Republic of Iraq
Ministry of Higher Education
and Scientific Research
University of Babylon
College of Nursing

Mothers' Knowledge and Attitudes Toward Essential Care of their Preterm Neonates Post Hospital Discharge

A Thesis Submitted

By

Batool Yahya Abed

To

The Council of College of Nursing, University of Babylon in Partial Fulfillment of the Requirements for the Degree of Master's in Science of Nursing.

Supervised by

Assist. Prof. Wafaa Ahmed Ameen, PhD

October. 2023.AD **Rabi' al-Awwal. 1445.AH**

بسم الله الرحمن الرحيم

﴿ وَاللَّهُ أَخْرَجَكُم مِّن بُطُونِ أُمَّهَاتِكُمْ لَا تَعْلَمُونَ شَيْئًا وَجَعَلَ لَكُمُ السَّمْعَ وَالْأَبْصَارَ وَالْأَفْئِدَةَ ۙ لَعَلَّكُمْ تَشْكُرُونَ ﴾

صدق الله العلي العظيم

سورة النحل الاية (٧٨)

Supervisor Certification

I certify that this dedicated, which entitled **(Mothers' Knowledge and Attitudes Toward Essential Care of their Preterm Neonates Post Hospital Discharge)**, Submitted by **Batool Yahya Abed** and prepared my supervision at the College of Nursing, University of Babylon as partial fulfillment of the requirements for the degree of master's in sciences of nursing.

Signature

Academic Supervisor

Assist. Prof. Wafaa Ahmed Ameen, PhD

College of Nursing, University of Babylon

Date: / / 2023

Signature

Head of Department of Pediatric Branch

Assist. Prof. Wafaa Ahmed Ameen, PhD

College of Nursing

University of Babylon

Date: / / 2023

Committee Certification

We, the member of the examining committee, certify that we have read this thesis which entitled (**Mothers' Knowledge and Attitudes Toward Essential Care of their Preterm Neonates Post Hospital Discharge)** which is submitted by **Batool Yahya Abed**, and we have examined the student in its contents and that, according to our opinion, is accepted as a thesis for the degree of Master in Science of Nursing, and estimate of ( ) on / / 2023..

Signature

Member

Assist. Prof.

Hiba Jasim Hamza

Date: / / 2023

Signature

Member

Assist. Prof.

Ahmed Abdullah Abd

Date: / / 2023

Signature

Chairperson

Prof. Dr. Qahtan Hadi Hussein

Date: / / 2023

Approved by the council of the college of nursing, University of Babylon

Signature

Prof. Dr. Amean A. Yasir, PhD

Dean of the College of Nursing/ University of Babylon.

Date: / /2023

Dedications

To the owner of the era and time, Imam Mahdi, may God hasten his honorable reappearance.

To the one who taught me patience and contentment,
my mother.

To the pillar of the home and my beloved,
my father.

To my sisters for their moral support.

To my sister's husband, who stood with me and helped me to complete.

Thanks for your supports.

Batool Yahya 2023

Acknowledgments

Before all, great thanks for Allah, the Glorious, the Merciful and the Compassionate, for benefaction.

My deepest and gratitude is due to **(Prof. Dr. Amean A. Yasir, PhD)** the Dean, of the College of Nursing in University of Babylon, for this endless. Thanks are due to the division.

I would like to express my sincere and deepest thanks to my academic supervisor, **(Assist. Prof. Wafaa Ahmed Ameen, PhD)**, for her guidance, assistance, and encouragement throughout the course of the study, and for everything that she has done for me: her continuous support, and invaluable advice through the progress of this study.

I gratefully acknowledge the endless generosity of the (experts) who kept me on the right track for their time and expertise in reviewing and evaluating the study instrument.

Special thanks are due to all healthcare providers at AL-Diwaniyah teaching hospital for maternity and children and AL-Hussain pediatric hospital for their encouragement and support in data collection.

I gratefully acknowledge to all participants women for their kind cooperation and assistance at Al-diwaniyah teaching hospitals, thanks extended to all members of the College of Nursing, University of Babylon for their kind assistance and to all people who helped me in my work.

Abstract

Preterm birth is still a serious issue in gynecology, reported around 5-18% of pregnant women. Preterm means that a baby born less than completed 37th week of gestation so is the second cause of morbidity and mortality in neonates. The study aims to assess mothers' knowledge and attitudes toward essential care of preterm neonates post hospital discharge.

A cross-sectional descriptive study design, carried out in center of Al-Diwaniyah Governorate: Al-Diwaniyah teaching hospital for maternity and children and AL-Hussain pediatric hospital, non-probability (a purposive) sampling technique was used to conduct the study of 120 mothers. The questionnaire consists of three parts, Part I The sociodemographic information about mother. Part II includes two sections. A: mothers' knowledge toward feeding. B: mothers' knowledge toward care. Part III: mothers' attitudes about preterm care post hospital discharge. The study started on Nov. 9th. 2022 to May. 2nd. 2023. The data was analyzed with descriptive and inferential statistics.

Results of the present study was showed, overall knowledge (79.2%) of mothers expressed good knowledge toward essential care of preterm post hospital discharge, (75%) of mothers have good knowledge toward feeding, and (68.3%) toward care, (74.2%) had positive attitudes toward preterm care post hospital discharge.

The study concluded that mothers’ knowledge about preterm care not at optimal level, may due to readmission to the hospital, there were significant differences in knowledge regarding mother's age, education level, occupation, residents, and source of information and significant differences in attitudes regarding education level, occupation, residents, and source of information. A manual booklet of the essential care related to preterm post

hospital discharge and how to treat problems should be written in simple words and use meaningful pictures given to mothers.

List of Contents

List of Figures

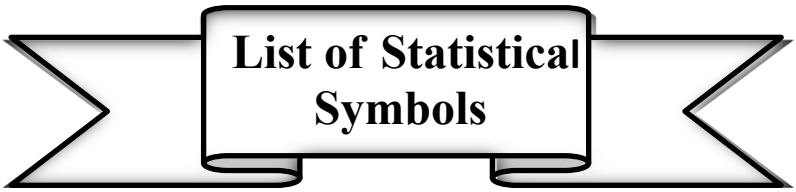
List of Tables

List of Appendecies

List of Abbreviations

Abbreviations	Full terms
ANC	Antenatal care
APH	Antepartum Hemorrhage
BMI	Body Mass Index
BPD	Bronchopulmonary Dysplasia
CP	Cerebral palsy
EDC	Estimated Date of Confinement
ELBW	Extremely Low Birth Weight
ENC	Essential Care
et al.,	And others
F	Frequency
GA	Gestational age
GIT	Gastrointestinal tract
K	Number of items
LBW	Low Birth Weight
M.S	Mean of scores
MMRV	Measles-Mumps-Rubella Varicella
N. S	No significant
NBs	New Borns
NG tube	Nasogastric tube
NICU	Neonatal Intensive Care Unit
NNJ	Neonatal Jaundice
No.	Number
OG tube	Orogastric tube
P. value	Probability value
PDA	Patent ductus arteriosus
PROM	Premature Rupture of the Membranes
PTB	Preterm Birth
RDS	Respiratory Distress Syndrome
ROP	Retinopathy of Prematurity

SD	Standard deviation
SGA	Small Gestational Age
SIDS	Sudden Infant Death Syndrome
Sig (S)	Significant
SOS	Source of Square
SOV	Source of Variance
SPSS	Statistical Package for Social Sciences
T4	Thyroxine
TSH	Thyroid Stimulating Hormone
VLBW	Very Low Birth Weight
WHO	World Health Organization



Symbols	Full terms
ANOVA	Analysis of variance
D.F	Degree of freedom
<	Less than
>	More than
%	Percentage
∑	Summation of
X	The value in the data set

Chapter One

Introduction

Chapter one

Introduction

1.1. Introduction

Preterm birth (PTB) is still a serious issue in gynecology and is reported in around 5 to 18% of pregnant women. Prematurity is the second common cause of morbidity and mortality in neonates (Salama *et al*., 2021).

Preterm means that a baby is born alive less than 37th week of gestation. Preterm births can be further classified based on the gestational age of the mother as follows: extremely preterm births, which occur before 28 weeks, very preterm births, which occur between 28 and 32 weeks; and moderate to late preterm births, which occur between 32 and 37 weeks (Chawla *et al*., 2022).

The period from birth to the 28th day of life is known as the neonatal period. It is a more crucial time for the survival of a neonate. Most prevalent and significant conditions need medical attention affecting about 60% of term and 80% of preterm neonates (Hussein *et al*., 2018).

The primary goals of Essential Care (ENC) are infection control, temperature regulation, early and exclusive breastfeeding, treatment for low birth weight neonates, and identification and proper referral of preterm who are ill. However, determining a mother's knowledge of ENC is crucial for preterm healthy growth (Begum *et al*., 2021).

Taking care of preterm may be a very stressful experience, which puts the mother at a higher risk for mental health problems such as depressive disorders and anxiety may cause issues in the mother infant relationship. On the

other hand, lengthy hospital stays and high readmission rates would raise overall costs and strain healthcare centers from preterm births (Gonca & cedil, 2020).

Organ un development in preterm neonates appears to increase the need for care for breathing, gastrointestinal, circulatory, and thermoregulation issues, as well as for treating infections. These needs are usually in most cases and necessitate admission to the intensive care unit for neonatal babies (Hägi-Pedersen *et al*., 2017).

Mothers are frequently the first to notice neonate problems that arise after being transported out of the hospital. Mothers must therefore have the necessary knowledge to recognize common developing problems (Adib-Hajbaghery, 2017).

In Fact, mothers' capacity to care for their preterm can impact their physical, cognitive, and socioemotional development. It is essential for the knowledge, abilities, and emotions that support the capability of maternal trust. High maternal trust results in a sense of competence, an elevated sense of control, and reduce stress, all of which can improve infant health and wellness (Shahirose *et al*., 2018).

When preterm neonates are sent home their parents must continue to provide additional treatment to promote growth and development, help stop infection and hypothermia, and prevent them. Neonatal healthcare professionals anticipate that parents of preterm will provide several intervention strategies post hospital discharge (Lyne *et al*., 2022).

Health education may improve mothers' knowledge, attitudes, caregiving skills, and personality trust and assist healthcare professionals in

developing teaching techniques and counselling interventions to help them deal with the pressures of providing care for neonates at home (Cheng *et al*., 2018; José *et al*., 2018).

When neonate is born prematurely, the mother plays an essential role in ensuring that the infant receives the best possible care. Mothers' attitudes toward the unique care requirements of preterm neonates and their lack of expertise in this area play a crucial role in preventing neonatal problems and further readmissions to the hospital after the first discharge (Aldirawi *et al*., 2019).

Regardless of social status and education, mothers have traditionally been the primary caregivers for preterm. Numerous studies have shown that mothers' knowledge of how to care for neonate ranges from average to poor. This lack of knowledge for mothers can result in poor caregiving outcomes (Mb *et al*., 2021).

Because of the disruption to her typical pregnancy, the loss of the joy of raising a healthy neonate, the prolonged hospital stays, and the restricted parenting responsibilities in the Neonatal Intensive Care Unit (NICU) for neonatal , the mother of the preterm may find it difficult to parent after discharge, so the development of the maternal role is delayed by this emotion (Rajabi *et al*., 2021).

Mothers should have good information about how to care their preterm, promote their health, recognize symptoms of illness, or avoid sudden infant death syndrome (SIDS). Releasing preterm neonates from the hospital to home is complicated for medical staff and mother (Quinn *et al*., 2017).

Mothers want accurate knowledge and are worried about the preterm special needs. Additionally, the separation from the neonates and the natural bonding process impact on the mothers. Once they leave the hospital, these mothers require specific assistance to give their neonates comprehensive care in a home setting (Phagdol *et al*., 2022).

It is important to create the right programs and health care interventions before bringing preterm home from the hospital because this is a critical time for the parents, so they are in charge of all treatment at the house. If they cannot handle these roles and responsibilities, health problems will arise for the neonate. Designing intervention strategies to enable mothers to care for their preterm seems essential (Moradi *et al*., 2018).

1.2. Importance of the Study:

Mothers' knowledge and attitudes can decrease the morbidity and mortality rate by providing good essential care for preterm neonates, so good knowledge can reflex good care who ever the bad knowledge reflex bad care also for attitudes (Kildea *et al*.,2017).

Preterm complications, intrapartum related conditions, and infections in preterm are the leading causes of neonatal mortality worldwide. Around 15 million neonates are born before the age of 37 weeks, accounting for roughly one in every ten neonates born (WHO, 2022).

Preterm is the main reason for mortality in neonates, today mainly affects the age group corresponding to the neonatal period. In addition to the challenge of lowering the rate of mortality and morbidity among at risk neonates, neonatal care aims to promote sufficient development of the preterm population by minimizing damage (Santos *et al*., 2020).

In survival rates about the world are stark. low Socioeconomic level, half of the neonate born less than 32 weeks die due to a lack of feasible, cost effective care, such as warmth, breastfeeding care, and primary care for infections and breathing problems. In countries with high Socioeconomic level, almost all of these neonates stay alive. Suboptimal use of skill in middle income settings is causing an increased load of disability among preterm neonates who survive the neonatal period (Mukhtar *et al*., 2020).

There are two categories of economic analysis for the cost of caring for preterm: intensive care costs during the beginning of hospitalization and long term costs like health and teaching needs during the initial years. Most studies have focused on intensive care costs because beginning hospitalization accounts for most of a preterm health care costs during the first two years of life (Zainal et al., 2019).

In 2021, there were 383,979 preterm births in the United States, representing 10.5% of live births, 1 in 10 neonates (10.5% of live births) was born preterm in the United States (Waitzman *et al*.,2021)

More than 60% of estimated neonatal mortality worldwide happens in Asia, but average rates are lower due primarily to the elevated fertility rate and significant population of Preterm Births (Lafta & Habeeb, 2019).

Preterm delivery imposes significant financial and social costs on society due to the prolonged hospitalization in the NICU and the requirement for specialized therapies. After the preterm is released from the hospital, it expenses the health care system extra income (Zainal et al., 2019).

Neonatal mortality can be reduced with the right interventions and reasonable costs. These include managing neonatal infections, pneumonia, diarrhea, malaria, and initial and exclusive breastfeeding during the initial six months of neonate life. Oral rehydration therapy is a low cost and useful way to counteract diarrhea (Infant Mortality, 2020).

According to an Egyptian study, moderate to late preterm births accounted for 79.6% of cases, very preterm births accounted for 12.6%, and extremely preterm births accounted for only 7.8% (Al-Joborae & Alwan, 2018).

The Ministry of Health in Saudi Arabia noted that 9000–12,000 neonates are born prematurely yearly. The rate of neonatal mortality in Jordan is approximately (14 per 1000 live births), compared to (123 per 1000 live births) for preterm neonates (Arab News, 2020; Khasawneh *et al*., 2020).

