? ----- If the child has measles now Or within the last 3 months:	YES-----NO----- Look or feel for stiff neck Look for signs of MEASLES Generalized rash and one of these: cough, runny nose, or red eyes Look for mouth ulcers If yes, are they deep and/or extensive? Look for clouding of the cornea Look for pus draining from the eye																								
تحقق من الحالة التغذوية																									
<ul style="list-style-type: none"> ❖ علامات الهزال الشديد او وذمة القدمين (هزال شديد) ❖ الوزن بالنسبة للقامة او (الطول) او مؤشر كتلة الجسم بالنسبة للعمر اقل من -3 z score (هزال شديد) ❖ الوزن بالنسبة للقامة او (الطول) او مؤشر كتلة الجسم بالنسبة للعمر اقل من -2 z score (هزال) ❖ الوزن بالنسبة للعمر اقل من -3 z score (نقص وزن شديد) ❖ الوزن بالنسبة للعمر اقل من -2 z score (نقص وزن) ❖ القامة او (الطول) بالنسبة للعمر ، اقل من -3 z score (تقرم شديد) ❖ العمر بالنسبة للقامة او (الطول) اقل من -2 z score (تقرم) ❖ الوزن بالنسبة للقامة او (الطول) او مؤشر كتلة الجسم بالنسبة للعمر اكثر من +3 z score (سمنة) ❖ الوزن بالنسبة للقامة او (الطول) ، z score ، مؤشر كتلة الجسم بالنسبة للعمر اكثر من +2 z score (زيادة وزن) ❖ الوزن بالنسبة للقامة او (الطول) او مؤشر كتلة الجسم بالنسبة للعمر اكثر من +1 z score (احتمال زيادة وزن) 																									
تحقق من فقر الدم																									
<ul style="list-style-type: none"> ❖ شحوب شديد في باطن الكف او في الاغشية المخاطية او كلاهما ❖ بعض الشحوب في باطن الكف او بعض الشحوب فس الاغشية المخاطية او كلاهما 																									
موعد التلقيح التالي التاريخ	<p>التحقق من وضع التلقيح وجرعات فيتامين (أ) التذعيمية (توضع دائرة حول التلقيح وفيتامين (أ) التي يحتاجها الطفل اليوم)</p> <table border="0"> <tr> <td>التدنن</td> <td>الشلل (صفر)</td> <td>الكبد ب 1</td> </tr> <tr> <td>الثلاثي 1</td> <td>الشلل 1</td> <td>الكبد ب 2</td> </tr> <tr> <td>الثلاثي 2</td> <td>الشلل 2</td> <td></td> </tr> <tr> <td>الثلاثي 3</td> <td>الشلل 3</td> <td>الكبد ب 3</td> </tr> <tr> <td>الحصبة</td> <td>فيتامين أ (جرعة اولى)</td> <td></td> </tr> <tr> <td>MMR</td> <td></td> <td></td> </tr> <tr> <td>الثلاثي منشطة 1</td> <td>الشلل منشطة 1</td> <td>فيتامين أ (جرعه ثابته)</td> </tr> <tr> <td>الثلاثي منشطة 2</td> <td>الشلل منشطة 2</td> <td></td> </tr> </table>	التدنن	الشلل (صفر)	الكبد ب 1	الثلاثي 1	الشلل 1	الكبد ب 2	الثلاثي 2	الشلل 2		الثلاثي 3	الشلل 3	الكبد ب 3	الحصبة	فيتامين أ (جرعة اولى)		MMR			الثلاثي منشطة 1	الشلل منشطة 1	فيتامين أ (جرعه ثابته)	الثلاثي منشطة 2	الشلل منشطة 2	
التدنن	الشلل (صفر)	الكبد ب 1																							
الثلاثي 1	الشلل 1	الكبد ب 2																							
الثلاثي 2	الشلل 2																								
الثلاثي 3	الشلل 3	الكبد ب 3																							
الحصبة	فيتامين أ (جرعة اولى)																								
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الثلاثي منشطة 2	الشلل منشطة 2																								
	<p>تقييم تغذية الطفل إذا كان لم يبلغ العام الثاني من عمره أو يعاني من نقص الوزن أو فقر الدم (أنيميا)</p> <p>* هل ترضع طفلك رضاعة طبيعية؟ نعم..... لا..... إذا كانت الإجابة بنعم كم مرة في 24 ساعة؟..... مرة هل ترضع خلال الليل؟ نعم..... لا..... هل يتناول الطفل أي تغذية أو سوائل أخرى؟ نعم..... لا..... إذا كانت الإجابة بنعم ما هي هذه السوائل أو الأغذية؟..... عدد المرات يومياً..... مرة ماذا تستخدمين لإطعام طفلك؟..... السؤال عن التغذية الإيجابية: ما هي كمية الطعام في الوجبة؟..... هل تقدمين للطفل وجبة خاصة به؟..... من يقوم بإطعام الطفل وكيف؟..... هل تغيرت تغذية الطفل أثناء المرض؟ نعم..... لا..... إذا كانت الإجابة بنعم كيف؟..... قيم أي مشكلة أخرى</p>																								

موعد الزيارة المحددة بعد

القواعد الثلاثة للرعاية المنزلية 1- زيادة السوائل2- الاستمرار في الرضاعة والتغذية3- علامات العودة في الحال

اعط المشورة للام حول صحتها العامة.....

ASSESS(circle all signs present)	التصنيف	TREAT
<p>DOES THE CHILD HAVE FEVER YES-----NO----- (by history or feels hot/temperature 37.5c or above)</p> <p>For how long?-----Days Look or feel for stiff neck</p> <p>If more than 7 days, has fever been present every day? Look for signs of MEASLES</p> <p>Is the child coming from Malaria area? Generalized rash and one of these:</p> <p>Has child had measles within the last three months? cough, runny nose, or red eyes</p> <p>-----</p> <p>If the child has measles now Look for mouth ulcers</p> <p>Or within the last 3 months: If yes, are they deep and/or extensive? Look for clouding of the cornea Look for pus draining from the eye</p>		
<p>تحقق من الحالة التغذوية</p> <p>❖ علامات الهزال الشديد او وذمة القدمين (هزال شديد)</p> <p>❖ الوزن بالنسبة للقامة او (الطول) او مؤشر كتلة الجسم بالنسبة للعمر اقل من -3 z score (هزال شديد)</p> <p>❖ الوزن بالنسبة للقامة او (الطول) او مؤشر كتلة الجسم بالنسبة للعمر اقل من -2 z score (هزال)</p> <p>❖ الوزن بالنسبة للعمر اقل من -3 z score (نقص وزن شديد)</p> <p>❖ الوزن بالنسبة للعمر اقل من -2 z score (نقص وزن)</p> <p>❖ القامة او (الطول) بالنسبة للعمر ، اقل من -3 z score (تقرم شديد)</p> <p>❖ العمر بالنسبة للقامة او (الطول) اقل من -2 z score (تقرم)</p> <p>❖ الوزن بالنسبة للقامة او (الطول) او مؤشر كتلة الجسم بالنسبة للعمر اكثر من +3 z score (سمنة)</p> <p>❖ الوزن بالنسبة للقامة او (الطول) z score ، مؤشر كتلة الجسم بالنسبة للعمر اكثر من +2 z score (زيادة وزن)</p> <p>❖ الوزن بالنسبة للقامة او (الطول) او مؤشر كتلة الجسم بالنسبة للعمر اكثر من +1 z score (احتمال زيادة وزن)</p> <p>تحقق من فقر الدم</p> <p>❖ شحوب شديد في باطن الكف او في الاغشية المخاطية او كلاهما</p> <p>❖ بعض الشحوب في باطن الكف او بعض الشحوب فس الاغشية المخاطية او كلاهما</p>		
<p>التحقق من وضع اللقاحات وجرعات فيتامين (A) الوقائية (توضع دائرة حول التلقيحات وفيتامين (A) التي يحتاجها الطفل اليوم)</p> <p>التدوين الشلل صفر الكبد ب 1</p> <p>الخماسي 1 لقاح الفيروس الدوار 1 الشلل 1</p> <p>الرباعي 1 لقاح الفيروس الدوار 2 الشلل 2</p> <p>الخماسي 2 لقاح الفيروس الدوار 3 الشلل 3</p> <p>الحصبة فيتامين (A) جرعة اولى</p> <p>الحصبة المختلطة 1</p> <p>الرباعي 2 (منشطة 1) الشلل منشطة 1 فيتامين (A) جرعة 2</p> <p>الثلاثي منشطة 2 الشلل منشطة 2 الحصبة المختلطة 2</p>	<p>موعد</p> <p>التلقيح</p> <p>التالي</p> <p>التاريخ</p>	
<p>تقديم تغذية الطفل إذا كان لم يبلغ العام الثاني من عمره أو يعاني من نقص الوزن أو فقر الدم (الانيميا)</p> <p>* هل ترضعين طفلك رضاعة طبيعية؟ نعم..... لا.....</p> <p>إذا كانت الإجابة بنعم كم مرة في 24 ساعة؟..... مرة</p> <p>هل ترضعين خلال الليل؟ نعم..... لا.....</p> <p>* هل يتناول الطفل أي تغذية أو سوائل أخرى؟ نعم..... لا.....</p> <p>إذا كانت الإجابة بنعم ما هي هذه السوائل أو الأغذية؟.....</p> <p>عدد المرات يوميا..... مرة ماذا تستخدمين لإطعام طفلك؟.....</p> <p>* السؤال عن التغذية الإيجابية:</p> <p>ما هي كمية الطعام في الوجبة؟.....</p> <p>هل تقدمين للطفل وجبة خاصة به؟.....</p> <p>من يقوم بإطعام الطفل وكيف؟.....</p> <p>* هل تغيرت تغذية الطفل أثناء المرض؟ نعم..... لا.....</p> <p>إذا كانت الإجابة بنعم كيف؟.....</p> <p>قيم أي مشكلة أخرى</p>		