Iran was noted to have a high level of preterm birth; however, research in one Iranian city revealed that more than half of the admitted hospital neonates were born preterm. According to their prevalence rates, Prematurity was the leading cause of mortality in the following places: Khorram Abad (8.4%), Arak (8.2%), Tehran (7.2%), Shiraz (5.5%), and Yasooj (4.8%) (Al-Assadi *et al*., 2018).

According to Ministry of Health data, Mosul is contained about 80,000 preterm annually. But in 2019, 1,100 neonates in Mosul passed away before they turned a month old. The rate of preterm deaths in Iraq decreased gradually over time, from 23.6 per 1,000 neonates born alive in 2001 to 14.4 in 2020 (Mukhtar *et al*., 2020).

1.3. Problem Statement:

Mothers' Knowledge and Attitudes toward the Essential Care of their Preterm Neonate Post Hospital Discharge

Mothers of preterm neonates who are discharged from the hospital typically carry a heavy role in providing their preterm neonates with the necessary care and protecting them from health problems and dangerous diseases. Preterm neonate mothers have more fears about their neonates bonding, wellness, development, treatment, cost, and feeding than mothers of term neonates because they lack knowledge about the needs of preterm, which is a significant contributor to immediate readmissions to the hospital after discharge.

1.4. Objectives of the Study:

1. To assess mothers' knowledge and attitudes toward essential care of preterm neonates post hospital discharge.

2. To find out the differences between the sociodemographic characteristics with the knowledge and attitudes of mothers with their preterm neonates post hospital discharge.

1.5. Definitions of Study Terms:

1.5.1. Knowledge

Theoretical Definition:

Knowledge refers to the fact or condition of knowing with familiarity gained through teaching or experience (Pimentel, 2021).

Operational Definition:

The level of mothers' facts, information and understanding of catering services, that mother has acquired through experience or education: thermoregulation, feeding, medication, touching, skin care, umbilical care, infection prevention, and how to care for preterm after leaving the hospital.

1.5.2. Attitudes

Theoretical Definition:

It is mean the mothers' perceptions, feelings, affection for something, a fact or condition impacted the mother's behavior (Oxford, 2020).

Operational Definition:

Means mothers' way of thinking, feelings, and beliefs about the necessary care that should be provided at home to preterm neonates.

1.5.3. Essential care:

Theoretical Definition:

It is an important intervention that the World Health Organization's suggestions for neonatal care, including resuscitation when necessary, breastfeeding, thermal care, infection control, and recognizing and reacting to serious risk signs, also include immediate treatment for preterm neonates (Interim Edition, 2022).

Operational Definition:

Means priority care that should be given to preterm neonates post hospital discharge to home, involving: warmth, washing hands to prevent infection, umbilical cord care, early and exclusive breastfeeding, sleeping,

bathing, skin care and care for neonates who have low birth weights, identity and adequate treatment for preterm post hospital discharge.

1.5.4. Mother

Theoretical Definition:

Mother refers to women who has borne a child. It is a cultural process in which women's identities are rooted on their ability to care for preterm and children (Suryawati *et al*.,2020)

Operational Definition:

Mother refers to a female parent, so the researcher is interested in gathering data from mothers who have preterm neonates on their knowledge, and attitudes, related to essential care that need for preterm post hospital discharge.

Chapter Two

Review of Literatures

Chapter Two

Review of Literatures

2.1. Background

Preterm birth and low birth weight (LBW) cause 60-80% of neonatal mortality globally, infections (35%), preterm birth and low birth weight (28%), and asphyxia (23%) are the three leading causes of neonatal mortality and morbidity (Azene & Since, 2019).

All organ systems in preterm neonates may not fully develop because they are not allowed to grow in the uterus long enough. This affects the neonatal move from intrauterine to extrauterine life and makes it vulnerable to problems. It increases the risk of falling due to incomplete preterm development and infections typically made worse by manipulation and extended stays in neonatal units (Pimentel, 2021).

Preterm are more likely to suffer from life threatening conditions or pass away through the neonatal period. Those who survive without proper care have a higher risk of developing a lifelong disability and having a miserable quality of life. Preterm are especially susceptible to complications due to their weakened respiratory systems, feedings problem, irregular body temperature, and increased risk of infection (WHO,2022).

Preterm neonates are classified according to their birth weight: Extremely low birth weight (ELBW) neonates are those who weigh less than 1000 g, very low birthweight (VLBW) neonates are those who weigh between 1000 and 1500 g, and low birth weight (LBW) neonates are those who weigh between 1500 and 2500 g. Consequently, most of the time, a preterm must be hospitalized after birth in (NICU). This location has a variety of advanced

technologies designed to improve neonate survival (Lee *et at*., 2017; Pieszak *et al*., 2017).

Preterm usually stay in the hospital until all of their medical issues are successfully managed, they are consuming enough milk on their own without assistance, they are gaining weight steadily, and they can keep their body temperatures stable in their crib. Most preterm neonates are prepared to leave the hospital when they are 35 to 37 weeks pregnant and weigh 2 to 2.5 kg (More, 2021).

In the 1970s, the development of the (NICU) and the preface of mechanical ventilation and vital sign monitoring systems all contributed to improved survival of sick neonates, especially those who were preterm or very low birth weight (VLBW). Following 1980, pulse oximetry, high-frequency oscillation ventilation, and surfactant therapy helped further decrease preterm neonates morbidity and mortality levels (Torres, 2019).

In the last 100 years, many changes have been made to the NICU, such as training for the medical staff and letting the families help care for preterm. According to the NICU, there are four care levels: Level I is considered a well-born nursery, Level II can offer more advanced services like blood transfusions and resuscitation care; Level III is as a hospital with the medical and surgical resources to treat neonates born below 32 weeks (American Academy of Pediatrics,2017).

Level IV is a regional NICU that provides surgical intervention and other life saving medical treatment to preterm (fewer than 32 weeks and weighing < 1500 g) contains numerous members of the medical staff, loud

noises, and bright lights; also, the equipment used is of a very high technical standard (Ross *et al*., 2017).

The Neonatal Intensive Care Unit (NICU) has seen several medical advancements during the past century. In the early 1900s, the first NICU opened in the United States. In the late 1890s, a French neonatologist named Dr. Tarnier used the design of a hen incubator to create the first incubator and begin to care for preterm. Then, in the 1950s, Virginia Apgar created the apgar scores to assess neonates health (Nelson, 2021).

Releasing a preterm from the neonatal unit is essential and includes, among other things, assessing the parents' capacity to care for their child. It has been discovered that a higher rate of readmissions is associated with a lack of caring for preterm at home (Patricia & Galeano, 2017).

Most preterm deliveries are due to spontaneous labor, but some are brought on by early cesarean delivery or early medically indicated, whether for medical or non-medical causes. During the hospitalization process, families frequently encounter many issues, including the separation experience, fear of illness, hospital surroundings, and uncertainty about the family's present and future, which is the neonate survival and clinical development (Al-Mukhtar *et al*., 2020).

Mothers, the primary caregivers for neonates, may experience high anxiety levels due to poor knowledge regarding preterm care and the discharge of neonates without considering their needs, neonates quality of life may be negatively affected as a result of this (Hemati *et a*l., 2017).

Activities like feeding, dressing, and bathing preterm children are examples of those types of mothering occupations that mothers engage in. In

addition to their primary responsibility for caring for their children, many mothers have several other responsibilities, including being employed, managing their homes, caring for other members of their families (Fraga *et al*., 2019).

Planning preterm treatment is essential for ensuring their survival during and after hospitalization. The care of neonates should be characterized by the technical safety of professional performance, suitable hospital conditions combined with gentle and extensive contact, and preparation of firm and elastic restraints throughout the performance of all provided treatments (Pimentel, 2021).

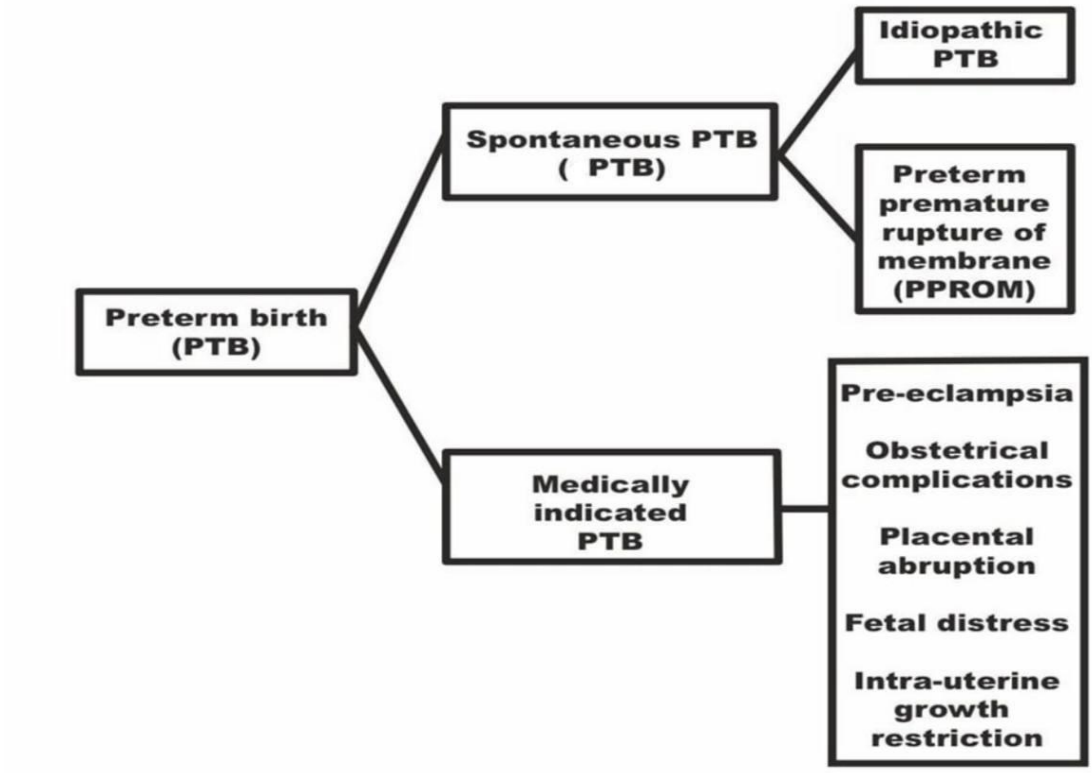


Figure (2-1): Schematic Representation of the Categories of Preterm Birth (Bhattacharjee & Maitra, 2021).

2.2. Knowledge of Mothers Toward of Preterm Neonates Complications:

Preterm biological system is insufficiently developed, making them susceptible to severe comorbidities and necessitating admission to the hospital (NICU). Among these comorbidities are:

2.2.1. Short-term Complication

Preterm delivery complications in the initial weeks could involve**:**

Immune System Problem:

Preterm neonates are more at risk for infection because their immature immune systems cannot produce antibodies and have impaired phagocytosis, leukocyte, bactericidal capacity, and inflammation. As a result, it is difficult for them to fight off bacteria effectively, and they can easily colonize organisms, which leads to infection (Collins *et al*., 2018).

Higher levels of proinflammatory cytokines and lower levels of growth factors are found in the umbilical cord blood and cerebrospinal fluid of preterm neonates compared to full term, but it is unclear how much antenatal factors, environmental exposures, and developmental regulation influence this (Sullivan *et al*., 2021).

About 25% of preterm have sepsis, which can affect breathing, weight gain, length of hospital stays, and the development of more chronic complications. Sepsis is caused by an infection that quickly spreads to the bloodstream in preterm neonates (Flannery *et al*., 2019).

Breathing Problems:

A- Respiratory Distress Syndrome (RDS): It primarily affects preterm neonates and, on rare occasions, term neonates. The risk of RDS increases at a rate inversely proportionate to the gestational age of the neonates, with more chronic disease and preterm . It's still one of the main reasons for morbidity and mortality in preterm (Raimondi *et al*.,2021).

The signs of RDS appear within the first few minutes or hours after delivery and gradually improve over the subsequent 48 - 72 hours. By one week of age, signs have subsided or disappeared altogether, and this improvement correlates with the beginning of endogenous surfactant synthesis (Bulimba *et al.*, 2022)

In cases of threatened preterm neonates between 24 and 34 weeks gestation, using antenatal corticosteroids significantly lowers the frequency and severity of RDS and other drugs prescribed by the doctor (Torres, 2019).

B-Bronchopulmonary Dysplasia (BPD): is a chronic lung disorder primarily affecting preterm who need breathing assistance at birth. Despite the best perinatal and neonatal care available, BPD's morbidity and mortality rates are stable. The BPD's harmful effects on the nervous and respiratory systems could persist into adulthood, significantly negatively impacting the well-being of any remaining children (Ding *et al*., 2020).

Many BPD neonates can be released from the hospital when their weight increases and their oxygen requirements are low. Home care encourages parent neonate bonding while lowering healthcare costs and preventing nosocomial infections, so education and assurance are necessary for home care preparation (Johnson, 2016).

C-Pneumothorax: This condition occurs when a tiny air sac in the lung ruptures, allowing air to escape into the space between the lung and the chest wall. The lungs are unable to expand sufficiently if a lot of air accumulates. A small needle is inserted into the chest to drain the pneumothorax. If the pneumothorax recurs after needle drainage, a chest tube can be inserted between the ribs (Abdallah, 2019).

Pneumothorax can be partial, complete, unilateral, or bilateral, depending on the size of the lung collapse. The neonates may show no symptoms and be able to absorb a tiny amount of air, but a large volume of air poses a serious risk to the neonate life (Jovandaric, 2022).

Heart Problems:

Preterm are more likely to have Patent Ductus Arteriosus (PDA) and Hypotension. The patent ductus arteriosus is a slot between two major blood vessels, the aorta and the pulmonary artery. The heart defect frequently heals on its own. However, not being treated can lead to complications such as cardiac failure. That is when the heart cannot pump blood as efficiently as it should. Hypotension may need treatment with intravenous fluids, drugs, and, in some cases, blood transfusions (Hamrick *et al*., 2020).

Temperature Control Problems:

Hypothermia below 36.5° C (97.7° F) in a preterm can cause difficulty breathing and Hypoglycemia and may be purely environmental or represent intercurrent sickness (eg: sepsis). Maintaining an appropriate room temperature is critical for preventing neonatal hypothermia. Hypothermic neonates should be rewarmed, and any underlying condition should be diagnosed and treated (Demtse, 2020).

In preterm, Hypothermia has been linked to death, morbidity, necrotizing enterocolitis, intraventricular hemorrhage, and late onset sepsis. Many studies recommend plastic wrapping without drying, wearing a cap, and using radiant warmers and exothermic mattresses to prevent hypothermia (Lee *et al*., 2019).

Higher risk for primary cold injuries due to a combination of physiologic and cognitive factors, but quick rewarming and appropriate disposition can result in survival and improved neurological outcomes. Treatment for cold injuries is guided by severity and can include passive or active measures, this issue reviews the stages of hypothermia and offers recommendations for emergent management of pediatric patients with hypothermia (Shah, 2019).

Blood Problems:

Preterm neonates are at risk of developing blood problems like anemia and jaundice. Anemia is a blood disorder in which the blood's ability to carry oxygen is reduced due to lower than normal number of red blood cells or a decrease in hemoglobin level, neonate jaundice is a yellowing or discoloration of the white part of neonate skin and eyes caused by high bilirubin amounts (Joseph, 2021).

Gastrointestinal Problem:

Before the gastrointestinal tract (GIT) is fully developed at 34 weeks of pregnancy, preterm may find it challenging to coordinate sucking, swallowing, normal digestion, and bowel movement (Margolis & Picoraro, 2017).

Preterm neonates have small stomach, undeveloped sucking and swallowing reflexes, and insufficient gastric and intestine movement, all contributing to the high prevalence of feeding intolerance. In addition to increasing the risk of aspiration, these factors make tolerating each oral and nasogastric feeding difficult. Generally, feeding tolerance rises over time (More, 2021).

Preterm neonates have a higher frequency of regurgitation, rumination, vomiting, colic, diarrhea, and constipation, but their height, weight development, and maturational growth remain unaffected. Clinical Symptoms of illness are brief and resolved independently (Toca *et al*., 2022).

Frequent burping, feeding quietly in a semi upright position, smaller, more frequent feedings, and prone or right lateral position following feeding to improve the emptying of the gastric cavity are all interventions to decrease regurgitation (Adamiak & Plati, 2018).

Metabolic Problems: Such as:

A-Hypoglycemia: is a frequent metabolic condition in neonates that may or may not have symptoms. According to current recommendations, neonates who are at risk (late premature, small for gestational age, large for gestational age, and neonates whose mothers have diabetes) should be screened for low blood sugar (Chen *et al*., 2022).

Low blood sugar is a risk for preterm neonates. It is the most frequent metabolic disorder that appears during the neonatal period. Care of the neonate frequently involves screening at risk neonates and managing hypoglycemia in the first few hours to days of life **(**Thompson-Branch *et al*., 2017).

B-Hypocalcemia: Is more typical in preterm, one of the common diseases in the premature population, osteopenia, is characterized by a shortage of bone mineral availability, 80% of the total phosphorus and calcium increases occur in the third trimester of pregnancy, which is also when the majority of mineralization happens. As a result, compared with neonate born at term, preterm neonates have smaller bones with little bone mineralization (Torró-Ferrero *et al*., 2021).

C-Congenital hypothyroidism: It is more common in preterm than in full term babies. It is described by decreased thyroxine (T4) and increased thyroid stimulating hormone (TSH) levels. The rise in TSH may take several weeks in neonate weighing less than 1500 g, necessitating repeated screening to identify the condition (Balest *et al*., 2021).

Retinopathy of Prematurity (ROP):

Also known as Terry syndrome, it is an eye condition that primarily affects neonate born prematurely and receives neonatal intensive care, often with oxygen therapy, because of the immaturity of their lung development. It is thought to be caused by the blood vessels in the retina growing in an unorganized manner, which can lead to a scar and detached retina (Yulia & Soeharto, 2022).

Retinopathy may go away on its own in mild cases, but in more severe cases, it can cause blindness. Therefore, ROP is a risk for all preterm, and very low birth weight is an additional risk factor. It can be brought on by relative oxygen deficiency and poisoning (Yulia & Soeharto, 2022).

During routine care, the nursing staff is responsible for several responsibilities essential to successfully avoiding ROP induced blindness.

These responsibilities include the monitoring of oxygen targets, the feeding of neonates, the maintenance of an optimal body temperature, and the implementation of infection control measures. They are the most important people in counselling the parents on the significance of follow up after the preterm is discharged (Sankar *et al*., 2022).

2.2.2. Long-term Complication

Cerebral palsy (CP): Is a group of chronic movement and posture disorders that limit activity and are believed to be caused by non-progressive disturbances in the developing fetal or neonatal brain. They may also be accompanied by secondary musculoskeletal issues, epilepsy, and problems with sensations, perception, cognition, communication, and behavior (Chollat *et al*., 2021).

Research shows a link between preterm deliveries and long term neurodevelopmental issues, such as attention deficit and learning disorders, neonate born prematurely are also more likely to experience behavioral problems and educational difficulties (James et al., 2019).

Preterm should undergo hearing testing every six to twelve months for the first three years of life because hearing problems are more common in this population. Even if the neonates passes the discharge screen, ongoing hearing testing is advised because some hearing problems are progressive (Cristina *et al*., 2018).

2.3. Factors Affecting on Knowledge and Attitudes of Mothers:

Sociodemographic Characteristics:- such as

A. Socioeconomic status

Preterm births were found to be significantly influenced by low socioeconomic status. Preterm birth factors were examined in a prospective study at a teaching hospital; socioeconomic status was determined to be a maternal economic parameter. The Study's results indicated a low socioeconomic level was strongly connected with an elevated risk of preterm birth (Mahajan and Magon, 2017).

Families with a low socioeconomic standing have a greater incidence of maternal undernutrition, anemia, sickness, poor prenatal care, drug misappropriation, obstetric complications, and maternal history of abortions, stillbirths, premature or low birth weight babies (Nelson, 2016).

B. Educational Status

One maternal sociodemographic factor for preterm birth is mothers' education. In a study about preterm delivery risk and mothers' education, it was demonstrated that mothers' level of education was significantly related to preterm neonates' death, and mothers with higher education or secondary school were 27 times less likely than those with lower education to experience their neonate's mortality (Adib-Hajbaghery,2017).

Poorer birth outcomes were seen in studies of women with lower levels of education compared to those of women with higher levels of education. Compared to paternal education, occupation, and income, the correlation between education and preterm birth inequality is stronger (Granés *et al*., 2023).

C. Maternal Age

It is a significant sociodemographic contributor to preterm births. Even when confounding factors were considered, studies showed that maternal age (40 years or older) was linked to an increased probability of the neonate being born prematurely. Women between the ages of 30 and 34 were found to have the lowest prematurity risk. Preterm birth was mostly spontaneous in young women (20–24 years), but it was more often of iatrogenic origin in older women (>40 years) (Fuchs *et al*., 2019).

There is a correlation between advanced maternal age and various problems during pregnancy. Several studies found that women with advanced maternal age who were pregnant more likely to experience complications such as gestational diabetes mellitus (GDM), gestational hypertension, preeclampsia, cesarean section, small for gestational age neonate, and a greater need for admission to the neonatal intensive care unit and have better knowledge and attitudes (Gurko, 2018).

2.4. Knowledge of Mother Toward Risk Factors of Preterm Neonates.

2.4.1. Physical and Psychological

Mothers' Physical and psychological factors, such as having a low body mass index before pregnancy, being exposed to stressful situations, or having a depressive disorder, can all contribute to a higher probability of neonate being born prematurely. For the participants, stressful life events involved being hospitalized, having surgery or the death of a relative, having family conflicts,

home or workplace decorating, and having sex while pregnant (Mahajan and Magon, 2017).

Vaginal bleeding, polyhydramnios or oligohydramnios, a low body mass index (BMI) throughout pregnancy, and weight gain are all linked to diseases like preeclampsia and diabetes mellitus, which all raise the risk of preterm birth (Lilliecreutz *et al*., 2016).

2.4.2. Infection

Infections are one of the major threats to human reproductive health and one of the maternal risk factors for preterm birth. Infections during pregnancy can result in Prematurity or stillbirth or be vertically passed to the fetus, resulting in congenital infection and serious disease. (Megli & Coyne, 2022).

Previous studies investigated the connection between PTB and maternal infection during pregnancy. Vaginosis and infections are common risk factors for preterm delivery. At 28 weeks of gestation, bacterial vaginosis was linked to a higher risk of spontaneous early delivery. Antibiotic treatment may either eradicate infections or change their effects on the course of a pregnancy (Halimi *et al*., 2017).

2.4.3. Hypertension

Other important risk factors Hypertension during Pregnancy may elevate the risk of low birth weight, small gestational age (SGA), neonatal mortality, and enterocolitis, with no differences in weight and staying alive at 18 months of age. Arterial hypertension increases the risk of neonatal Prematurity, but there is no difference at eighteen months of age (Agrawal *et al*., 2021).

According to the findings of an Iranian study on the epidemiology and risk factors of preterm delivery as an obstetric emergency, 59.4% of women with preterm labor and 40.6% of women with term labor had a history of chronic hypertension (Halimi *et al*., 2017).

2.4.4. Inadequate Antenatal Care

Reinforcing the Antenatal Care (ANC) program is recommended as one public health strategy to decrease the preterm delivery burden at the population level. However, the evidence available so far is not conclusive. Antenatal care assists in identifying high risk maternity to facilitate the timely treatment of morbidities through pregnancy. It also influences the alteration of harmful practices linked to poor maternal and neonate health results, such as premature delivery (Pervin *et al*., 2020).

The World Health Organization (WHO) recommends starting ANC during the first trimester of pregnancy with at least four visits and ideally eight visits. Pregnant women are advised to initiate contact through the first twelve weeks of pregnancy (Tunçalp *et al*., 2017).

2.4.5. Preterm Rupture of Membranes

The rupture of the gestational membranes before the start of labor is known as preterm rupture of the membranes (PROM). PROM refers to membrane rupture, which happens earlier than 37 weeks of pregnancy (Khazaeni *et al*., 2022).

It may occur as a result of uterine contractions and the physiological thinning of the membranes. Intra amniotic infection, prior preterm birth, short cervical length, vaginal bleeding in the second or third trimester, uterine

overdistension, copper and ascorbic acid deficiencies, connective tissue disorders, being underweight, having a low socioeconomic status, and smoking are all significant risk factors for PROM (Shailja *et al*., 2022).

There is a slight variation in the rate of preterm membrane rupture worldwide, possibly due to variations among the populations studied. The range of PROM may be between 5% to 10% of all births. Around 70 % of cases involve term pregnancies, but more than 50% of cases in referral centers involve preterm pregnancies. Preterm rupture of membranes is responsible for approximately one-third of all preterm deliveries (Assefa *et al*., 2018).

2.4.6. Antepartum Hemorrhage

The term antepartum hemorrhage (APH) refers to bleeding that occurs after the twenty fourth weeks of pregnancy from the birth canal. It can happen at any time until the end of the 2nd stage of labor (Willacy, 2022).

It is one of the risks of preterm birth. A study of the risk factors for premature delivery found that teenage pregnancy, prior preterm labor, inadequate prenatal care, gestational hypertension, bleeding during delivery, and placental difficulties were all linked to preterm birth (Kildea, 2017).

Most women with antepartum hemorrhage have neonates with low birth weights. This is due to preterm labor or small hemorrhage events resulting in prolonged placental inadequacy and restricted fetal development (Himang *et al*.,2019).

2.4.7. Previous Preterm Birth

Previous history of preterm delivery was the best predictor of future risk. preterm delivery is becoming more common, and if these risk factors aren't

properly recognized and treated, they can lead to a rising number of preterm neonates. As a result, identifying and promptly referring these risky women to additional evaluation and treatment through early pregnancy is essential in reducing the consequences of preterm delivery (Aregawi *et al*., 2019).

The main findings of a population based study conducted in France that examined risk factors for preterm birth before 37 weeks of pregnancy and early term birth between 37 and 38 weeks of pregnancy birth established that previous preterm delivery was a common risk factor that was linked with a higher risk of preterm neonates (Delnord *et al*., 2018).

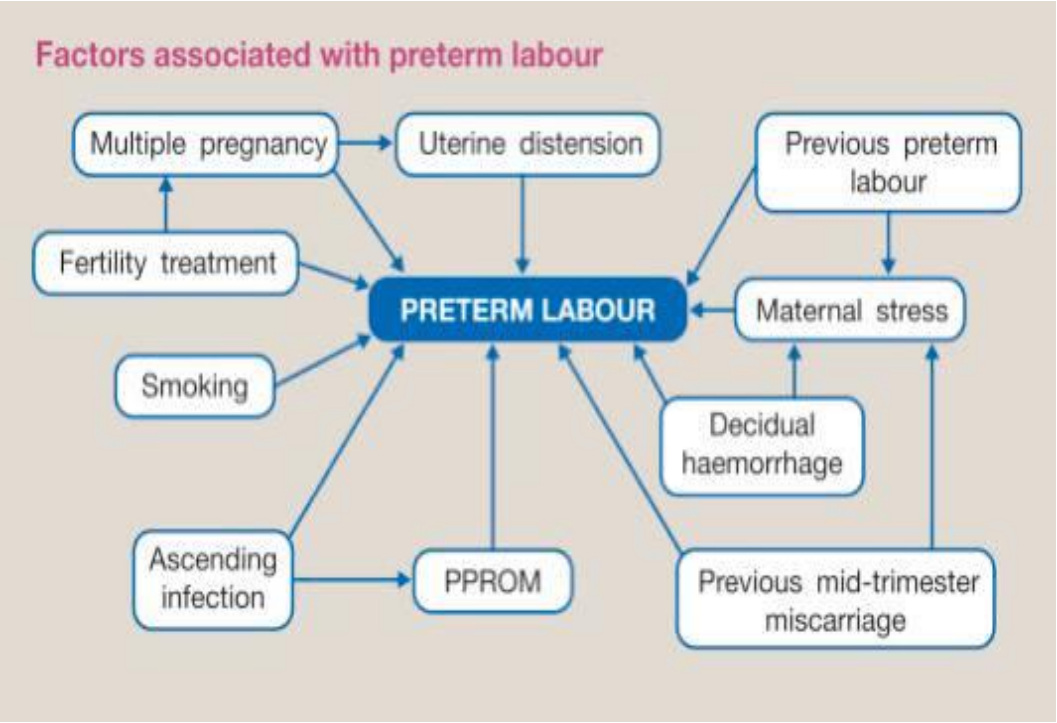


Figure (2-2): Factors Associated with Preterm Labour (Mullan, 2018).

2.5. Mothers' Knowledge and Attitudes Toward Essential Care of their Preterm Neonates.

The essential care for all neonate in the first few days after delivery should be available to all neonates. Neonate's rights include the ability to be fed, to be kept warm, to be safe from harm and infection, and to breathe normally. In addition to immediate care, essential neonate care is required at home for the neonatal period following discharge (WHO,2022).

2.5.1. Thermoregulation Care

Low birth weight and preterm are more at risk because neonate regulate temperature less effectively than adults, and heat loss is easier. In preterm neonates, poor body temperature regulation is a significant clinical issue linked to mortality and serious morbidity in this population (Akimana, 2017).