ثانيا: الطفل في عمر أقل من شهرين

العلاج	التصنيف	العلامات
<ul style="list-style-type: none"> ◀ إعطاء الجرعة الأولى من المضاد الحيوي الملائم ◀ علاج لمنع انخفاض السكر في الدم ◀ ارتداء الأم على كيفية المحافظة على دفء الرضيع أثناء نقله إلى المستشفى ◀ إعادته فوراً إلى المستشفى 	احتمال التهاب بكتيري خطير	<ul style="list-style-type: none"> ❖ اختلاجات أو ❖ عدم القدرة على الرضاعة أو ❖ تنفس سريع (٦٠ مردي في الدقيقة أو أكثر) أو ❖ انسحاب شديد في أسفل الصدر أو ❖ رفرقة ارنية الانف أو ❖ آتین أو ❖ زير أو ❖ ارتقاع اليافوخ أو ❖ سيل قيحي من الأنف أو ❖ سيل قيحي من العين مع تورم واحمرار أو ❖ احمرار السرة الممتد إلى الجذ أو ❖ حمى (٣٧.٥ درجة أو أكثر) أو انخفاض درجة حرارة الجسم (أقل من ٣٥.٥ درجة) أو تسهبات كثيرة وتشنج أو ❖ منورخ أو فقد الوعي أو ❖ حركة أقل من الطبيعي
<ul style="list-style-type: none"> ◀ إعطاء المضاد الحيوي الفوري ◀ اعطاء الأم كيفية معالجة الالتهاب الموضعي في البيت ◀ تصح الأم بكيفية إعطاء الرغلة المنزلية ◀ المتابعة خلال ٢ يوم ◀ تصح جميع الأمهات بعلامات العودة الفورية لترضيع المريض 	التهاب بكتيري موضعي	<ul style="list-style-type: none"> ❖ احمرار السرة أو سيل قيح منها أو ❖ تور حاد أو ❖ سيل قيحي من العين
<ul style="list-style-type: none"> ◀ الرغلة المنزلية من قبل الأم ◀ تصح الأم بعلامات العودة الفورية للرضيع المريض 	لا يوجد التهاب بكتيري	<ul style="list-style-type: none"> ❖ لا توجد أي علامة من العلامات السابقة

تحقق من احتمال وجود التهاب بكتيري خطير

اسأل:

- ❖ هل حدث للرضيع اختلاجات؟
- ❖ هل الرضيع غير قادر على الرضاعة؟

انظر ، استمع ، تحسس:

- ❖ هل نلاحظ وجود اختلاجات حالياً؟
- ❖ احسب سرعة التنفس في دقيقه واحده، احسب مره اخرى اذا كانت القراءه عاليه
- ❖ انظر وجود انسحاب شديد في اسفل الصدر
- ❖ انظر وجود رفرقة ارنية الانف
- ❖ انظر واستمع الى الأتین
- ❖ انظر واستمع الى الأزير
- ❖ انظر وتحسس ارتفاع اليافوخ
- ❖ انظر وجود قيح يسيل من الأذن
- ❖ انظر وجود قيح يسيل من العين
- ❖ وجود قيح يسيل من العين مصحوب باحمرار العين ونورمها
- ❖ انظر الى السرة، هل الاحمرار يمتد الى الجلد المحيط؟
- ❖ فس درجة الحرارة (٣٧.٥ درجة أو أكثر) أو تحسس الحمى وانخفاض درجة الحرارة (أقل من ٣٥.٥ درجة مئوية أو يحس الطفل متلج و مختضب)
- ❖ انظر الى وجود بنور، هل هي كثيره (١٠ أو أكثر) أو شديد (احمرار حول البنور)؟
- ❖ هل الرضيع مدروخ أو فاقد الوعي؟
- ❖ انظر الى حركة الرضيع هل هي أقل من الطبيعي؟

يجب ان يكون الرضيع مدون

(2) اليرقان (أبو صفار)

تحقق عن اليرقان:

العلاج	التصنيف	العلامات
<ul style="list-style-type: none"> ◀ تجع الرضاعة من الثدي لمنع حدوث انخفاض السكر في الدم ◀ اتصح الأم بالمحافظة على الطفل دافئا خلال ذهابها الى المستشفى ◀ إحالة الطفل فوراً الى المستشفى 	يرقان شديد	<ul style="list-style-type: none"> ❖ يرقان ظهر خلال ٢٤ ساعة الأولى ولا زال موجودا أو ❖ يرقان يمتد ليشمّل باطن الكف أو القدم أو كلاهما أو ❖ يرقان في طفل خديج (أقل من ٣٧ اسبوع) ويمتد الى الذراعين أو الساقين أو كلاهما
<ul style="list-style-type: none"> ◀ الاستمرار بالرضاعة من الثدي ◀ لا توجد علاجات اضافيه ◀ مراجعة بعد يوم واحد ◀ كل طفل عمره ١٤ يوم أو أكثر مع اليرقان يجب أن يحال الى المستشفى للتقييم ◀ ارتداد الأم حول علامات العودة الفورية بالرضيع 	يرقان	<ul style="list-style-type: none"> ❖ يرقان مع عدم وجود اي علامه من العلامات السابقه
<ul style="list-style-type: none"> ◀ الاستمرار بالرضاعة من الثدي ◀ ارتداد الأم حول علامات العودة الفورية بالرضيع 	لا يوجد يرقان	<ul style="list-style-type: none"> ❖ لا يوجد يرقان



(3) الإسهال

هل الرضيع مصاب بالإسهال؟ نعم لا

هل الرضيع مصاب بالإسهال؟

العلاج	التصنيف	العلامات
<ul style="list-style-type: none"> إذا الرضيع لم يصنف احتمال التهاب بكتيري خطير: اعط السوائل الخاصة لمعالجة حالات الجفاف الشديد (خطه ج) إذا كان الرضيع مصنف احتمال التهاب بكتيري خطير: <ul style="list-style-type: none"> يحال فوراً إلى المستشفى مع أمه واعطاء رشفات من محلول الكسترولايت في الطريق مع إرشاد الأم بالاستمرار بالرضاعة من الثدي 	جفاف شديد	<ul style="list-style-type: none"> اثنان من العلامات التالية: <ul style="list-style-type: none"> مروخ أو ثقالة الوعي عينان غائرتان ثنية الجذع تعود ببطء شديد جداً
<ul style="list-style-type: none"> اعطاء السوائل مع القاء لحالات بعض الجفاف (خطه ب) مع حبوب الزنك إذا صنف الرضيع التهاب بكتيري خطير: <ul style="list-style-type: none"> يحال فوراً إلى المستشفى مع أمه مع اعطاء رشفات من محلول الكسترولايت في الطريق مع إرشاد الأم بالاستمرار بالرضاعة من الثدي المتابعة بعد ٢ يوم إذا لم يتحسن إرشاد جميع الأمهات إلى علامات العودة الفورية بالرضيع 	بعض الجفاف	<ul style="list-style-type: none"> اثنان من العلامات التالية: <ul style="list-style-type: none"> مضطرب، منهيج عينان غائرتان ثنية الجذع تعود ببطء
<ul style="list-style-type: none"> اعطاء السوائل لمعالجة حالات الإسهال في المنزل (خطه أ) مع حبوب الزنك المتابعة بعد ٢ يوم عند عدم التحسن إرشاد جميع الأمهات إلى علامات العودة الفورية بالرضيع 	لا يوجد جفاف	لا توجد علامات كافية لتصنيف الجفاف الشديد أو بعض الجفاف
<ul style="list-style-type: none"> علاج الجفاف قبل الإحالة ما لم يكن مصنفًا احتمال التهاب بكتيري خطير إحالة إلى المستشفى 	إسهال مستمر شديد	إسهال مستمر ١٤ يوم فأكثر
<ul style="list-style-type: none"> إحالة فورية للمستشفى اعط الجرعة الأولى من المضاد الحيوي المناسب 	دم بالبراز	دم بالبراز