Preterm neonates may be more susceptible to heat loss because of their large body surface area, thin skin, low levels of subcutaneous fat, and dysfunctional vasomotor centers. Because of this, preterm and neonates with low birth weight are particularly vulnerable to low body temperature, and the younger gestational age, the greater incidence of low body temperature, which is linked to the severity of low body temperature (Beletew *et al*., 2020).

Mothers are primary caregiver to preterm and expected to know how to regulate their child's body temperature, bath them after six hours, preferably on day two or three, breastfeed them, delay bathing and weight checks, dress them appropriately **(**Aldirawi *et al*., 2019).

Maintaining a warm head is essential because an uncovered head causes most heat loss in preterm neonates. According to studies, wearing cashmere hats

can help preterm neonates temperatures after birth, and lining them with polyethene can decrease heat loss by 63–72%. Knitted hats have a limited impact (Liu *et al*., 2022).

Globally, the attitudes towards thermoregulation mothers prefer to monitoring the environmental temperature to avoid heat loss in a preterm neonate at home and believes changing the preterm clothing to suit the weather, swaddling neonate with cot sheets and kept away from windows and draughts very essential to prevent hypothermia (Garti *et al*.,2021).

2.5.2. Feeding Care

Breast milk produced by mothers who had preterm births has higher levels of important amino acids, including: taurine, growth factors, hormones, calcitonin, prolactin, thyroxine, steroids, protein, chloride and sodium. The mother's milk also contains various nonnutritive, bioactive elements that can directly impact the neonate's physiology (Hockenberry & Wilson, 2018).

It also promotes growth in preterm while lowering the risk of developing sepsis, retinopathy, necrotizing enterocolitis, and neurological damage. Women who breastfeed have a lower chance of developing health problems like obesity, diabetes, and several types of cancer. Oxytocin, a hormone it generates, aids in the uterus's return to its size before pregnancy and can lessen uterine bleeding after delivery, which can help mothers lose pregnancy weight quickly (Lyne *et al*., 2022).

Breast milk contains a variety of antimicrobial agents, elements that support immune tolerance and immune system priming in neonates, and anti inflammatory substances (Cacho & Lawrence, 2017).

Breastfed preterm neonates have minimal oxygen desaturations, no bradycardia, a warmer skin core temperature and an improved capacity to exert control over the respiratory, sucking, and swallowing processes. The feeding readiness of a preterm should be carefully assessed (Dosani *et al*., 2017).

Some of mothers thought that developmental problems may be seen in preterm if feeding is not adequate, nurses shouldn't suppose that mothers automatically understand how to bottle feed their neonates because this is a new unfavorable adverse effect, other mothers had negative attitudes about hands, bottles, and nipples were not properly washed, and many times, unsafe heating and storage procedures were used (Kilpatrick *et al*., 2017).

2.5.3. Recognition of Danger Sings

Through every postnatal contact, the neonate should be evaluated for any danger signs and need for further evaluation if any of these symptoms are observed: "stop feeding, history of cramps or fits, rapid breathing (breathing rate of 60 per minute), acute chest in drawing, lack of spontaneous movement, fever (temperature >37.5°C), hypothermia (temperature 35.5°C), jaundice in the initial 24 hours of life, and signs of local infection: red or draining pus from the umbilicus, eyes draining, or pus skin boils". If the family notices any of these danger signs, they should be asked to get medical attention as soon as possible (Degefa *et al*., 2019).

Some of mothers though general danger signs of severe preterm illness which includes convulsions, difficulty in breathing, difficulty in feeding, hypothermia, fever and jaundice on day one of life (Saeed *et al*., 2022).

2.5.4. Immunization

The World Health Organization (WHO) claims that vaccination is essential to preventing the transmission of infectious diseases and that globally implemented immunization programs avert between 2 and 3 million deaths annually. It is a very successful public health intervention that can reduce the illness and death linked with diseases that can be prevented through vaccination (WHO, 2021).

Vaccination for preterm neonates stays an essential component of preventive care. Regardless of birth weight, all preterm neonates must get full dose vaccinations at the same chronologic age and schedule as full-term babies, even if they are still hospitalized. The first dose of hepatitis B given before hospital discharge does not number toward the series if the neonate weighs under 2000 g; the series begins at one month of age (Wilde & Park, 2019).

Some of mothers believed must delay in vaccination of the preterm neonates until one month after birth because it may cause complications or adverse reaction that the preterm can't bear it (Robinson *et al*., 2018).

The risks of severe complications of vaccines used in the WHO expanded program on immunization are significantly fewer than the risks from normal disease. Still, there is no vaccine without side effects. The documentation of side effects is necessary. The three types of adverse effects are local, systemic, and allergic. The side effects of up to 80% of vaccinations, which are typically self limited, include localized pain, swelling, and redness. Fever, aches, and headaches are systemic reactions (Fortmann *et al*., 2018).

2.5.5. Umbilical Cord Care

Many cord care techniques have been used to avoid infection because the umbilical cord stump is an ideal environment for bacterial growth. According to research, dry cord care reduces the time it takes for the cord to separate from the neonate compared to daily antimicrobial sprays, lotions, or powder (Stewart & Benitz, 2016).

The neonate's umbilical cord will turn yellow, green, brown, and black. When bathing your preterm, wash the stump of the umbilical cord with water. Be sure to dry the area with a fresh towel after each bath. Away from the cord, fold the diaper downward. Ensure the umbilical cord is cleaned if it becomes dirty or wet from the preterm diaper (Cohen *et al*., 2019).

Some of mothers prefer the area should kept free of urine and stool and cleansed daily with water and leave it exposed the air to help the base dry out. Mother must be informed about how to clean the umbilical cord with alcohol after bathing and each diaper change, as well as how to keep the cord clamp in the area until separation. The diaper is folded in front beneath the cord to prevent irritability at the site (El-hadary *et al*., 2020).

The average time for cord separation is between 5 and 15 days, though many factors can affect this time. Following cord separation, the cord base requires some weeks to heal fully. The base must be kept dry and clean while being watched for indicators of infection during this time (Mohamed, 2018).

2.5.6. Jaundice Care

Total bilirubin levels higher than five mg/deciliter (86 micromoles/liter) are considered a sign of neonatal jaundice (NNJ), is the preventable source of

brain damage, and one of the most frequent reasons for neonates to return to the hospital. It calls for immediate medical care and rapid treatment to lower bilirubin and prevents life threatening complications (Fawzi *et al*., 2020).

Breast milk from mothers plays an essential part in the prevention and treatment of jaundice because it aids in the elimination of bilirubin from feces and urine. Also, the most frequent medical procedure, phototherapy, is frequently administered in a hospital, but in some cases, if the neonate is well and at minimal risk for complications, it may be performed at home (Wong & Bhutani, 2022).

Mothers' lack of knowledge and attitudes about NNJ will likely lead to unhealthy neonate practices, dangerous delays, improper management, and problems for the impacted child (Hameed, 2020).

Some mothers believed that neonatal jaundice was a common physiological phenomenon that would not cause serious consequences and think adequate feeding was conducive to resolving jaundice (Cai *et al*., 2022).

2.5.7. Bathing

Bathing preterm neonate is a comfortable way of preparing them for sleep and needs to be done at a time that is convenient for them. Preterm neonates have delicate skin that dries out quickly. The mother must bathe them every 2-3 days (Srinivasa *et al*., 2018).

Several mothers believed bathing is dangerous for their preterm because they small and could pass through their fingers at any time. Parents' lack of knowledge and attitudes about proper neonatal bathing was another factor that discouraged mothers from bathing. Even two weeks after the discharge, many

admitted they didn't bathe their neonate. Because poor knowledge and attitudes, mothers initially refuse to bath preterm (Vink *et al*., 2017).

Bathing is very stressful for premature, and it can cause various physiological reactions like hypothermia, hypoxia, dyspnea, cyanosis, tachycardia, and behavioral (comfort) distress like fussing, fussing, crying, eyes open, yawning, tongue extension, and stress level. Despite postbath physiological and comfort distress, bathing has many benefits, including cleansing and protecting the skin's outer layer, avoiding infections, removing unwanted substances, and promoting comfort and wellbeing (Tambunan & Mediani, 2019).

2.5.8. Skin Care

The skin of a preterm is more delicate than that of a full-term, so making it more vulnerable to issues, is a challenge to maintain the integrity of this delicate organ when providing care to preterm. Some of mothers thinking oils, powder, and lotions are essential for the skin of the preterm and not think the soaps can cause skin irritation to the neonate (Srinivasa *et al*., 2018).

Avoid using alkaline based soaps that might damage the skin's acid mantle because neonate born preterm have immature skin that is more delicate and sensitive. The skin's increased permeability makes it easier for ingredients to be absorbed. Use caution when using any skin products, such as alcohol or povidone iodine. Since these substances could result in severe irritability and chemical burns, the skin is washed with water (Johnson *et al*.,2016).

2.5.9. Sleeping

Sleeping problem is more prevalent in preterm neonates than full term ones. Medical and psychological factors both play a role in the root cause. Books on sleep training can be helpful for parents, and in serious cases, they should see a sleep specialist (Barbeau & Weiss, 2017).

Preterm neonate sleep should be protected, but mothers should also be taught developmental care skills to help them relax while caring for their neonates; so preterm benefit greatly from deep sleep because it promotes brain development and increases weight gain (Nelson, 2021).

Early in development, neonate born preterm engage in longer, lighter, and more active sleep than neonate born at term. These differences in the sleep wake patterns of preterm might lead to sleep problems after hospital discharge (Van den *et al*., 2017).

2.6. Morbidity and Mortality

Preterm comprised about 46% of all neonatal mortality, 49% in South Asia and 40% in Sub Saharan Africa. Over 60% of premature deliveries take place in Africa. 12% of neonates are typically born prematurely in lower income countries, compared to 9% in higher income nations. The percentage of preterm births in Pakistan was 15.7%, while it was 3.2% in Ghana (Nisar *et al*., 2022; WHO, 2017).

Half of the neonates born at 32 weeks or less in Arab countries do not survive their first two months of life because of a lack of accessible healthcare, like thermoregulation, breastfeeding encouragement, and basic treatment for infections and breathing problems. Depending on where they are delivered,

preterm neonates have a significantly different chance of surviving. For instance, less than 10% of preterm neonates in high income countries die within the first several days of life, compared with greater than 90% of extremely preterm neonates (< 28 weeks) delivered in low income nations (WHO, 2018).

The average death rate in Saudi Arabia was 7.6%, neonate male mortality was 53%. According to gestational age, discharge survival rates varied from 30 to 97.6% (Al-Qurashi *et al*., 2016).

Prematurity is the leading cause of neonatal mortality in Jordan, accounting for nearly 50% of mortality in children under five. If the best neonatal care is given, neonatal mortality is generally avoidable (Moran *et al*., 2019).

Neonate mortality in Iraq decreased gradually over time, from 23.6 per 1000 live births in 2000 to 15.3 in 2019. Between 2015 and 2019, the neonate death rate was 19.30-19.08 per 1000 live births, respectively. The death rate for neonate peaked in 2018 (Rasheed *et al*., 2022).

The morbidity of preterm delivered after 34 to 35 weeks has lowered, and the meaning of survival has significantly improved over the last few decades due to higher treatment standards in hospitals, modern technology, and enhanced medications. Iraq neonate's death rate in 2022 had 21.731 deaths per 1000 live deliveries, a 2.66% decrease from 2021 (Content, 2023).

With the right medical attention, preterm survival dramatically increases with gestational age, with over 50% of neonate surviving at 25 weeks and over 90% at 28 to 29 weeks. The neonates gestational age and delivery weight

directly impact the risk of morbidities (Abdallah, 2019).

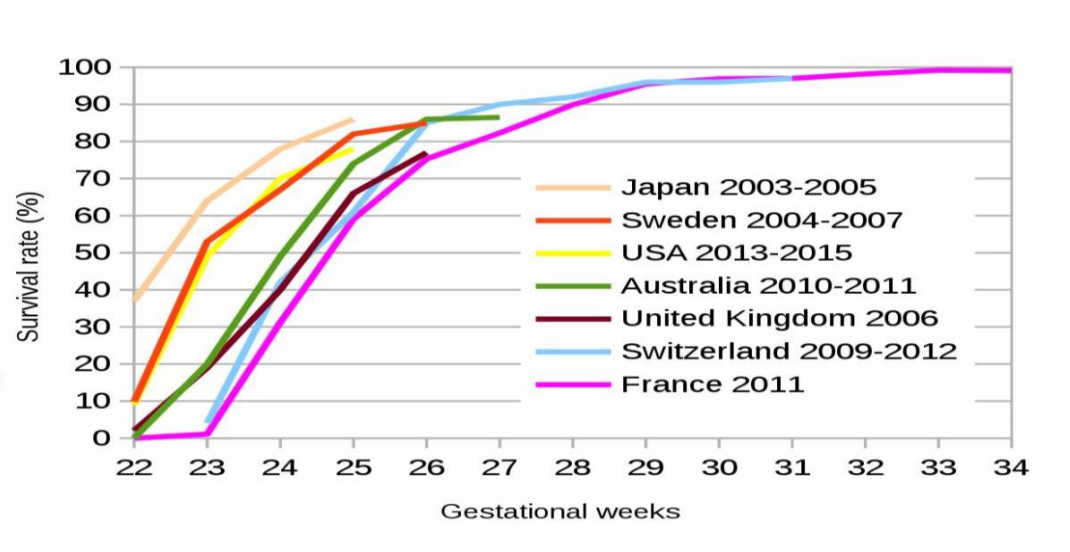


Figure (2-6): Preterm Neonate Survival Rates (Patel et al., 2017).

2.7. Previous Studies

The First Study:- A study conducted by (Meng *et al*., 2022) on **"Readiness for Hospital Discharge and Its Correlation with the Quality of Discharge Teaching among the Parents of Premature Infants in NICU."** Which aimed to Evaluate the level of the parents of premature in the NICU's readiness for hospital discharge and the relationship with the effectiveness of the discharge teaching. It received a high overall rating (8.05) for readiness to leave the hospital. The overall rating for the discharge guidelines' quality was moderate (7.44). Additionally, there was a positive correlation between the parents' readiness and the teaching quality at discharge. The Ready for hospital discharge scale and the quality of discharge teaching scale subscales for content received and delivered, physical emotional status, information, and expected support all showed a positive correlation. The method utilizing a correlational descriptive analysis In Henan Province, four tertiary hospitals from May

to October 2020 enrolled 238 parents of preterm cared for in NICUs. The data were analyzed using descriptive statistics and Spearman correlation analysis. It Concluded that premature infant parents' perceptions of the guidelines for discharge were of a moderate quality, which may have decreased their readiness for leaving the hospital. As a result, nurses can better prepare parents for hospital discharge and provide better quality discharge instruction.