أسأل:
إذا نعم اسأل:
كم هي المدة?
هل يوجد دم بالبراز؟

أنظر، تحسس:
* انظر إلى الوضع العام للرضيع هل الرضيع:
مروخ أو ثقالة الوعي?
منهيج أو قلق?
* انظر إلى العينين الغائرتين
* اقرص جلد البطن هل يعود ببطء شديد جداً (أكثر من ٢ ثانية)؟
ببطء؟

طبق الدرجة الجفاف

تصنيف الإسهال

إذا استمر الإسهال ١٤ يوم أو أكثر

وجود دم بالبراز

(4) مشاكل الرضاعة ونقص الوزن

التحقق من مشاكل الرضاعة ونقص الوزن

التصنيف	العلامات المرضية
غير قادر على الرضاعة اضطراب التهاب بشري خطير	وجود أي من العلامات الآتية: • غير قادر على الرضاعة • لا يوجد تعلق بالشئ على الإطلاق • لا يوجد إرضاع على الإطلاق
مشكلة رضاعة أو نقص الوزن	وجود أي من العلامات الآتية: • وضع إرضاع خاطئ • تعلق ضعيف بالشئ • الإرضاع غير فعال • الرضاعة من الثدي أقل من 8 مرات (24 ساعة ليلاً ونهاراً) • يتناول أغذية أو سوائل أخرى • نقص الوزن بالنسبة للعمر أو نقص الوزن عند الميلاد • توجد التهابات فطرية بالفم (قرح أو بقع بيضاء)
لا توجد مشكلة رضاعة ولا يوجد نقص وزن	• الوزن غير ناقص بالنسبة للعمر ولا توجد أي مشاكل تغذية أخرى

• هل يرضع رضاعة من الثدي ؟
نعم لا.....
هل توجد صعوبة في الرضاعة ؟
نعم لا.....
إذا كانت الإجابة بنعم - كم مرة في 24 ساعة؟..... مرة
- هل يرضع أثناء الليل؟
نعم لا.....
• هل يتناول الطفل الرضيع عادة أي أغذية أو سوائل أخرى؟
نعم لا.....
إذا كانت الإجابة بنعم كم مرة في 24 ساعة؟..... مرة
ماذا تستخدمين لإطعام الرضيع؟.....
.....
• تقدير الوزن بالنسبة للعمر:
ناقص..... غير ناقص.....
.....
• ملاحظة وجود قرح أو بقع بيضاء داخل الفم



التصنيف



(5) التحقق من إكمال التلقيح

يجب التحقق من أن الرضيع الصغير قد اخذ لقاحات التدرن والشلل (جرعة صفر) والتهاب الكبد الفيروسي ب جرعة أولى، فإن لم يكن قد أخذه يتم إعطائه بأقرب جلسة تلقيح. لتوضيح هذا الجزء من استمارة التسجيل توضع دائرة حول ما يحتاجه اليوم

موعد التلقيح التالي
التحقق من موقف الرضيع من التلقيح: (توضع دائرة حول ما يحتاجه اليوم)
التدرن _____ شلل (صفر) _____ الكبد ب1 _____ التاريخ _____

نموذج تسجيل الطفل المريض في عمر أقل من شهرين

دائرة صحة:
 قطاع: للرعاية الصحية الأولية
 مركز: للرعاية الصحية الأولية
 الاسم: العمر: الوزن: كغم الطول أو القامة: سم محيط الرأس: سم
 درجة الحرارة: م°
 سبب الزيارة:
 زيارة أولية:
 زيارة متابعة:

ASSESS(circle all signs present)	التصنيف	TREAT
<p>تحقق من وجود التهاب بكتيري</p> <p>الظر . استمع . تحسس</p> <p>اسأل .</p> <p>هل يعاني الطفل من اختلاجات ؟ هل الطفل لا يستطيع الرضاعة ؟</p> <ul style="list-style-type: none"> ❖ اختلاجات او ❖ عدم القدرة على الرضاعة او ❖ تنفس سريع (60 مرة في الدقيقة او اكثر) او ❖ انسحاب شديد في اسفل الصدر او ❖ رطوبة لونية الانف او ❖ البين او ❖ لزير او ❖ ارتفاع اليافوخ او ❖ سيل قيحي من الاذن او ❖ سيل قيحي من العين مع تورم واحمرار او ❖ احمرار السرة المسد الى الجفد او ❖ حمى (37.5 درجة او اكثر) او انخفاض درجة حرارة الجسم (اقل من 35.5 درجة) تحسه باردا ❖ بثرات كثيرة وشديده او ❖ مندوخ او فاقد الوعي او ❖ حركة اقل من الطبيعي 		
<p>تحقق من وجود يرقان</p> <p>الظر الى اليرقان</p> <p>اسأل</p> <p>?يرقان ظهر خلال 24 ساعه الاولى ولازال موجودا هل الطفل خديج (اقل من 37 اسبوع</p> <p>يرقان يمتد ليشمل باطن الكف او القدم او كلاهما اليرقان يمتد الى الفراعين او الساقين او كلاهما</p>		
<p>هل يعاني الرضيع من الإسهال؟ لمدة يوم يوجد دم بالبراز</p> <p>تعم لا.....</p> <p>*ملاحظة حالة الرضيع العامة هل هو: مندوخ أو فاقد الوعي؟ قلق أو متهيج؟ *ملاحظة العينين الغائرتين *رفع جلد البطن بواسطة السبابة والإبهام ثم تركه هل يرجع إلى مكانه: ببطء شديد (في وقت أطول من ثلاثين)؟ ببطء؟</p>		

Appendices

ASSESS(circle all signs present)	التصنيف	TREAT
<p>التحقق من مشاكل الرضاعة ونقص الوزن</p> <p>* هل توجد صعوبة في الرضاعة؟ * هل يرضع رضاعة من الثدي؟ إذا كانت الإجابة بنعم - هل يرضع أثناء الليل؟ * هل يتناول الطفل الرضيع عادة أي أغذية أو سوائل أخرى؟ إذا كانت الإجابة بنعم كم مرة في 24 ساعة؟ مذا تستخدمين لإطعام الرضيع؟ * تقدير الوزن بالنسبة للعمر: ناقص غير ناقص * ملاحظة وجود فرح أو بقع بيضاء داخل الفم</p> <p>نعملا..... نعملا..... - كم مرة في 24 ساعة؟ مرة نعملا..... نعملا.....</p>		
<p>إذا كان الرضيع يجد صعوبة في الرضاعة أو يرضع أقل من 8 مرات كل 24 ساعة أو يتناول أغذية أو سوائل أخرى أو وزنه ناقص بالنسبة لعمره أو إذا كان ناقص الوزن عند الميلاد (أقل من 2500 غم) أو إذا كان في الأسبوع الأول من عمره</p> <p><u>ولا يوجد ضرورة لتحويله للمستشفى فوراً. يجري تقييم الرضاعة من الثدي</u></p> <p>تقييم الرضاعة من الثدي : إذا كان الرضيع لم يرضع في الساعة السابقة يطلب من الأم إرضاعة مع ملاحظة الرضاعة لمدة 4 دقائق * هل وضع الرضيع صحيح؟ للتحقق من ذلك لاحظ ما يلي: - عنق الرضيع مستقيم أو منحني قليلاً للخلف - جسم الرضيع مواجه لجسم الأم - جسم الرضيع ملاصق لجسم الأم - الأم تستند جسم الرضيع بأكمله وضع رديء وضع جيد * هل الرضيع قادر على التعلق بالثدي؟ للتحقق من ذلك لاحظ ما يلي: - الأنف يلامس الثدي - الفم مفتوح تماماً - الشفة السفلى مقلوبة للخارج - الجزء الأكبر من هالة الثدي يرى أعلى فم الرضيع لا يوجد تعلق على الإطلاق التعلق ضعيف هل الرضيع يرضع بفاعلية (بمعنى مصات بطيئة عميقة مع توقف قصير أحياناً)؟ لا يوجد رضاع على الإطلاق الرضاع غير فعال الرضاع فعال</p> <p>نعملا..... نعملا.....</p>		
<p>التحقق من موقف الرضيع من التلقيح: (توضع دائرة حول ما يحتاجه الرضيع اليوم) التدن الشلل (صفر) الكبد ب 1</p>	<p>موعد التلقيح</p> <p>التالي</p> <p>التاريخ</p>	
<p>قيم أي مشكلة أخرى</p>		

موعد الزيارة المحددة بعد
القواعد الثلاثة للرعاية المنزلية 1- زيادة السوائل 2- الاستمرار في الرضاعة والتغذية 3- علامات العودة في الحال
اعط المشورة للأم حول صحتها العامة

علاج الإسهال

علاج الجفاف

الخطة " أ " :

علاج الإسهال بالمنزل: في حالة تصنيف ((لا يوجد جفاف)) وتشمل:

- أولاً: إعطاء المزيد من السوائل ثانياً: الاستمرار في التغذية والرضاعة من الثدي ثالثاً: معرفة الأم علامات العودة لطفلها في الحال رابعاً: إعطاء حبوب الزنك

أولاً: إعطاء المزيد من السوائل

(I) توجيه الأم لإعطاء الطفل أكبر كمية يتقبلها من السوائل من خلال:

- زيادة مرات الرضاعة من الثدي على فترات متقاربة ولمدة أطول في كل رضعة
 - طفل يرضع رضاعة مطلقاً: رضاعة من الثدي + إعطاء محلول معالجة الجفاف
 - طفل لا يرضع رضاعة مطلقاً من الثدي: حليب بدون تخفيف + المحلول + واحد أو أكثر من سوائل غذائية مثل شوربة وفوح اللبن واللبن
 - يعرض على الأم بيانا عملياً عن كيفية تحضير المحلول، ثم يطلب منها ممارسة ذلك تحت ملاحظتك، وطبقاً للخطوات التالية:
- 1- تجهيز ملعقة صغيرة ووعاء سعته 1 لتر
 - 2- غسل اليدين والكوب والملعقة بالماء والصابون
 - 3- وضع واحد لتر ماء نظيف داخل الوعاء
 - 4- فتح كيس المسحوق وتفرغ محتوياته بالكامل في وعاء الماء
 - 5- تقليب المسحوق جيداً حتى يذوب تماماً

(II) تحديد كمية محلول معالجة الجفاف

حسب خطة (أ):

- تعليم الأم إعطاء الطفل المحلول بالكميات التالية حسب العمر
- الطفل أقل من سنتين: $\frac{1}{4}$ - $\frac{1}{2}$ كوب محلول بعد كل مرة إسهال
 - الطفل من سنتين فأكثر: $\frac{1}{2}$ - 1 كوب محلول بعد كل مرة إسهال

ثالثاً: معرفة الأم علامات العودة بطفلها في الحال

- العلامات العامة لعودة أي طفل مريض في الحال
- دم بالبراز
- ضعف القدرة على الشرب أو الرضاعة

ثانياً: الاستمرار في التغذية والرضاعة من الثدي

- توجيه الأم إلى إرضاع الطفل مرات أكثر ولمدة أطول
- تقديم وجبات متكررة من أغذية لينة ومتنوعة مناسبة لعمره

رابعاً: إعطاء حبوب الزنك

- 1- من عمر شهرين إلى أقل من 6 شهر يعطى (10) مغم عن طريق الفم لمدة 10-14 يوم
- 2- من عمر (6) شهر لغاية 5 سنوات يعطى (20) مغم عن طريق الفم لمدة 10-14 يوم

الخطة " ب " : العلاج بمحلول علاج الجفاف بالفم في المركز الصحي

علاج بمحلول معالجة الجفاف بالفم في المركز الصحي: في حالة تصنيف (بعض الجفاف)

وتشمل الخطة " ب " مرحلتين هما:

1. مرحلة الإرواء الابتدائي تتم في المركز الصحي: تقوم الأم بإعطاء طفلها كمية محلول الإرواء المقررة أما بالملعقة أو برشفات متكررة من الكوب لمدة 4 ساعات

2. مرحلة الحفاظ على الإرتواء وتتم بالمنزل إذا أصبح تصنيفه (لا يوجد جفاف) باتباع الخطة (أ) الإرواء الابتدائي:

تحديد كمية محلول معالجة الجفاف لمرحلة الإرواء الابتدائي (خلال 4 ساعات) وهو حاصل ضرب وزن الطفل (بالكغم) في 75 مل أو الاستعانة بالجدول التالي:

العمر	أقل من 4 شهور	4 شهور لأقل من 12 شهراً	12 شهراً لأقل من سنتين	سنتين لأقل من 5 سنوات
الوزن	أقل من 6 كغم	6 لأقل من 10 كغم	10 لأقل من 12 كغم	من 12 - 19 كغم
كمية المحلول مل	200 - 400	400 - 700	700 - 900	900 - 1400

يراعي أثناء الإرواء الابتدائي ما يلي:

- ❑ على الكادر التمريضي أن يوضح للأم كمية محلول معالجة الجفاف التي يحتاجها الطفل خلال الساعات الأربع، وكيفية إعطاء المحلول (بالمعلقة) ومعدله (ملعقة كل 1-2 دقيقة)
- ❑ توجيه أم الطفل الذي يرضع من الثدي بالتوقف قليلاً عن إعطاء المحلول لإرضاع طفلها كلما رغب في ذلك ثم تعود إعطاء المحلول
- ❑ توجيه أم الطفل في عمر أقل من 6 شهور ولا يرضع من الثدي لإعطاء 100 - 200 مل من الماء النقي إلى جانب المحلول
- ❑ عدم إعطاء الطفل أي أغذية خلال الساعات الأربع الأولى من العلاج بمحلول الجفاف فيما عدا الرضاعة من الثدي
- ❑ إذا رغب الطفل في شرب كمية أكثر من المحلول تعطى له
- ❑ إذا تقيأ الطفل تنتظره 10 دقائق ثم تعطي المحلول بطريقة أبطأ