The Second Study:- Was entitled **"Knowledge of Mothers regarding Premature Baby Care in Mosul City"** one hundred mothers who visited maternity and pediatric hospitals Al Khansa and Ibn Al-Atheer participated in this survey. The period covered by the data collection was from November 15, 2019, to February 28, 2020. The volunteer mothers received a questionnaire for with multiple choice questions about their information on preterm health. Statistics were used to compile and analyze the data. In the following data analysis, a Chi-Squair was used a title conducted by (Mukhtar & Mohammed, 2020). Findings 53% of mothers got lower (poor knowledge), demonstrating a lack of knowledge about the health of preterm. The mother's education, the timing of the births, the mother's age at delivery, and socioeconomic status all significantly positively correlated with the mother's knowledge of premature infant health. The Study finds that mothers' information on preterm neonates is lacking. A mother's knowledge is influenced by several variables, including her socioeconomic status, birth order, childbirth age, and education level.

The Third Study:- "Mothers' Knowledge and Attitudes of Health Caring for Premature Infants after Discharge from Neonatal Intensive Care Units in the Gaza Strip, Palestine" conducted by (Aldirawi *et al*., 2019). Aimed to learn how much mothers from different socioeconomic backgrounds knew about how to care for their preterm neonates after they left

the NICU. Between February and June 2018, 120 mothers of preterm were interviewed face-to-face at Al-Shifa Medical Complex and Nasser Hospital as part of cross-sectional design study at the time of preterm neonates' discharge. The findings showed that 58.4% of mothers of preterm were knowledgeable about the medical care required for premature after being discharged from the NICU. Also, there was positive attitudes about the medical care toward preterm. The Study emphasized the importance of team members and mothers thoughtfully exchanging health information and creating pre and post discharge programs to start the preterm neonate's healthy transition to home.

The Fourth Study:- Conducted by (Akum, 2018) which was entitled **"Assessment of Mothers' Challenges, Support and Coping Strategies towards Caring for Preterm Babies Post-Discharge from Presbyterian Hospital"** aimed to investigate the difficulties and support obtained by mothers of premature caring for the neonate at home after being discharged from the hospital. From May to December 2017, the bawku presbyterian hospital conducted an exploratory, descriptive study using a qualitative approach. In depth interviews, discussion groups with guiding questions, and direct observation with a list of tasks were used to triangulate results from 21 mothers of preterm neonates by allowing them to talk about the challenges they met. Finding the difficulties noted by mothers were divided into four major categories: physical, economic, sociocultural, and spiritual. All 21 mothers reported assistance from their husbands, in laws, friends, extended family members, and religious groups. Overwhelmed by their difficulties, the mothers developed coping strategies for caring for their preterm neonates, which included understanding the infant's needs and trusting Allah. In conclusion, despite their challenges, mothers never back down in providing their neonates

with the best care possible, and they observed their neonates' remarkable development and growth

The Fifth Study:- **"Knowledge of mothers about post-discharge newborn "** conducted by (Adib-Hajbaghery, 2017). Mothers' knowledge of neonate care can significantly affect the neonatal morbidity and mortality. This study was conducted on parturient mothers to assess their knowledge about post-discharge neonate care. This cross-sectional study was conducted on 200 mothers who gave birth in Shahid Beheshti Hospital of Kashan. A questionnaire was used, which consisted of 27 multiple-choice questions regarding mother's knowledge of basic neonatal care, breast feeding and proper nutrition, neonatal jaundice monitoring and care, and umbilical cord care. A score of one was given to each correct answer. Descriptive statistics. The mean maternal age was 27.74±5.63 years. The mean knowledge score of the mothers was 16.96±3.47 (range: 4 to 23). A direct correlation was found between mothers' age and their knowledge scores (r=0.19, P=0.02). The mean overall score of employed mothers was higher than housewives. In covariance analysis, the mothers' education level, age, and place of residence could predict their knowledge of neonatal care. On the other hand, parity, the route of delivery, and the spouses' job had no significant effect on the mothers' overall knowledge. The study concluded mothers' knowledge of neonate care was not at optimal level, which might put the newborns at risk. A comprehensive maternal educational program should be established to train all mothers on newborn care both before and after the parturition.

The Sixth Study:- Which is entitled **"Mothers' Awareness and Attitudes on the Care of their preterm infant at Discharge from a neonatal intensive care unit in a selected referral hospital in the northern province**

of Rwanda" was conducted by (Akimana *et al*.,2017). This Study assessed maternal knowledge and attitudes toward preterm infant care at discharge from the chosen referral hospital. A descriptive cross-sectional approach was used. five point Likert scale was used for analysis. SPSS version 16 was used for entering the data and quantitative descriptive statistics. The mean score for mothers' knowledge of premature neonates was 59.3%, and the mean score for mothers' attitudes toward premature infant care was 85.2%. Of the participants, 41 (43.6%) said they might feed their infant cow's milk, and 44 (46.8%) said they might feed their infant formula. However, the knowledge of exclusive breastfeeding was high, with 87 (92,6%) and 84 (89.4%) choosing to breastfeed when they felt like it. Participants' responses varied, with 53 (56%) stating that skin to skin contact is the best way to keep preterm warm and 40 (42%) stating that they would keep the child in a warm cloth. It concluded that most mothers had positive attitudes toward caring for their preterm neonates. There are specific knowledge gaps about danger signs.

Chapter Three

Methodology

Chapter Three

Methodology

In this chapter, the researcher explains and demonstrates the main characteristics of the study methodology, such as the research design, administrative arrangements, data collection, study setting, sample, study instrument, preliminary study (pilot test), and statistical approach methodology.

3.1. Design of the study

A cross-sectional, descriptive and analytical study design entails involving interviews with individuals representing the research population. These interviews serve to elucidate the characteristics and extent of the phenomena under investigation, the benefit of cross-sectional study is to allows researcher to compare many different variables at the same times. To use the descriptive method, study participants are asked about their knowledge and attitudes toward essential care of their preterm neonates post hospital discharge, The study commenced on Nov. 9th .2022 to May. 2nd .2023.

3.2. Administrative Arrangements

Before commencing data collection for the project, the necessary permissions and clearances were diligently sought from the relevant authorities as outlined below:

1. The initial endorsement from the University of Babylon College of Nursing was secured through a comprehensive seminar presentation to the Higher Education Committee.

2. Ethical clearance for the research was obtained from the University of Babylon's College of Nursing Ethical Committee, as documented in (Appendix A1).

3. Formal authorization to access the hospital premises was granted by the Training and Development Division of the Al-Diwaniyah Health Directorate. This vital permission is detailed in (Appendix A2).

4. Furthermore, official consent was acquired from both the Al-Diwaniyah Teaching Hospital for Maternity and Children, as well as the AL-Hussain Pediatric Hospital, as evidenced in (Appendix A3).

These procedural steps ensured that all necessary approvals were in place prior to the initiation of the data collection phase.

3.3. Setting of the Study

This study was carried out in the center of Al-Diwaniyah Governorate, where two hospitals were carefully selected for the study:

3.3.1. Al-Diwaniyah Teaching Hospital for Maternity and Children: This hospital was chosen due to its unique provision of both Sterilized and Non-Sterilized preterm neonate departments.

3.3.2. AL-Hussain Pediatric Hospital in Al-Diwaniyah: This hospital was also included in the study for its specialized Non-Sterilized preterm neonate department.

3.4. Sample of the Study

Non-probability (a purposive) sampling technique a method of selecting units from a population using subjective (non-random) method, was

used to conduct the study of 120 mothers who were attendees at both Al-Diwaniyah Teaching Hospital for Maternity and Children and AL-Hussain Pediatric Hospital. The distribution of this sample is as follows (Table 3-1):

Table (3-1) Distribution of sample

Name of hospitals	Number of participants
1- Maternity and Children's Hospital	
A- Sterilized preterm neonates	45
B- Non-sterilized preterm neonates	49
2- AL-Hussain Pediatric Hospital	
A- Non-sterilized preterm neonates	26

3.4.1. Inclusions Criteria:

1. Mothers with preterm neonates whose gestational age is less than 37 weeks.
2. Mothers who accept the study's participants.

3.4.2. Exclusion Criteria:

Mothers who choose to be in a pilot the study.

3.5. Study Instrument:

The questionnaire is the tool used for collecting data that contributes to the expected outcomes, so the researcher designed this questionnaire, which aims to clarify the study objectives and significance by collecting answers to the study's questions.

To conduct the current study, the researcher developed the questionnaire items, so the questionnaire depended on a thorough analysis of relevant studies and the literature that is currently available. (Appendix B)

This questionnaire consists of three parts including:

Part I: Socio-demographic information about the mother, which is composed of 9- items, include: (the mother's age, education, occupation, number of children, residents, type of delivery, gestational age, monthly income, sources of information).

Part II: includes two sections that deal with mothers' knowledge about preterm neonates after discharge from hospital.

Section A: Mothers' knowledge toward feeding of preterm neonates post hospital discharge. Which is composed of 11- items.

Section B: Mothers' knowledge toward care affecting of preterm neonates post hospital discharge. Which is composed of 15 – items.

These items are rated according to three levels Likert scale "I know, I'm not sure, I don't know", and score using 3 point scale of 3, 2, and 1 with a cut-off point equal to 66.

Part III: Mothers' attitudes about preterm neonates post discharge from hospital. Which is composed of 19 – items, these items are rated according to three levels Likert scale (agree, neutral, disagree), and score using 3 point scale of 3, 2, and 1 with a cut-off point equal to 66.

Due to the importance of this data type, the researcher was careful to develop a questionnaire that met all of the requirements and could be relied

upon in all respects. The form of questions was of the closed variety, so an appropriate response had to be given.

3.6. Validity of the Questionnaire

In this context, validity refers to the questionnaire's ability to measure what it was created to evaluate, while honesty to the questionnaire's inclusion of all components that must be included in the analysis, and clarity of its contents. Conversely, terminology needs to be clear to all users. A group of 19 experts assesses the questionnaire's relevance, appropriateness, and clarity. It was distributed to (19) experts in various nursing departments with more than five years of experience to ensure the questionnaire's validity. Multidisciplinary are field experts in nursing college from University of Babylon (5) experts, University of Baghdad (2), University of Karbala (2) experts, University of Dhiqar (1) expert, University of Al-Kufa (1) expert, University of Al-Qadisiyah (1) and University of Al Ameed (1) expert, in addition to (6) physicians with a doctorate in pediatric (3 from College of Medicine, University of Babylon, (1) from Karbala pediatric hospital, and finally (2) from maternity and children teaching hospital in Al-Diwaniyah).

The experts requested that they discuss each topic on the research questionnaire regarding its relevance to language. They were asked to offer their thoughts and opinions on how it relates to the dimensions of the research variables assigned to it and how it applies to the study community's context. The questionnaire was thoroughly reviewed, and many changes were implemented based on their feedback (Appendix C).

The responses from the experts suggested making minor adjustments to a few items, which were made following their recommendations before the end draft was completed and prepared for the study.

3.7. Ethical Considerations

The researcher provides a concise explanation of the research and its objectives and background before beginning to gather data from the sample of participants in the study. To participate in the study, verbal approval from the study participants after clarifying the voluntary nature of the participants, where all information will be confidential. After they agreed to participate in the research, they were given an anonymous questionnaire to safeguard the participants' privacy.

One of the most necessary items a researcher should adhere to and continue when conducting the study is their ethical obligations. Before beginning to collect data from the selected population, the researcher should make clear the primary purpose and desired outcome of the research for the sample to be involved in the study. The researcher should also adhere to the strict privacy of the data collected from the study sample and promise to use it for only scientific purposes regarding the research.

3.8. Pilot Study

Non-probability (a purposive) sample of (12) mothers from Al-Diwaniyah teaching hospital for maternity and children and AL-Hussain pediatric hospital who agreed to participate in this study was chosen and carried out from (5^{th} - 9^{th} February. 2023). This preliminary study was carried out to determine the study tool’s stability and credibility, as well as its clarity and

efficiency. It was intended to estimate the typical time needed to collect data for each subject, which was to be done during the interviewing phase, and to identify any potential problems that might arise.

The pilot study aimed to achieve the following:

1. Sufficiency of research tool development and testing.

2. Evaluation of the instrument's viability.

3. Identify any potential logistical problems brought on by the suggested methods.

4. Determine the typical period of time that the mother needs to complete the form.

Results of a Pilot Study:

1. The questionnaire is reliable.

2. The questionnaire took between (20 and 25) minutes to complete.

3. The study's underlying phenomenon and the instrument items were made clear (Table 3-2).

The following steps were taken before the questionnaire took on its end form:

1. Determining the data that will be gathered through the questionnaire according to the study questions.

2. Determining the method and format of the questionnaire.

3. Determining the type of criteria that determine the questionnaire's response type.

4. Submitting the questionnaire to the supervisor so that he can express his thoughts and observations about its development and, based on those, modify it.

5. Submitting the questionnaire to experts their thoughts and observations about its development and, based on what they are presenting.

6. Performing a reliability test on the questionnaire by sharing it with a sample of 12 Mothers.

3.9. Reliability of the Questionnaire:

For a study instrument to be reliable, it must be ensured that the results will be nearly identical if given to the same mother numerous times. To test it, the researcher used a random exploratory sample of 12 mothers, representing 10% of the initial sample. In this sample, some participants were later dropped from the original sample that served as the basis for the complete study. The Alpha Cronbach's coefficient was used to determine the reliability coefficient, as indicated below:

Table3-2: Reliability of the Studied Questionnaire (n=12)

Variables	No. of Items	Alpha Cronbach	Assessment
Knowledge toward Feeding	11	0.87	Accepted
Knowledge toward Immediate Care	15	0.81	Accepted
Attitudes	19	0.78	Accepted
Total	**45**	**0.82**	**Accepted**

3.10. Methods of Data Collection

The researcher used questionnaire to collect the data. The data were collected between (Feb 10th to March 15th of 2023). Participants in the study were questioned about the questionnaire. The questionnaire's validity and reliability were established after obtaining approval from the Al-Diwaniyah Health Directorate.

The researcher conducted interviews with mothers who participated in the study, also provided instructions, and answered any questions they had. She then urged them to take part and thanked them for their collaboration. After taking the essential steps that must be incorporated into the study design, the interview techniques were used individually and for (20 to 25) minutes per interview.

3.11. Methods of Statistics Data Analysis

The researcher analyzed the data obtained from the study sample using the programs "Statistical Package for Social Sciences" SPSS-20 and Microsoft Excel (2010). This allowed the researcher to arrive at the research results, determine the relationships between the variables, and derive the final results of the research based on a series of statistical tests.