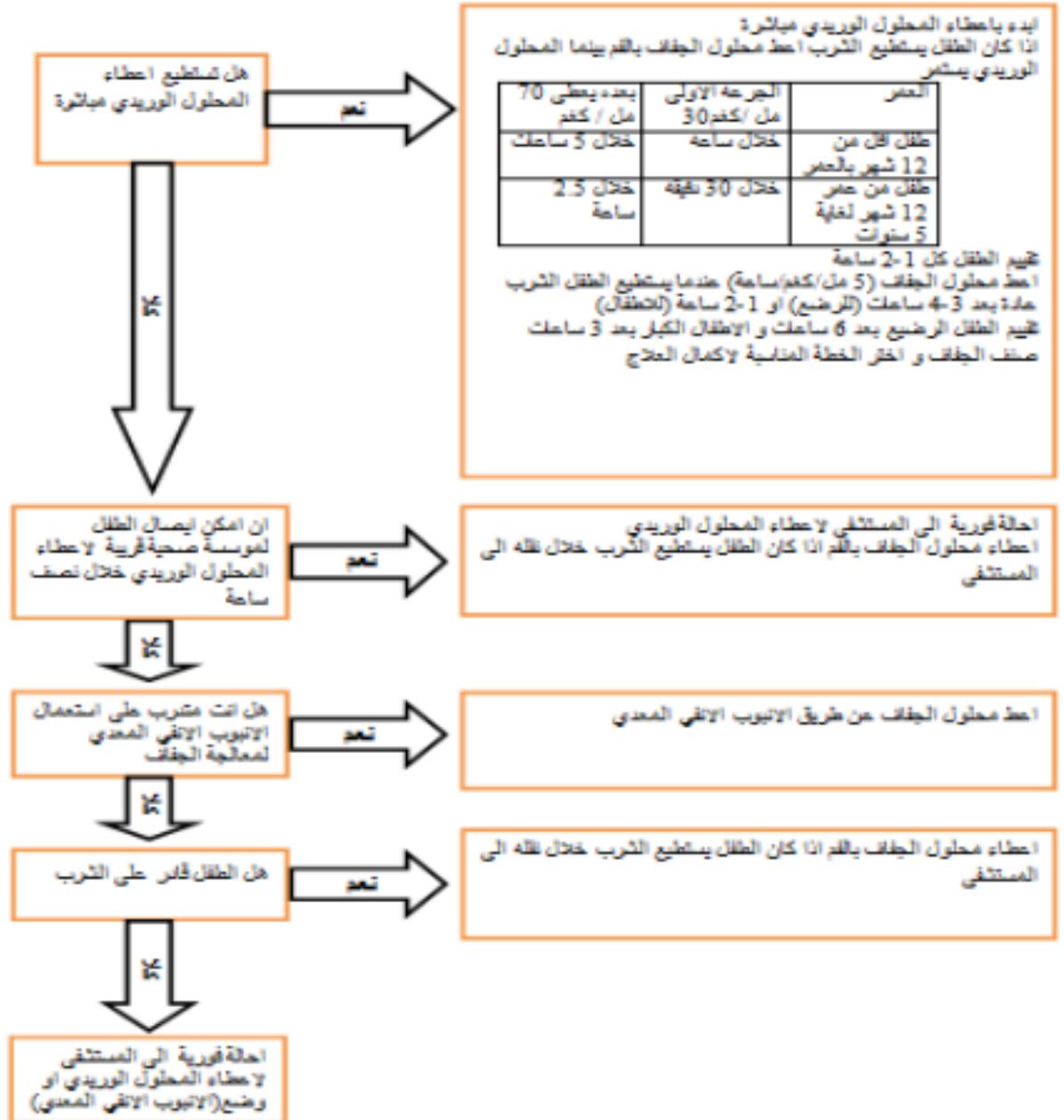
❑ مداومة ملاحظة عملية الإرواء، للتأكد من وقت لآخر أن الأم لا تواجه أي

مشاكل في إعطاء المحلول

❑ بعد 4 ساعات: يعاد تقييم الطفل

- ❑ فإذا تحسنت حالته (لا يوجد جفاف)
- ❑ وإذا لم يتحسن (بعض الجفاف)
- ❑ وإذا ساءت حالته (جفاف شديد)
- ❑ خطة (أ)
- ❑ خطة (ب) مع التغذية
- ❑ خطة (ج)

الخطة " ج ": علاج الجفاف الشديد بسرعة



علاج الإسهال المستمر (14 يوم فأكثر)

بحال الطفل المصاب بالإسهال المستمر للمستشفى في الأحوال التالية:
 (1) الطفل في عمر شهرين لأقل من 5 سنوات: إذا كان الإسهال المستمر مصحوباً بتصنيف جفاف شديد أو تصنيف بعض الجفاف

(2) جميع الرضع في عمر أقل من شهرين

الأطفال في عمر شهرين لأقل من 5 سنوات الذين يعانون من إسهال مستمر غير مصحوب بتصنيف جفاف شديد أو تصنيف بعض الجفاف، ولا يحتاجون لإحالة فورية لأي سبب آخر، يتم علاجهم بالمنزل بناءً على نصائح التغذية التي توصلها الممرضة للام طبقاً للقواعد التالية

العلاج	التصنيف	العلامات
<ul style="list-style-type: none"> ◀ علاج الجفاف قبل الإحالة ما لم يكن هنالك تصنيف شديد ◀ إحالة إلى المستشفى 	إسهال مستمر شديد	<ul style="list-style-type: none"> ❖ إسهال لمدة 14 يوم أو أكثر + جفاف شديد أو بعض الجفاف
<ul style="list-style-type: none"> ◀ انصح الأم حول التغذية ◀ مراجعة بعد 5 أيام 	إسهال مستمر	<ul style="list-style-type: none"> ❖ إسهال مستمر لمدة 14 يوم أو أكثر + لا يوجد جفاف (لا توجد علامات جفاف ظاهرة كافية)

علاج الاسهال في حالة وجود دم في البراز

العلاج	التصنيف	العلامات
◀ احالة الى المستشفى	احتمال شيكلا (زحار باسيلى)	❖ دم بالبراز + حرارة 38.5 م او اكثر و الطفل حالته سيئة
◀ علاج لمدة 10 ايام باستخدام شراب الفلاجيل ◀ المراجعة بعد 2 يوم	دزيتري (زحار اميبى)	❖ دم بالبراز

ملاحظة مهمة: اذا كان الطفل غير مصاب بالاسهال و يوجد دم بالبراز فقط فلا يدخل
حقن الاسهال، ويعتبر الدم بالبراز من المشاكل الاخرى ويحال الى اخصائي الجراحة

تصنيف مشاكل الارضاع:

الجدول التالي يوضح تصنيف مشاكل الارضاع لدى الرضيع الصغير:

التصنيف	العلامات المرضية
غير قادر على الرضاعة احتمال التهاب بكتيري خطير	وجود أي من العلامات الآتية: <ul style="list-style-type: none"> • غير قادر على الرضاعة • لا يوجد تعلق بالثدي على الإطلاق • لا يوجد إرضاع على الإطلاق
مشكلة رضاعة أو نقص الوزن	وجود أي من العلامات الآتية: <ul style="list-style-type: none"> • وضع إرضاع خاطئ • تعلق ضعيف بالثدي • الإرضاع غير فعال • الرضاعة من الثدي أقل من 8 مرات/24 ساعة ليلاً ونهاراً • يتناول أغذية أو سوائل أخرى • نقص الوزن بالنسبة للعمر أو نقص الوزن عند الميلاد • توجد التهابات فطرية بالفم (فرح أو بقع بيضاء)
لا توجد مشكلة رضاعة ولا يوجد نقص وزن	<ul style="list-style-type: none"> • الوزن غير ناقص بالنسبة للعمر ولا توجد أي مشاكل تغذية أخرى

مشاكل التغذية الشائعة

ملاحظة: في حالة وجود أي مشكلة تغذية يكون للطفل متابعة محددة بعد 5 أيام

الفئة	المشكلة	المشورة
كل الأطفال	1- استعمال القنينة	توضيح مخاطر ها ونصح الأم باستخدام كوب أو كوب وملعقة وتعليمها كيفية الاستخدام
	2- استعمال اللهاية	توضيح مخاطر ها ونصح الأم بعدم استخدامها
	3- تغذير تغذية الطفل أثناء المرض (تذكر كيف تغيرت)	<ul style="list-style-type: none"> • نصح الأم بتكرار الإرضاع على فترات متقاربة ومدة إرضاع أطول أو تقديم مزيد من الوجبات الصغيرة من أغذية لينة محببة للطفل • تعليم الأم كيفية تنظيف السداد الأنف إذا أعاق التغذية • تعليم الأم المرضعة كيفية الاعتصار اليدوي للثدي لضمان استمرارية إدرار الحليب
	4- قلة كمية الطعام بالوجبة	نصح الأم بزيادة كمية الطعام بالوجبة بما يكفي احتياجات الطفل بالنسبة لعمره
	5- عدم تقديم وجبة خاصة للطفل	نصح الأم بتقديم وجبة كافية للطفل في طبق (صحن) خاص
	6- ترك الطفل يأكل بمفرده	نصح الأم بالقيام بنفسها أو احد أفراد الأسرة بالجلوس مع الطفل وتشجيعه على الأكل