3.11.1. Descriptive approach

Descriptive statistics consists of a collection of statistical and mathematical methods that are utilized to quantitatively characterize the data's primary characteristics through charts and tables.

In descriptive statistics, the purpose is to describe clear and concise data so that it may be efficiently processed, summarized, categorized, and

communicated to the intended audience. The following tools were used in the analysis:

A: Statistical tables "Frequencies (No.) and Percent (%)".

$$\% = \frac{\boldsymbol{Frequency}}{\boldsymbol{Sample\ Size}}\ x100$$

B: Average of the scores M.s and the overall average score (M±).

The average score can be calculated by using the following:

$$total\ mean\ of\ scores = \frac{\textbf{Maximum total scores-Minimum total scores}}{\textbf{Levels}}$$

- For Knowledge Outcomes

[Poor= 26-43.33; Fair= 43.34-60.66; Good=60.67-78]

- For Attitudes Outcomes

[Negative= 19-31.66; Neutral= 31.67-44.33; Positive=44.34-57]

C: Standard Deviation test ±SD.

$$SD = \sqrt{\frac{1}{n-1}\sum_{i=1}^{n}(Xi - \bar{X})^2}$$

D: A correlational coefficient, " Cronbach alpha ", is used to estimate the internal study tool consistency.

$$\alpha = \frac{K}{K-1}\left[1 - \frac{\sum_{i=1}^{K}\sigma_{ii}}{\sum_{i=1}^{K}\sum_{j=1}^{K}\sigma_{ij}}\right]$$

3.11.2. Inferential approach

1. The first (ANOVA) Analysis of Variance

Equality of means is used (variance test when the mean parameter varies).

Source of variance	Sum of square	d.f	Mean square	F
Between Groups	$SS_B = \sum \frac{(\sum xP1)^2}{n} - \frac{(\sum xP)^2}{n}$	$df_B = K\text{-}1$	$\frac{MS\beta}{MS\beta}$	
Within Groups	$SS_w = \sum (\sum xP1)^2 - \frac{(\sum xP)^2}{N}$	$df_w = N\text{-}k$	$\frac{SSw}{DFw}$	$\frac{MSB}{MSW}$
Total	$SS_T = \sum (\sum xP1)^2 - \frac{(\sum xP)^2}{N}$	$df_t = N\text{-}1$		
P-value (≤0.05)				

2. Independent Sample t-test

The Independent Samples t-test is a statistical procedure that compares the means of two independent groups to determine whether statistical evidence indicates that the associated population means are significantly different. The following are some shortcuts for measuring importance in comparison to the level:

$$t = \frac{\mu_A - \mu_B}{\sqrt{\left[\frac{\left(\Sigma A^2 - \frac{(\Sigma A)^2}{n_A}\right) + \left(\Sigma B^2 - \frac{(\Sigma B)^2}{n_B}\right)}{n_A + n_B - 2}\right] \cdot \left[\frac{1}{n_A} + \frac{1}{n_B}\right]}}$$

$(\Sigma A)^2$: Sum of data set A, squared (Step 2).
$(\Sigma B)^2$: Sum of data set B, squared (Step 2).
μ_A: Mean of data set A (Step 3)
μ_B: Mean of data set B (Step 3)
ΣA^2: Sum of the squares of data set A (Step 4)
ΣB^2: Sum of the squares of data set B (Step 4)
n^A: Number of items in data set A
n^B: Number of items in data set B

NS:>*0.05 Non significantly*-differences.

S:<*0.05 Significantly*-differences.

Chapter Four

Results of the Study

Chapter Four

Results of the Study

Descriptive and inferential statistics were used to organize the following tables and figures in service of the objectives of the current study.

4.1. Sociodemographic Variables of the Sample Used in the Study (SDVs).

Table 4-1-1. Sociodemographic Variables of the Mothers (No:120)

SDVs	Classification	No.	%
Age	<20 years	21	17.5
	20-29 years	**42**	**35.0**
	30-39 years	39	32.5
	40 and older	18	15.0
	27.24 ± 8.60		
Educational Level	Not read and write	15	12.5
	Read and Write	33	27.5
	Graduation of Primary school	**35**	**29.2**
	Graduation of Secondary school	15	12.5
	Graduation of institute and above	22	18.3
Occupation	Housewife	**96**	**80.0**
	Employee	24	20.0
Number of Children	**1 Child**	**43**	**35.8**
	2 Children	28	23.3
	3Children	13	10.8
	4 and more	36	30.1
Residents	Rural	36	30.0
	Urban	**84**	**70.0**
Type of delivery	Normal	26	21.7
	Cesarean	**94**	**78.3**
Gestational age	28- 32 Weeks	32	26.7
	32-37 Weeks	**88**	**73.3**
Monthly income	**Sufficient**	**49**	**40.8**
	Sufficient to some extent	42	35.0
	In-sufficient	29	24.2

Have Information	**Yes**	**80**	**66.7**
	No	40	33.3
Sources of Information	**Family members**	**23**	**19.2**
	Internet	19	15.8
	Media	11	9.2
	Doctor	13	10.8
	Nurses	14	11.7

No.= Number; %= Percentage

The results in **(Table 4-1-1)** highlight the participants' characteristics, with an average age is 27.24 (SD=8.60) years, the highest recorded (35%) among the age group 20-29 years. Concerning the education level, the highest percentage of the participants were primary school graduates (29.2%). Regarding Occupation, majority of participants were housewives (80%) compared to those who were an employee (20%). Regarding the number of children related findings, more than one third of participants expressed one child (35.8%). Concerning residents, more than two thirds of the participants were from urban areas (70%) compared to those who were rural (30%). Regarding the delivery type, the cesarean section was predominated (78.3%) compared to normal delivery (21.7%). Gestational age associated findings (73.3%) of participants expressed 32-37 Weeks. Regarding monthly income, two fifth of study participants expressed sufficient income/per month (40.8%). More than two thirds of participants (66.7%) expressed have information about preterm care. Family members recorded highest percentage as the best sources of information (19.2%).

4-2. Mothers' Knowledge about Preterm Neonates Post Hospital Discharge

Table4-2-1. Mothers' Knowledge toward Feeding of preterm neonates

List	Feeding Items	I Don't Know	Un certain	I know	M.s	Ass.
		No.	No.	No.		
1	Colostrum has many benefits for your neonate immune system.	10	3	107	2.81	**Good**
2	Breastfeeding absorbs faster than bottle feeding.	12	18	90	2.65	**Good**
3	Most neonates with Jaundice can continue breastfeeding	13	25	82	2.58	**Good**
4	Preterm neonates who breastfeed may need iron and vitamin supplements	46	33	41	1.96	Fair
5	Keeping the neonate upright for 20 to 30 minutes after feeding will give the neonate's tummy time to settle and reduce feeding intolerance	21	13	86	2.54	**Good**
6	Breastfeed successfully every (2-3) hours a day.	18	31	71	2.44	**Good**
7	You can express breastmilk for preterm neonates by tube or bottle	12	12	96	2.70	**Good**
8	Should maintain sufficient feeding for preterm.	17	11	92	2.63	**Good**
9	Breast milk is considered a natural laxative.	42	36	42	2.00	Fair
10	Breastfeeding helps the uterus return to its normal position.	42	33	45	2.03	Fair
11	Breastfeeding strengthens the bond between mother and neonate.	16	12	92	2.63	**Good**

"(MS) Mean of Scores, Level of Assessment (Poor= 1-1.66; Fair=1.67-2.33; Good=2.34-3)"

Regarding the statistical mean, this table revealed that the mothers provided a good response to knowledge in terms of infant feeding. Evidently, the mean scores reflect a high level of understanding (M.s $\geq$ 2.34) across all assessed scale items, with the exceptions being items number 4, 9, and 10, where responses indicated a fair level.

Table 4.2.2. Overall Mothers' Knowledge toward Feeding

Knowledge Toward Feeding	No.	%	*M (±SD)*	*Ass.*
Poor (11-18.33)	7	5.8	26.97 ± 4.28	***Good***
Fair (18.34-25.66)	23	19.2		
Good (25.67-33)	**90**	**75.0**		
Total	120	100.0		

"M: Mean for the total score, SD=Standard Deviation for a total score. "

According to the findings, (75%) of the mothers expressed good Knowledge in terms of infant feeding mean score 26.97 (standard deviation = 4.28).

Table4-2-3. Mothers' Knowledge toward care affecting of preterm neonates

List	Immediate Care Items	I Don't Know	Un certain	I know	M.s	Ass.
		No.	No.	No.		
1	Wash hands with soap and water to prevent transmission of infection to preterm.	10	8	102	2.77	**Good**
2	Eye protection is important during phototherapy.	13	13	94	2.68	**Good**
3	Vaccination of Preterm neonates according to the recommended schedule.	14	37	69	2.46	**Good**
4	Giving vaccines to the preterm after birth to prevent diseases.	13	33	74	2.51	**Good**
5	Jaundice is a significant health problem that affects the brain.	25	32	63	2.32	Fair
6	Phototherapy is the most common treatment for Jaundice in neonates.	20	23	77	2.48	**Good**
7	Jaundice in the neonate needs to be followed up in the hospital.	27	31	62	2.29	Fair
8	The average normal body temperature of neonate is 37°C.	24	40	56	2.27	Fair
9	The diaper is placed below the cord to prevent irritation.	30	44	46	2.13	Fair
10	Taking care of the neonate umbilical cord during its first days.	29	29	62	2.28	Fair
11	Redness of the navel and the surrounding skin and pus are signs of skin infection in the neonate.	17	24	79	2.52	**Good**

12	Clean your hands before you touch the neonate cord area.	12	27	81	2.58	**Good**
13	Clean discharge around the cord with a cotton swab dipped in tap water and then a dry cotton swab.	25	41	54	2.24	Fair
14	Keep the stump dry, and let the stump fall off on its own.	14	14	92	2.65	**Good**
15	Bathing is an essential and convenient way to prepare preterm neonate for sleep.	27	52	41	2.12	Fair

"(MS) Mean of Scores, Level of Assessment (Poor= 1-1.66; Fair=1.67-2.33; Good=2.34-3)"

Regarding the statistical mean, this table revealed that the mothers provided a good response to knowledge toward care affecting of preterm, as indicated by high mean scores (*M.s* ≥2.34) at all of the scale's studied items, except the item number (5, 7, 8, 9, 10,13 and 15) the responses were fair.

Table 4.2.4. Overall Mothers' Knowledge toward Care affecting of preterm neonates

Knowledge Toward Care	No.	%	*M (±SD)*	*Ass.*
Poor (15-25)	6	5.0	36.3 ± 5.55	***Good***
Fair (25.1-35)	32	26.7		
Good (35.1-45)	**82**	**68.3**		
Total	120	100.0		

%: Percentage, SD: Standard Deviation

According to the findings, (68.3%) of the mothers expressed good knowledge regarding care affecting of preterm neonates post hospital discharge at Mean= 36.3 (SD=5.55).

Table 4-2-5. Overall Mothers' Knowledge about Preterm Neonates Post Hospital Discharge

Overall Knowledge	No.	%	*M (±SD)*	*Ass.*
Poor	5	4.2	63.23 ± 8.66	***Good***
Fair	20	16.6		
Good	**95**	**79.2**		
Total	120	100.0		

Level of Assessment: [Poor= 26-43.33; Fair= 43.34-60.66; Good=60.67-78]

The results showed that, (79.2%) of the mothers expressed good knowledge toward preterm care post hospital discharge at Mean= 63.23 (SD=8.66).

4.3. Mothers' Attitudes Toward Preterm Care Post Hospital Discharge

Table4-3-1. Mothers' Attitudes Toward Preterm Care Post Hospital Discharge

List	Attitudes Items	Disagree	Neutral	Agree	M.s	Ass.
		No.	No.	No.		
1	I want to adhere to the crucial recommendations and instructions for raising neonate care.	39	34	47	2.07	Neutral
2	Attending health education programs is essential for the care of preterm neonates.	36	35	49	2.11	Neutral
3	I prefer primary care visits regularly to monitor my neonate health.	30	9	81	2.43	**Positive**
4	I think a fever is a body temperature of more than 38 C.	33	45	42	2.08	Neutral
5	I want to breastfeed because breast milk contains hormones, nutrients, and growth factors that help preterm neonate grow and develop.	21	6	93	2.60	**Positive**
6	I prefer to maintain clean breasts at all times because it protects my child and me from infections.	22	20	78	2.47	**Positive**
7	I think good breastfeeding helps to gain my neonate weight.	22	12	86	2.53	**Positive**

8	I want to breastfeed so it decreases neonates Jaundice.	21	11	88	2.56	**Positive**
9	I think washing the feeding bottle with boiling water after each feed is necessary.	27	38	55	2.23	Neutral
10	I prefer breastfeeding because it is easier to digest and absorb than bottle feeding.	21	9	90	2.58	**Positive**
11	I want to breastfeed because it provides the neonate with immune bodies that reduce infection.	37	35	48	2.09	Neutral
12	I want to take plenty of rest between feedings.	24	17	79	2.46	**Positive**
13	I believe my preterm should be vaccinated in the first month after discharge from the Hospital.	34	31	55	2.18	Neutral
14	I prefer to adhere to the vaccine schedule in the primary care center.	24	15	81	2.48	**Positive**
15	I think it's necessary to keep my preterm warm after the bath.	28	19	73	2.38	**Positive**
16	I feel that hand washing is very important when I take care of a preterm.	19	8	93	2.62	**Positive**
17	I prefer to express my love for my neonate by touching, embracing, and hugging the neonate.	21	3	96	2.63	**Positive**
18	I want to give my neonate enough time to sleep and only wake him to feed.	31	35	54	2.19	Neutral
19	I think signs of inflammation or Jaundice need to be reviewed by the nearest Hospital.	37	32	51	2.12	Neutral

"Level of Assessment (Negative= 1-1.66; Neutral=1.67-2.33; Disagree=2.34-3)"

Regarding the statistical mean, this table revealed that the mothers provided a positive response toward preterm care post hospital discharge and indicated by high mean scores (M.s ≥2.34) at all of the scale's studied items, except the item number (1, 2, 4, 9, 11, 13, 18, and 19) the responses were neutral attitudes.

Table 4.3.2. Overall Mothers' Attitudes about Preterm Neonates Post Hospital Discharge.

Overall Attitudes	No.	%	*M (±SD)*	*Ass.*
Negative	15	12.5	44.81 ± 9.93	***Good***
Neutral	16	13.3		
Positive	**89**	**74.2**		
Total	120	100		

Level of assessment: ***[Negative= 19-31.66; Neutral= 31.67-44.33; Positive=44.34-57]***

According to the findings, (74.2%) of the mothers expressed positive attitudes toward preterm care post hospital discharge at Mean= 44.81 (SD=9.93).