مشاكل التغذية الشائعة

الفئة	المشكلة	المشورة
أطفال أقل من 6 شهور	1- قلة عدد مرات الرضاعة (أقل من 8 مرات)	تتم مشاوره الأم لمعرفة السبب وزيادة عدد مرات الرضاعة إلى 8 مرات على الأقل
	• احتقان الثدي بالحليب	<ul style="list-style-type: none"> • تقييم الرضاعة من الثدي وتصحيح الأخطاء إن وجدت • نصح الأم بإرضاع الطفل رضعات متكررة متقاربة • نصحها بوضع قطعة قماش مبللة بماء بارد على الثدي بين الرضعات • تعليمها الاعتصار اليدوي للثدي
	• تشقق حلمة الثدي	<ul style="list-style-type: none"> • تصحيح وضع الإرضاع • ترك نقطة من حليب الأم في نهاية الرضعة لتجف في الهواء مع تعريض الحلمتين للهواء والشمس
	• التهاب حلمة الثدي	<ul style="list-style-type: none"> • نصح الأم بالاستمرار في الرضاعة من الثدي. وتعليمها الاعتصار اليدوي للثدي
	• انفصال الرضيع عن الأم العاملة	<ul style="list-style-type: none"> • تعليمها الاعتصار اليدوي للثدي وطريقة حفظ الحليب وإعطائه للرضيع • نصحها بقيام احد أفراد الأسرة بإعطاء الرضيع الحليب المعتصر أثناء وجودها خارج المنزل
شهور (قبل سن 6)	2- عدم الإرضاع أثناء الليل	<ul style="list-style-type: none"> • نصح الأم بالإرضاع ليلاً وتوضيح أهمية ذلك في زيادة تدفق الحليب
	3- إعطاء حليب آخر أو إعطاء سائل أو أغذية تكميلية (قبل سن 6 شهور)	<ul style="list-style-type: none"> • تقييم الرضاعة من الثدي وتصحيح الأخطاء. وبناء ثقة الأم في قدرتها على توفير احتياجات الطفل • نصح الأم بالحد من الحليب الصناعي أو الأغذية التكميلية تدريجياً بالتوازي مع تكرار الإرضاع على فترات متقاربة ولمدة أطول نهاراً وليلاً

مشاكل التغذية الشائعة

الفئة	المشكلة	المشورة
أطفال من 6 شهور لأقل من سنة	1- عدم إعطاء أغذية وسوائل تكميلية	نصح الأم بإعطاء أغذية وسوائل مناسبة لعمر الطفل استرشاداً بكرات إرشادات الرعاية المنزلية
	2- عدم الإرضاع أثناء الليل	نصح الأم بالإرضاع ليلاً. وتوضيح أهمية ذلك في زيادة الحليب - تدفق الحليب
	3- عدد الوجبات: • أقل من ثلاثة وجبات إذا كان الطفل يرضع رضاعة من الثدي	• نصح الأم بزيادة عدد الوجبات إلى: ثلاث وجبات إذا كان الطفل يرضع رضاعة من الثدي
	• أقل من خمس وجبات إذا كان الطفل لا يرضع رضاعة من الثدي	• خمسة وجبات إذا كان الطفل لا يرضع رضاعة من الثدي
أطفال من سنة لأقل من سنتين	4- إعطاء الطفل أطعمة غير متنوعة أو غير مغذية	إعطاء الطفل وجبات متنوعة ومغذية استرشاداً بكرات إرشادات الرعاية المنزلية ودليل الملاك التمريضي
	1- عدم الإرضاع أثناء الليل	نصح الأم بالإرضاع ليلاً وتوضيح أهمية ذلك في زيادة الحليب - تدفق الحليب
	2- قلة عدد الوجبات عن 5 وجبات	نصح الأم بزيادة عدد الوجبات إلى خمس وجبات
أطفال من سنتين لأقل من خمس سنوات	3- إعطاء الطفل أطعمة غير متنوعة أو غير مغذية	إعطاء الطفل وجبات متنوعة ومغذية استرشاداً بكرات إرشادات الرعاية المنزلية ودليل الكادر التمريضي
	1- قلة عدد الوجبات (عن 5 وجبات)	نصح الأم بزيادة عدد الوجبات إلى خمس وجبات
	2- تناول أطعمة غير مغذية	نصح الأم بالإقلاع أو الإقلال من هذه الأطعمة وتناول أطعمة مغذية استرشاداً بكرات إرشادات الرعاية المنزلية
	3- عدم تنوع الطعام	تنويع وجبات الطعام طبقاً لعمر الطفل استرشاداً بكرات إرشادات الرعاية المنزلية

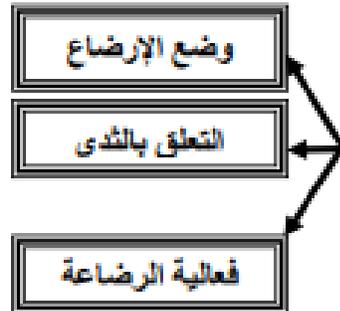
تقييم مشاكل الرضاعة أو نقص الوزن في الأطفال أقل من شهرين

التصنيف	التحقق من مشاكل الرضاعة أو نقص الوزن
	<ul style="list-style-type: none"> هل توجد صعوبة في الرضاعة؟ نعم _____ لا _____ هل يرضع رضاعة من الثدي؟ نعم _____ لا _____ إذا كانت الإجابة بنعم: عدد المرات في 24 ساعة _____ مرة هل يرضع أثناء الليل؟ نعم _____ لا _____ هل يتناول الرضيع عادة أي أغذية أو سوائل أخرى؟ نعم _____ لا _____ إذا كانت الإجابة بنعم: عدد المرات _____ مرة ماذا تستخدمين لإطعام الرضيع؟ _____
	<ul style="list-style-type: none"> تقدير الوزن بالنسبة للعمر: ناقص _____ غير ناقص _____ ملاحظة وجود فرح أو بقع بيضاء داخل الفم

الرضاعة من الثدي

يتم تقييم الرضاعة من الثدي في الحالات التالية، بشرط أن لا توجد ضرورة لإحالة الطفل للمستشفى:

<ul style="list-style-type: none"> إذا كانت هناك أية صعوبة في الرضاعة من الثدي إذا كان عدد مرات الرضاعة من الثدي أقل من 8 مرات في 24 ساعة إذا كان الرضيع ناقص الوزن بالنسبة للعمر إذا كان في الأسبوع الأول من عمره 	<ul style="list-style-type: none"> إذا كانت هناك أية صعوبة في الرضاعة من الثدي إذا كان الرضيع الصغير يعطى أي أغذية أو سوائل أخرى إذا كان ناقص الوزن عند الولادة (أقل من 2.500 كغم)
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- تقييم الرضاعة من الثدي**
- إذا كان الرضيع لم يرضع في الساعة السابقة يطلب من الأم إرضاعة ويتم ملاحظة الرضاعة لمدة 4 دقائق لتقييم

• تقييم وضع الإرضاع:

هل وضع الرضيع صحيح؟ للتحقق من ذلك يلاحظ ما يلي:

_____ لا	_____ نعم	- رقبة الرضيع مستقيمة أو مائلة قليلاً للخلف
_____ لا	_____ نعم	- جسم الرضيع مواجه لجسم الأم
_____ لا	_____ نعم	- جسم الرضيع ملاصق لجسم الأم
_____ لا	_____ نعم	- الأم تستند جسم الرضيع بأكمله

(لا بد من وجود العلامات الأربعة ليكون الوضع صحيح)

• تقييم التعلق بالثدي:

هل الرضيع قادر على التعلق بالثدي؟ للتحقق من ذلك يلاحظ ما يلي:

_____ لا	_____ نعم	- الذقن يلامس الثدي
_____ لا	_____ نعم	- الفم مفتوح تماماً
_____ لا	_____ نعم	- الشفة السفلى مقبوبة للخارج
_____ لا	_____ نعم	- الجزء الأكبر من هالة الثدي يرى
_____ لا	_____ نعم	- أعلى فم الرضيع

(لا بد من وجود العلامات الأربعة ليكون الوضع صحيح)

لا يوجد تعلق على الإطلاق التعلق ضعيف التعلق جيد

• تقييم فاعلية الرضاعة:

هل الرضيع يرضع بفاعلية؟

(لا بد من وجود مصات بطيئة و صفيقة مع توقف قصير أحيانا ليكون الإرضاع فعال)