4.4. Statistical Differences in Knowledge and Attitudes Concerning their Sociodemographic Variables

Table 4-4-1. Differences in Knowledge and Attitudes between Groups of Age

Age	*SOV*	*SOS*	*d.f*	*Mean Square*	*F-statistic*	*P*
Knowledge	Between Groups	2.642	3	.881	9.672	.000
	Within Groups	10.563	116	.091		
	Total	13.206	119			
Attitudes	Between Groups	1.967	3	.656	2.486	.064
	Within Groups	30.596	116	.264		
	Total	32.564	119			

"SOV: source of variance, SOS: source of square, d.f: degree of freedom."

The analysis of variance findings demonstrated significant differences in mothers' knowledge (*F=9.672; p=.000*) see in (Fig. 4-5); while no significant differences in mothers' attitudes (*F=2.486; p=.064*) toward preterm care post hospital discharge concerning their age groups.

Table 4-4-2. Differences in Knowledge and Attitudes between Groups of Educational Level

Educational Level	***SOV***	***SOS***	***d.f***	***Mean Square***	***F-statistic***	***P***
Knowledge	Between Groups	4.287	4	1.072	13.818	**.000**
	Within Groups	8.919	115	.078		
	Total	13.206	119			
Attitudes	Between Groups	8.553	4	2.138	10.241	**.000**
	Within Groups	24.011	115	.209		
	Total	32.564	119			

The analysis of variance findings demonstrated significant differences in mothers' knowledge regarding educational level (*F=13.818; p=.000*) see in (Figure. 4-6) and attitudes (*F=10.241; p=.000*) see in (Figure. 4-7) towards preterm care post hospital discharge concerning their education level.

Table 4-4-3. Differences in Knowledge and Attitudes between Groups of Occupation

Variables	*Occupation*	*M*	*SD*	*Std. Error*	*t-value*	*d.f*	*P*
Knowledge	Housewife	2.38	.347	.03550	2.982	118	**.003**
	Employee	**2.60**	.184	.03769			
Attitudes	Housewife	2.29	.562	.05742	2.775	118	**.006**
	Employee	**2.61**	.146	.03000			

M: Mean for total score, SD: Standard Deviation, d.f: degree of freedom

According to the independent sample t-test, findings demonstrated significant differences in mothers' knowledge regarding their occupation (*t=2.982; p=.003*) and attitudes (*t=2.775; p=.006*) toward preterm care post hospital discharge concerning their occupation.

Table 4-4-4. Differences in Knowledge and Attitudes between Groups of Number of Children

No. Children	*SOV*	*SOS*	*d.f*	*M.s*	*F-statistic*	*P*
Knowledge	Between Groups	.491	3	.164	1.492	**.220**
	Within Groups	12.715	116	.110		
	Total	13.206	119			
Attitudes	Between Groups	.781	3	.260	.950	**.419**
	Within Groups	31.783	116	.274		
	Total	32.564	119			

SOV: source of variance, SOS: source of square, d.f: degree of freedom.

According to an analysis of variance, findings demonstrated no significant differences in mothers' knowledge regarding the number of

children (*F=1.492; p=.220*) and attitudes (*F=.950; p=.419*) toward preterm care post hospital discharge concerning their number of children.

Table 4-4-5. Differences in Knowledge and Attitudes between Groups of Residents

Variables	*Resident*	*M*	*S. D*	*Std. Error*	*t-value*	*d.f*	*P*
Knowledge	Rural	2.21	.467	.07793	5.147	118	**.000**
	Urban	**2.52**	.194	.02120			
Attitudes	Rural	1.97	.726	.12116	5.984	118	**.000**
	Urban	**2.52**	.279	.03050			

M: Mean for total score, SD: Standard Deviation, d.f: degree of freedom

According to the independent sample t-test, findings demonstrated significant differences in mothers' knowledge (*t=5.147; p=.000*) and attitudes (*t=5.984; p=.000*) toward preterm care post hospital discharge concerning their residents.

Table 4-4-6. Differences in Knowledge and Attitudes between Groups of Type of Delivery

Variables	*Type*	*M*	*SD*	*Std. Error*	*t-value*	*d.f*	*P*
Knowledge	Normal	2.43	.276	.05432	.131	118	**.896**
	Cesarean	**2.42**	.348	.03593			
Attitudes	Normal	2.23	.604	.11860	1.363	118	**.175**
	Cesarean	**2.39**	.496	.05120			

According to the independent sample t-test, findings demonstrated no significant differences in mothers' knowledge (t=131; p=.896) and

attitudes (t=1.363; p=.175) toward preterm care post hospital discharge concerning their type of delivery.

Table 4-4-7. Differences in Knowledge and Attitudes between Groups of Gestational Age

Gestation Age	*SOV*	*SOS*	*d.f*	*M.s*	*F-statistic*	*P*
Knowledge	Between Groups	.107	1	.107	.964	**.328**
	Within Groups	13.099	118	.111		
	Total	13.206	119			
Attitudes	Between Groups	223	1	.223	.814	**.369**
	Within Groups	32.341	118	.274		
	Total	32.564	119			

According to an analysis of variance, findings demonstrated no statistically significant variations in mothers' knowledge (*F=.964; p=.328*) and attitudes (*F=.814; p=.369*) toward preterm care post hospital discharge concerning their gestational age.

Table 4-4-8. Differences in Knowledge and Attitudes between Groups of Monthly Income

Monthly Income	*SOV*	*SOS*	*d.f*	*M.s*	*F-statistic*	*P*
Knowledge	Between Groups	.081	2	041	.363	**.697**
	Within Groups	13.124	117	112		
	Total	13.206	119			
Attitudes	Between Groups	.639	2	.319	1.170	**.314**
	Within Groups	31.925	117	.273		
	Total	32.564	119			

According to an analysis of variance, findings demonstrated no statistically significant variations in mothers' knowledge (*F= .363; p=.697*) and attitudes (*F= 1.170; p=.314*) toward preterm care post hospital discharge concerning their monthly income.

Table 4-4-9. Differences in Knowledge and Attitudes between Groups of Sources of Information

Sources of Information	*SOV*	*SOS*	*d.f*	*M.s*	*F-statistic*	*P*
Knowledge	Between Groups	3.861	5	.772	9.446	**.000**
	Within Groups	9.319	114	.082		
	Total	13.180	119			
Attitudes	Between Groups	8.033	5	1.607	7.467	**.000**
	Within Groups	24.530	114	.215		
	Total	32.564	119			

According to an analysis of variance, findings demonstrated significant differences in mothers' knowledge (*F= 9.446; p=.000*) see in (Figure. 4-7) and attitudes (*F= 7.467; p=.000*) see in (Fig. 4-8) toward preterm care post hospital discharge concerning their sources of information.

Chapter five

Discussion of the study results

Chapter Five

Discussion of the study results

The results of the study are presented and discussed in this chapter, along with the researcher's interpretation of those results in light of the study's objectives, and similar studies and a literature review support these findings to assess "Mothers' Knowledge and Attitudes Toward the Essential Care of their Preterm Neonates Post Discharge from Hospital."

5.1 Socio Demographical Data of The Study Sample.

The sample was collected in the center of Al-Diwaniyah hospitals where it was found (Table 4-1-1) participants' age; According to the current study's findings, the highest percentage of the study sample is in the age group ranging between (20 - 29) years old. The mean age is 27 (SD=8.60), and those who reported the lowest percentage (15%) were over 40 years old.

This study finding is supported by the study done by (Afand *et al*.,2017), who found that more than half of mothers' age ranged between 20 to 30 years.

Another study done by (White-Traut *et al*., 2017), revealed that the age group ranging between (20 - 29) years old and the mean age of the participants was 25.8 years (standard deviation = 6.6 %).The mothers' age was considered an influencing factor in managing preterm neonates. These findings suggest that young mothers in their twenties are well represented in the study sample.

The study categorizes participants into five educational levels, ranging from illiterate to institute or university education. The highest percentage (29.2%) of participants were primary school graduates while

illiterate and secondary school graduates had the lowest percentages (12.5%). This may be due to some parents refuse to let her daughters to complete her studying or even to get a job.

These results were supported by (Demilew, 2017), which was conducted on 471 mothers who had completed primary school and reported they were 2.5 times more than mothers who achieved secondary education and were also likely to have sufficient knowledge about preterm neonates.

Another study held by (Hameed, 2019) found (4.5%) of mothers could read and write, 77 (38.5%) were in primary school, 64 (32%) were in secondary school, and 23 (11.5%) had completed post-secondary education at an institute or university. The study showed that most of the study sample graduated from primary school.

Table (4-1-1) indicated that most of participants were housewives compared to employees who recorded less proportion. These results were supported by (Abdullah et al., 2019); the majority of mothers were housewives. Also, the result agrees with the results of a study (Adib-Hajbaghery et al., 2017), which indicated that most of mothers were housewives. This may be due to shortage of available jobs.

According to the number of children, more than one third of mothers expressed they have one child and mothers with three children recorded less percentage. In this study, mothers exhibited one child compared to those with more than three children.

These results agree with the study (Aldirawi *et al*., 2019) conducted; most mothers are part of families with just one child, while the lowest percentage live with more than four children. This may be due to late marriage, or most families use contraception.

More than two thirds of participants in this study were from urban areas compared to rural. Regarding the place of residence, the current study revealed that most mothers are from urban areas. Also, the study done by (Abdullah *et al*., 2019) found the highest percentage (43.9%) of mothers lived in urban areas, while rural (23.8%), and suburban (32.3%).

The current study reveals that more than three quarters of the sample cesarean section was predominated compared to the lower quadrant of the sample, which was a normal delivery. Concerning the mode of delivery, the rate of cesarean delivery was quite high in this study; most of the current research preterm were delivered by cesarean section.

This may be due to fear of childbirth, safety concerns related to health risk perceptions, negative previous birth experiences or sometimes the mothers have medical condition must be delivered by cesarean section. In this respect, the study conducted by (Fernandez *et al*., 2017) highlighted that Cesarean section rates are elevated for preterm births; however, it isn't recommended unless additional obstetric indicators justify doing so because it does not prevent neuro disability. This finding agrees with the result of this present study.

This may be due to high rates of cesarean delivery of preterm were explained by the fact that the procedure may be accomplished to deliver a preterm fetus at risk in utero. Most neonates admitted to NICU facilities were born before the estimated delivery date, dramatically increasing the incidence of cesarean births (Afand *et al*., 2017). Preterm born by vaginal delivery are likelier to be released from the hospital earlier. This could delay the diagnosis of some issues in preterm neonates and increase the risk of complications.

The present study recalled that showing regarding gestational age, more than two thirds of participants expressed (32 < 37) weeks, and participants recorded the lowest percentage expressed (28 < 32) weeks in this study.

Urmila & others (2018) also showed similar results the study's authors found that 7.7% of neonates were born at less than 28 weeks, 44.6% between 28 and 32 weeks, and 46.7% between 32 and 37 weeks.

The study's finding shows more than two fifth of the participant's expressed sufficient monthly income, as compared with those who are insufficient monthly income, recording the lowest percentage. These results agree with a study conducted by (Begum et al., 2021) among the respondents; insufficient monthly family income recorded a lower percentage (16.1%), while other sufficient monthly family income recorded the highest percentage (42.4%).

Related findings, more than two thirds of participants (66.7%) expressed have information about preterm care, family members recorded the highest percentage as the best source of information (19.2%) followed by those who are using the internet, those who are asking (doctors and nurses), and those who are using social media recorded the lowest percentage.

The study supports this result concluded by (Al-abedi *et al*., 2016) in Al-Najaf, found more than two thirds of family (70.6 %) is the mothers' main source of information.

5.2. Mothers' Knowledge about Preterm Neonates Post Hospital Discharge.

Mothers' Knowledge Toward Feeding.

According to Table (4-2-1), the mothers expressed good knowledge of the item (colostrum has many benefits for your neonates immune system). Colostrum is essential in promoting neonate development and growth and protecting them from infection. These results, supported by (Wassie, 2020), showed that the mothers have good knowledge about colostrum benefits, (66.1%) were knowledgeable, followed by fairly knowledgeable, which was (22.5%), and the remaining (11.4%) were poorly knowledgeable.

This may be due to the availability of television, internet and communication methods it will become the mother to reach the information about early breastfeeding.

The mothers expressed fair knowledge regarding the item (Breast milk is considered a natural laxative); this result disagrees with (Altamimi, 2017), which revealed majority of mothers recorded good knowledge (N=295, 85.8 %) of this item.

Mothers expressed fair knowledge of the item (breastfeeding helps the uterus return to its normal position). The current study's findings did not look similar to the Study conducted by (Altamimi, 2017), which showed most of the mothers in the study were knowledgeable about breastfeeding and had good knowledge about this item, so they recorded about 96.2%.

Overall Mothers' Knowledge Toward Feeding of Preterm Neonates

According to Table (4.2.2), In terms of statistical mean, this table demonstrated that only (75%) of mothers expressed good responses to

knowledge in terms of infant feeding as indicated at Mean= 26.97 (SD=4.28), except items number (4,9, and 10); the responses of mothers were fair.

The level of knowledge considered adequate related to preterm care decreased the frequency of their health problems and prevented early complications after discharge. These results were supported by (Mohini and Shetty, 2017), which was carried out on 500 mothers and found that the mothers had the highest percentage in the knowledge about Feeding category (65.3%). Also, the current study's findings agree with (Kemer *et al*., 2022) on 41 mothers and showed that mothers have a good level of knowledge about feeding preterm.

According to the United Nations Children's Fund (UNICEF) and the World Health Organization, breastfeeding is a natural and learned behavior. Numerous studies have shown that mothers and other carers require active support to establish and maintain healthy breastfeeding. Information about home care for preterm should begin at the time of hospital admission and be reinforced throughout the hospital stay to improve maternal coping by the time of discharge. The pre discharge education and support program for neonates in the units could be strengthened through these measures.

It has been common knowledge in China to improve patients' discharge preparation and ensure safe transitions to decrease early hospital readmission rates. Hospitals encourage education, plans, and discharge programs for neonates and their families (Chen & Bai, 2017).

This provides support for the view that it should be a priority to standardize the education and information delivered upon admission. The success of these interventions should be assessed to ensure they are sufficient

and individualized information can be offered after the mothers' needs have been determined.

Similar results also showed by (White-Traut et al., 2017), who reported that the mother's knowledge at discharge from the hospital is better than at initial hospitalization.

Mothers' Knowledge toward Care Affecting of Preterm Neonates.

According to Table (4.2.3), the item (Jaundice is a significant health problem that affects the brain) was found the mothers have a fair knowledge; this is due to eventually lead to intellectual incapacity, cerebral palsy, nerve deafness, and possibly death. This may due to mothers may think neonatal jaundice is not a dangerous disease that required treatment. The finding is consistent with the results of (Huang *et al*., 2022), which showed in their study that many mothers have poor knowledge about Jaundice, specifically its danger signs, important causes, and the effects of breastfeeding.