لا يوجد إرضاع على الإطلاق الإرضاع غير فعال الإرضاع فعال

دور الكادر التمريضي في العلاج بالمركز الصحي والرعاية المنزلية للطفل المريض

<p>إعطاء ديازيبام (فالسيوم) عن طريق المقعد</p> <ul style="list-style-type: none">◀ تسحب الجرعة المناسبة التي يحددها الطبيب◀ بمسحاة ثم تنزع إبرتها◀ توصل قطعة من أنبوبة انف معدية ذات قطر مناسب بالمسحاة◀ يتم إدخال 4-5 سم من الأنبوبة داخل المقعد ثم يحقن بالديازيبام (فالسيوم)◀ تنزع الأنبوبة ثم يضم ردفى الطفل ليضع دقات	<p>خطوات علاج الاختلاجات</p> <ul style="list-style-type: none">◀ العناية بمجرى الهواء◀ إعطاء ديازيبام (فالسيوم) عن طريق المقعد◀ تقادي انخفاض السكر في الدم◀ خفض درجة الحرارة المرتفعة (38.5 °م فأكثر)
<p>تقادي انخفاض السكر في الدم</p> <p>السوائل المستخدمة هي: حليب الأم أو بديله مثل الحليب الصناعي أو المحلول السكري (بإذابة 4 ملاعق سعة 5 مل من السكر بكوب سعته 200 مل ماء)</p> <p>الخطوات:</p> <ul style="list-style-type: none">◀ إذا كان الطفل قادراً على الرضاعة من الثدي فيطلب من الأم إرضاعة◀ إذا كان الطفل غير قادر على الرضاعة من الثدي وقادر على البلع: يعطى حليب الأم بعد اعتصامه أو حليب صناعي أو محلول سكري، والجرعة المناسبة لأي منهما هي 30 – 50 مل◀ إذا كان الطفل غير قادر على البلع: يعطى 50 مل من الحليب أو المحلول السكري عن طريق أنبوية انف معدية	<p>العناية بمجرى الهواء</p> <ul style="list-style-type: none">◀ يقرب الطفل على احد جانبيه◀ عدم إدخال أي شيء في الفم للاحتفاظ به مفتوحاً◀ عند وجود زرقة بالشفيتين واللسان يفتح الفم للتأكد من خلو مجرى الهواء من أي عوائق◀ إزالة الإفرازات من البلعوم إذا دعت الحاجة بإدخال أنبوب من الأنف للبلعوم لسحب هذه الإفرازات

إعطاء حقن المضادات الحيوية

- ◀ يذاب مسحوق سيفوتاكسيم 500 ملغم بإضافة 2.5 مل من الماء المقطر (تضاف للزجاجة بالسرعة) وترج الزجاجة جيداً إلى أن يذوب المسحوق
- ◀ يذاب مسحوق البنسلين طويل المفعول (1.200.000 وحدة دولية) في زجاجته بإضافة 5 مل من الماء المقطر بسرعة معقمة وترج الزجاجة جيداً
- ◀ يتم حقن الجرعة التي يحددها الطبيب باستخدام سرنجة معقمة، ويكون الحقن عميقاً بالعضل في مقدمة فخذ الطفل وليس في الإلية، والطفل مستلقياً وقت الحقن على ظهره

علاج أزيز الصدر/ضيق التنفس

- ▶ باستنشاق موسع سريع المفعول للشعب الهوائية على هيئة رذاذ بأحد الطريقتين التاليين:
(أ) باستخدام جهاز موسع الشعب الهوائية (نيبولايزر) حيث يتم خلط نصف مل من محلول السالبيوتامول مع 2 مل محلول ملحي عادي، ويتم خلط هذا المركب بالعلبة المخصصة لذلك بالجهاز ويتم إيقاف الجهاز بعد استهلاك كل السائل الذي تم خلطه بالعلبة
- (ب) باستخدام بخاخة السالبيوتامول مع أداة توفر فراغاً معلقاً (Spacer) لتوزيع الرذاذ المحتوي على المادة الموسعة للشعب الهوائية

تلطيف البلعوم الملتهب وتخفيف السعال بعلاج آمن

- ◀ حليب الأم إذا كان الطفل يرضع رضاعة من الثدي مطلقاً
- ◀ سوائل مجهزة بالمنزل مثل ماء مغلي محلى بالسكر (قنذاغ) أو البانوج
- ◀ توجيه الأم بعدم إعطاء الأدوية المضادة (التي لا يصفها الطبيب)، واستعمال نقط الأنف التي تحتوي على محلول الملح فقط

خطوات عامة لتعليم الأم مهارات الرعاية المنزلية للالتهابات الموسمية

- تعليم الأم من خلال تطبيق عملي
- يطلب من الأم ممارسة المهارة مع ملاحظتها أثناء هذه الممارسة وتوفير التغذية الاسترجاعية (بالتناء أو تصحيح الأخطاء)
- تزويد الأم بالمعلومات الإضافية اللازمة مثل عدد المرات في اليوم لتقديم الرعاية (الخاصة بالمهارة الجاري تعليمها)
- توجيه بعض الأسئلة التكوينية التي توضح مدى معرفة الأم لكيفية علاج الالتهابات الموسمية

خطوات تجفيف الأذن باستخدام فتيل

- ◀ غسل اليدين بالماء والصابون
- ◀ استخدام قطعة من القماش القطني الماص
- النظيف لصنع فتيل، ويؤكد على الأم عدم
- استخدام العيدان المغلفة بالقطن ولا الورق
- الرقيق الذي يتققت داخل الأذن
- ◀ وضع الفتيل داخل أذن الطفل وتركه إلى أن
- يبتل
- ◀ استبدال الفتيل المبتل بأخر نظيف
- ◀ تكرار هذه الخطوات إلى أن يظل الفتيل جافاً
- (بدل على جفاف الأذن)
- ◀ غسل اليدين بعد التجفيف

خطوات علاج التهاب العين بمرهم

تتراسيكلين

- ◀ غسل اليدين بالماء والصابون قبل علاج العين
- ◀ تنظيف العينين قبل وضع المرهم مباشرة وتلك
- باستخدام قطعة من القماش التنظيف الناعم مبللة
- بالماء النقي لمسح الصديد برفق من الداخل إلى
- الخارج
- ◀ وضع المرهم بدءاً بالعين السليمة، عن طريق
- جذب الجفن الأسفل برفق إلى الأسفل، وتقريب
- الأنبوية، والضغط عليها خفيفاً لإخراج كمية
- صغيرة من المرهم بحجم حبة الرز على السطح
- الداخلي للجفن، دون أن تلامس الجفن أو العين
- ◀ غسل اليدين بعد استعمال المرهم

خطوات علاج قرح الفم أو الالتهابات الفطرية

- ◀ غسل اليدين ثم تنظيف فم الطفل بلطف بقطعة قماش ناعمة نظيفة حول الإصبع السبابة وغسبها في محلول
- ملحي ثم مسح داخل الفم.
- ◀ وضع كمية قليلة من الجنتشن (تركيز 0.25%) على قطعة نظيفة من القماش أو طرف عود مغلف بالقطن
- ◀ مس القرع مع تحاشي أن يبلع الطفل الجنتشن
- ◀ غسل اليدين مرة أخرى

خطوات علاج بثور الجلد والتهابات السرة لدى الرضيع الصغير

- ◀ غسل اليدين ثم تنظيف المنطقة الملتهبة بإزالة الصديد والقشور بخفة بالماء والصابون
- ◀ تجفيف الجلد ثم دهان المنطقة المصابة بالجنتشن (تركيز 0.5%)
- ◀ غسل اليدين مرة أخرى

المشورة

القواعد الثلاث للرعاية المنزلية

- (1) زيادة السوائل
 (2) الاستمرار في الرضاعة والتغذية
 (3) علامات تستدعي العودة إلى المركز الصحي في الحال

(1) زيادة السوائل

يفقد الطفل أثناء المرض سوائل الجسم نتيجة الحمى أو زيادة سرعة التنفس أو الإسهال لذلك يجب نصح الأم بزيادة كمية السوائل بالنسبة للطفل المريض (لمنع حدوث جفاف) كما يلي:

- زيادة مرات الرضاعة من الثدي على فترات متقاربة ولمدة أطول في كل رضعة
- إذا كان الطفل قد أكمل ستة أشهر من العمر إعطاء واحداً أو أكثر من السوائل الغذائية مثل الشوربة وفوح التمن واللبن

(2) الاستمرار في الرضاعة والتغذية

يتم توجيه الأم لتقديم الغذاء الذي تعطيه لطفلها أثناء المرض حسب عمره والإرشادات الواردة ذكرها بكارث إرشادات الرعاية المنزلية

(3) علامات تستدعي العودة إلى المركز الصحي في الحال

الأطفال أقل من شهرين		الأطفال من شهرين لأقل من خمس سنوات	
علامات العودة في الحال	أيا كان التصنيف في الزيارة الأولى	علامات العودة في الحال	التصنيف في الزيارة الأولى
<ul style="list-style-type: none"> غير قادر على الرضاعة أو يشرب بضعف حالته تسوء استجبت عليه حمى 		<ul style="list-style-type: none"> غير قادر على الشرب أو الرضاعة حالته تسوء استجبت عليه حمى 	أي طفل مريض
<ul style="list-style-type: none"> حدوث نهجان (زيادة في سرعة التنفس) صعوبة في التنفس 		<ul style="list-style-type: none"> حدوث نهجان (زيادة في سرعة التنفس) صعوبة في التنفس 	لا يوجد ذات الرئة سعال أو رشح
<ul style="list-style-type: none"> دم بالبراز 		<ul style="list-style-type: none"> دم بالبراز يشرب بضعف 	إسهال

(4) الأعراض التي تستدعي حضور الأم إلى المركز الصحي فوراً

الحالة	الأعراض التي تعود بسببها
1	حالة ذات الرئة والطفل يعاني من حمى - عدم القدرة على الشرب أو الرضاعة - تدهور الحالة
2	حالة ديزانترى - عدم القدرة على الشرب أو الرضاعة - تدهور الحالة - ظهور الحمى - ضعف القدرة على الشرب
3	طفل يعاني من التهاب حاد في الأذن وحمى - عدم القدرة على الشرب أو الرضاعة - تدهور الحالة
4	طفل يعاني من سعال أو رشح - عدم القدرة على الشرب أو الرضاعة - تدهور الحالة - ظهور الحمى - نهجان أو صعوبة في التنفس
5	طفل يعاني من إسهال ولا توجد علامات جفاف - عدم القدرة على الشرب أو الرضاعة - تدهور الحالة - ظهور الحمى - دم بالبراز
6	طفل يعاني من حصبة ومضاعفات في العين ويعاني من حمى وصنفت الحمى (التهاب بكتيري بعيد الاحتمال) - عدم القدرة على الشرب أو الرضاعة - تدهور الحالة
7	طفل يعاني من إسهال مستمر ولا يوجد علامات جفاف - عدم القدرة على الشرب أو الرضاعة - تدهور الحالة - ظهور الحمى - دم بالبراز
8	طفل يعاني من التهاب حاد في الأذن سعال أو رشح ولا توجد حمى - عدم القدرة على الشرب أو الرضاعة - تدهور الحالة - ظهور الحمى - نهجان أو صعوبة في التنفس
9	طفل يعاني من حمى وصنفت على أنها حمى (التهاب بكتيري بعيد الاحتمال) - عدم القدرة على الشرب أو الرضاعة - تدهور الحالة
10	طفل يعاني من سعال أو رشح والتهاب بكتيري بعيد الاحتمال - عدم القدرة على الشرب أو الرضاعة - تدهور الحالة - نهجان أو صعوبة في التنفس
11	طفل يعاني من برفان - زيادة شدة الاصفرار و امتداده الى الاطراف - عدم القدرة على الرضاعة او الشرب - تدهور الحالة

2- زيارة المتابعة المحددة التاريخ

يحتاج بعض الأطفال لزيارة متابعة محددة التاريخ، يحددها الطبيب طبقاً لتصنيف مرضهم، والهدف منها هو ملاحظة مدى استجابتهم للعلاج الموصوف ومدى تحسن حالتهم الصحية. ويوضح الجدول أدناه التصنيفات التي تحتاج إلى زيارة متابعة محددة التاريخ

فترة العمر	التصنيف	موعد المتابعة
الطفل من عمر شهرين لأقل من 5 سنوات	<ul style="list-style-type: none"> • ذات الرئة • سعال أو رشح مع أزيز في الصدر • ديزانقري (زحار) • حصبة مصحوبة بمضاعفات في العين أو الفم 	يومين
	<ul style="list-style-type: none"> • إسهال مستمر • التهاب حاد بالأذن • مشاكل التغذية 	5 أيام
	<ul style="list-style-type: none"> • فقر الدم (أنيميا) 	14 يوماً
	<ul style="list-style-type: none"> • نقص الوزن بالنسبة للعمر 	30 يوماً
الطفل في عمر أقل من شهرين	<ul style="list-style-type: none"> • التهاب بكتيري موضعي • مشكلة رضاعة • التهابات فطرية بالفم 	يومين
	<ul style="list-style-type: none"> • نقص الوزن 	14 يوماً

ملحوظة (1): وفي حالة وجود أكثر من تصنيف يحتاج لمتابعة محددة الموعد، يؤخذ بالموعد الأقرب
ملحوظة (2): معظم الأطفال أقل من شهرين يحتاجون زيارة متابعة محددة التاريخ بعد يومين

3- زيارة المتابعة المشروطة

حيث يتم نصح الأم بالعودة بعد يومين إذا استمرت الحرارة أو بعد 5 أيام إذا لم تتحسن حالة الطفل.

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Appendices



Appendices



المستخلص

الرعاية المتكاملة لأمراض الطفولة عبارة عن مبادئ توجيهية وضعتها منظمة الصحة العالمية في عام 1992 لتحسين تقييم وتصنيف وإدارة الحالات للأسباب الشائعة للوفاة بين الأطفال دون سن الخامسة.

تم تنفيذ تصميم الدراسة شبه التجريبي لتحقيق أهداف الدراسة الحالية، من خلال تطبيق نهج الاختبار القبلي والبعدي لكل من مجموعة الدراسة والمجموعة الضابطة حول الممرضين العاملين في وحدات الرعاية المتكاملة لأمراض الطفولة من 15 ايلول 2020 إلى 25 ايار 2022.

تم اختيار عينة غير احتمالية (عينة ملائمة) مكونة من (60) مشارك يعملون في دائرة صحة كربلاء المقدسة لتنفيذ البرنامج التعليمي المعزز للرعاية المتكاملة لأمراض الطفولة وقياس فعالية البرنامج على معارف وممارسات الممرضين وكذلك العلاقة بين المعلومات الديموغرافية للممرضين واستجابتهم للبرنامج. قسمت العينة إلى مجموعة دراسة (30) ومجموعة ضابطة (30) يعملون في مراكز الرعاية الصحية الأولية وخاصة وحدات الرعاية المتكاملة لأمراض الطفولة.

تم جمع البيانات من خلال الاستبيان المكون من ثلاثة أجزاء، الجزء الأول: بيانات الخصائص الاجتماعية والديموغرافية والشخصية التي تتكون من (9) عناصر، والجزء الثاني: معارف الممرضين بشأن الرعاية المتكاملة لأمراض الطفولة والتي تتكون من (25) فقرة و الجزء الثالث: ممارسات الممرضين فيما يتعلق بالرعاية المتكاملة لأمراض الطفولة والذي يتكون من (35) فقرة.

أظهرت نتائج الدراسة وجود فروق ذات دلالة إحصائية بين معارف وممارسات الممرضين في الاختبار القبلي والبعدي لتنفيذ البرنامج المعزز، حيث بلغت نسبة التغيير (21.8%) و (24.4%) على التوالي. كان التحسن في درجات المعارف بعد تنفيذ البرنامج التعليمي المعزز مرتباً بشكل كبير وعكسي مع عمر الممرضين والتحصيل التعليمي، استفاد الذكور من البرنامج أكثر من الإناث، وارتبطت سنوات الخدمة بشكل كبير بالتغيير في مستويات المعرفة للمشاركين. فيما يتعلق بالارتباط مع درجات التغيير في الممارسة بعد تنفيذ البرنامج التعليمي المعزز، أظهر العمر والجنس وسنوات العمل تأثيراً معنوياً على التغيير في درجات الممارسة بعد تنفيذ البرنامج التعليمي في مجموعة الدراسة، كانت قيمة r (-0.781)، و (0.488) و (0.570) على التوالي، $P. value < 0.05$.

واستخلصت الدراسة الى أن هناك تحسناً ملحوظاً ظهر بوضوح بين أفراد مجموعة الدراسة بعد تنفيذ البرنامج التثقيفي المعزز من خلال نتيجة الاختبار القبلي والبعدي.

توصي الدراسة بزيادة الدورات التدريبية وزيارات المتابعة بعد تدريب للممرضين العاملين في وحدات الرعاية المتكاملة لأمراض الطفولة لتعزيز المعرفة والممارسات.



جمهورية العراق

وزارة التعليم العالي والبحث العلمي

جامعة بابل

كلية التمريض

فاعلية البرنامج التثقيفي المعزز للرعاية المتكاملة لأمراض الطفولة على معارف
وممارسات الممرضين

اطروحة

قدمها

حسام هاشم عبد الله ابراهيم الحسن

الى

جامعة بابل, مجلس كلية التمريض

كجزء من متطلبات نيل درجة الدكتوراه فلسفه في التمريض

بأشراف

أ.د. سلمى كاظم جهاد الابراهيمي

ذي الحجة / 1444 هـ

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