According to the data, the item (clean discharge around the cord with a cotton swab dipped in tap water and then a dry cotton swab) showed that more than half of mothers have fair knowledge inadequate care for the umbilical cord can result in infection of the umbilical cord, which in turn can affect the later growth trajectory of the infant; this finding disagrees with the results of (Kalufya *et al*., 2022), which revealed most of participants, 314 (99.7%), was aware of umbilical cord care and how to clean it.

The results also disagree with the findings of a study in Tanzania; mothers with higher education and three or more children had a better knowledge of how to clean and care for an umbilical cord (Mdegela *et al*., 2022). Thus, studying the factors of young mothers' knowledge and umbilical cord care habits will assist in creating interventions to increase their knowledge and attitudes.

According to the Table, mothers expressed poor knowledge regarding the item (bathing is an essential and convenient way to prepare a preterm neonate for sleep). These findings are supported by (Namnabati *et al*., 2017) which showed that mothers had poor knowledge about bathing of preterm, so it was another problem that discouraged mothers from bathing. Some of the preterm readmissions to the hospital were not bathed even two weeks after discharge. This may be due to the mother was afraid to bath the neonate, so is limp, tiny and afraid that preterm would escape through the hand during bath.

Overall Mothers' Knowledge toward Care Affecting of Preterm Neonates.

According to Table (4.2.4), the findings demonstrated that (68.3%) of the mothers expressed good knowledge in terms of immediate care affecting preterm at Mean= 36.3 (SD=5.55), except items number (5, 7, 8, 9, 10, 13, and 15) the responses were fair knowledge in terms affecting preterm. These results agree with the results of a study (Akimana, 2017) that demonstrated a knowledge of immediate care range from (85%) to (31%), with 85% being the highest and 31% the lowest.

In this study, the results may be showed some mothers need to educate about Jaundice disease and its effect on the brain and diaper care before discharge from the hospital.

Study mentioned by (Ingram *et al*.,2017) which show that is important to the preparation of parents for the discharge of their preterm neonates is commonly left until late in the course of the infant's stay in the hospital. Some parents need early notice as possible to prepare for their neonate discharge and to gain the necessary skills and knowledge to care for their infant safely at home.

Overall Mothers' Knowledge about Preterm Neonates Post Hospital Discharge.

According to Table (4.2.5), the results showed that (79.2%) of the mothers expressed good knowledge towards post discharge from hospitals at Mean= 63.23 (SD=8.66); from both feeding and immediate care of preterm neonate after hospital discharge.

These results agree with the results of a study (Mohini and Shetty, 2017); the mean of mothers' knowledge ranged from 55.2% to 65.3% from a study that attempted to evaluate mothers' knowledge toward preterm caring.

This may be related to the mother's education, occupation, experience or knowledge of home neonatal care. All of these factors are significantly associated with the mother's level of knowledge.

5.3. Mothers' Attitudes about Preterm Neonates Post Hospital Discharge

Regarding the statistical mean, Table (4.3.1) revealed that the mothers provided positive attitudes toward preterm care post hospital discharge and indicated by high mean scores (M.s ≥2.34) at all of the scale's studied items, except the item number (1, 2, 4, 9, 11, 13,18, and 19) the responses were neutral attitudes towards "following the important advice and guidance in caring neonate , attending health education programs is essential for the care of preterm neonates, a fever is a body temperature more than 38 ^{0}C, breastfeed it provides neonate with immune bodies that reduce infection, attend vaccination in the first month after leaving the hospital, give my neonate enough time to sleep and wake him up only when breastfeeding " as being lack of attitudes about caring preterm neonates.

The mothers expressed neutral attitudes toward the item "I think washing the feeding bottle with boiling water after each feed is necessary" this finding agrees with the results (Obaid *et al*., 2019), which showed that most mothers had poor attitudes, 73.5 %, toward formula feeding regarding sterilization of bottles.

According to the item (I want to give my neonate enough time to sleep and only wake him to feed) showed, the mothers expressed neutral attitudes. This result disagrees with the results conducted by (Aldirawi *et al*., 2019), revealing that mothers have positive attitudes (N=110, 91.8%) toward this item.

Overall Mothers' Attitudes about Preterm Neonates Post Hospital Discharge

The results showed that a high percentage (74.2%) of the mothers expressed positive attitudes towards preterm post hospital discharge at Mean= 44.81 (SD=9.93).

Similar results were also shown by (Akimana,2017), which found positive attitudes; the highest level of attitudes was recorded at 93%, while the lowest level was at 78%, and the mean score was (85.2%) ($P < 0.05$).

This may be due to the positive attitudes come because the mother was worried about the well-being of her preterm neonates, which makes her always in favorable situations.

The current study's findings did not look similar to the Study of (Amolo *et al.,* 2017) conducted on 380 mothers in Kenyatta National Hospital, demonstrating that mothers postpartum have positive breastfeeding attitudes. but the mothers have negative attitudes toward other essential care for preterm. Those who do not receive adequate prenatal education on

preterm care and who do not visit any of the necessary prenatal clinics are at a higher risk of lacking knowledge and attitudes, so they should be the focus of neonate education programs.

5.4. Statistical Differences in Knowledge Concerning their Sociodemographic Variables.

The study shows that mothers' age, education, occupation, residents, and source of information have a significant relationship to their level of knowledge. However, mothers' knowledge is not associated with the number of children, family's income, gestational age and type of delivery.

Mothers' Knowledge and Age

The results showed statistically significant differences in the age-related mother's knowledge levels. which were recorded (F=9.672; p=.000) in (Table 4-4-1). Knowledge about the essential care of preterm post hospital discharge was found to be influenced by the age of the study's sample, with those older than 40 years having the highest mean scores, unlike those younger than 20 years old having the lowest mean scores show this in (Figure. 4-5).

Thus, older mothers are significantly associated with better knowledge of essential preterm care after hospital discharge. In comparison, the youngest mothers are significantly related to poor knowledge of essential preterm care post hospital discharge.

This finding agrees with the results from (Adib-Hajbaghery *et al.*, 2017); which the findings conducted in Iran with the participation of 200 mothers revealed a statistically significant differences between the ages of mothers and their levels of knowledge, which indicates that younger mothers have poor knowledge than older mothers.

This result supported by (Esmaeeli, 2013) which showed older women tend to have more knowledge of caring for their neonates (the longer one has lived, the more knowledge one has acquired). This may be due to older mothers may have good knowledge because of their life experiences and the information they have acquired from others, such as their families and the media.

Mothers' Knowledge and Educational Level

The results showed statistically significant differences in the education level related mother's knowledge, which were recorded (F=13.818; p=.000) (Table 4-4-2), based on the findings which were from an institute or above had significantly higher mean scores for knowledge than those with lower levels of education. While the lowest mean knowledge scores were related to those who were (not able to read and write) and those who were literate (able to read and write) (Figure. 4-6).

According to the results, this indicates that educational level is a significant and influential part of knowledge, and the difference in knowledge between a mother with an education and a mother without education is very large. The current study's findings agreed with the study of (Mohini and Shetty, 2017), which was conducted on 500 mothers who showed that mothers with university degrees had access to higher levels of knowledge, so when mothers increase their level of education, their knowledge also increases.

Findings among women in Khartoum Province showed a significant positive correlation between mothers' knowledge and educational attainment, as higher education is associated with higher knowledge (Kheir et al., 2014).

Mothers' Knowledge and Occupation

The results showed statistically significant differences in mothers' knowledge levels concerning Occupation, which were recorded (t=2.982; p=.003) (Table 4-4-3). According to the data, those currently employed had the highest mean knowledge score, while the lowest mean scores in knowledge were found among housewives.

According to the results, the mother's occupation is an influential and significant influence on knowledge. In this regard, there is a significant difference between the employee and housewife mothers. From the findings, mothers who are employed (M ± SD=2.38±0.347) are better known than those who are housewives (M ± SD=2.60±0.184).

According to Esmaeeli's (2013) findings, there may be a connection between a mother's occupation and her knowledge regarding the essential care she provides to her neonate. He found that the employed mothers had highest scores (50%) than housewives (41%). These findings indicate a significant connection between a mother's occupation and her knowledge of caring.

Mothers' Knowledge and Number of Children

The results showed no significant differences in mothers' knowledge regarding the number of children (F=1.492; p=.220). The researcher explains that although most of families prefer to have children, in recent years, so this may be due to the mothers had five children don’t differ from the mother who had one child about the knowledge to introduce preterm caring of neonate. This result inconsistent with a study conducted by (Amolo *et al.*, 2017) who found that the (53%) from mothers have more than 2 children, so there are no significant differences associated between mothers knowledge with number of children.

Mothers' Knowledge and its Residents

The results showed statistically significant differences in mothers' knowledge levels concerning the residents, which were recorded (t=5.147; p=.000) (Table 4-4-5). According to the data, those who live in urban areas have higher mean levels of knowledge than those who live in rural areas had lower mean scores on the knowledge test. This means that knowledge scores were found to be lowest among rural residents. From the findings, urban mothers (M ± SD=2.52±0.194) are better knowledge than mothers who are lived in rural (M ± SD=2.21±0.467).

This finding agrees with the results from (Al-Joborae & Alwan, 2018), who reported in their published research entitled "Sociodemographic and Medical Factors of Preterm Delivery According to the Clinical Subtypes of Prematurity", highlighted that a higher percentage of mothers in both groups were from urban places. This means that mothers in rural areas need more information and should be educated before discharge from the hospital.

Mothers' Knowledge and Type of Delivery

In Table (4.4.6) the results showed no significant differences in mothers' knowledge (t=131; p=.896) regarding their type of delivery. This result supported by (El-hadary,2020) which found there are no significant differences between mothers' knowledge and type of delivery. This may be due to type of delivery not have any effect on knowledge of mothers about preterm care.

Mothers' Knowledge and Gestational Age

In Table (4.4.7) the results showed no significant differences in mothers' knowledge (F=.964; p=.328) toward preterm care post hospital discharge concerning their gestational age. This finding agrees with results

conducted by (Aldirawi *et al*.,2019) which found there are no associated between mothers' knowledge and gestational age about preterm care post hospital discharge.

Mothers' Knowledge and Monthly Income

In Table (4.4.8) the results showed no significant differences in mothers' knowledge (F= .363; p=.697) regarding their monthly income. This finding agrees with the results from (Mohini *et al*.,2017) which found monthly income of the mothers are not associated (28.18 NS) with their knowledge ($p<0.05$).

Mothers' Knowledge and Sources of Information

In Table (4.4.9) the results showed significant differences in mothers' knowledge based on their sources of information, which were recorded (F= 9.446; p=.000). Found mothers' knowledge about the essential care of preterm after hospital discharge was influenced by the source of information of the study's sample. According to the data, mothers who used doctors as sources of information concerning the care of preterm post discharge from the hospital significantly raised their mothers' knowledge because this source specializes in and provides accurate information about preterm infant care after hospital discharge, and then the nurses.

Those who use family members, social media, and the internet are significantly associated with poor knowledge of the essential care of preterm post discharge from the hospital see (Figure. 4-8).

This may be due to doctors and nurses are responsible for providing mothers with information and instructions regarding the care of preterm neonates. The lack of education or anticipatory guidance, it seemed,

impacted mothers' level of confidence. Neonatal nurses represent a great resource for preparing mothers and preterm discharged from the hospital.

Similar results also showed by (Amolo *et al*.,2017), who reported that source information provided by healthcare center staff significantly increased mothers knowledge toward preterm.

This finding disagrees with the results from (Kenya National Bureau of Statistics, 2015). the study recorded most of participants (95.4%) obtaining education and program from nurses, indicating that nursing staff provides mothers with more information than doctors.

5.5. Statistical Differences in Attitudes Concerning their Sociodemographic Variables.

Mothers' education, occupation, residents, and source of information have a significant relationship to their level of attitudes. However, mothers' attitudes is not associated with the number of children, family's income, gestational age and type of delivery.

Mothers' Attitudes and Age

The results showed statistically no significant differences in mothers' attitudes levels regarding age, which were recorded (F=2.486; p=.064) toward preterm care post hospital discharge. This finding agrees with the results from (Aldirawi *et al*.,2019) there are no significant differences in the level of mothers' attitude regarding infant care between their different age groups (p>0.05). That means all age groups have the same level of attitudes.

Mothers' Attitudes and Educational Level

The results showed statistically significant differences in mothers' attitudes levels regarding education, which were recorded (F=10.241; p=.064) (Table 4-4-2); the highest mean attitudes scores of the sample are

present among mothers who institute graduates and above, while the lowest mean attitudes scores were associated with mothers who are illiterate (not reading and writing) see (Figure. 4-7). There is a difference in attitudes between those who are illiterate and those who are institute and above graduated. This may be due to the mother has instituted or above graduated better attitudes because she is more informed and percepted due to mixing with her peers, so she is more likely to acquire positive attitudes.

These results were supported by (Adib-Hajbaghery *et al*.,2017), which found that mothers with more education (instituted or above graduated) generally had a significantly more positive attitude.

Mothers' Attitudes and their Occupation

Occupation is one of the factors affecting mothers' attitudes. The results showed statistically significant differences in mothers' attitudes levels regarding their Occupation (t=2.775; p=.006) see (Table 4-4-3). From the results, the highest mean attitudes scores are present among mothers who are employees (M ± SD=2.61±0.146), while housewives recorded the lowest mean attitudes scores (M ± SD=2.29±0.562).

This finding disagrees with the results from (Alshanti *et al*., 2021), indicating that employed mothers' and nonworking mothers' (housewives) attitudes about preterm care are not significantly different (p>0.05). This means the employee's mothers and housewives, both have similar attitudes towards preterm care.

Mothers' Attitudes and Number of Children

The results showed no significant differences in mothers' attitudes (F=.950; p=.419) toward preterm care post hospital discharge concerning their number of children. This may be due to the mothers who had five

children don't differ from the mother who had one child about the attitudes to introduce preterm caring of neonate. This result disagrees with other study conducted by (Priyadarshanie *et al*., 2015) who found that the percentage of postnatal mothers, who had two children was 30%. Others had more than two children, so there are no significant differences associated between mothers attitudes with number of children.

Mothers' Attitudes and Residents

Findings demonstrated highly statistically significant differences in mothers' attitudes regarding the residents (t=5.984; p=.000) see (Table 4-4-5). According to the data, the highest mean attitudes scores were increased with mothers in urban areas, while mothers who lived in rural areas had the lowest mean attitudes.

The study (Azene & Since, 2019) shows mothers have positive attitudes and more significant proportion of preterm and LBW neonates in urban than rural areas. This means that mothers in rural areas need more perception and should be educated before hospital discharge.

Mothers' Attitudes and Type of Delivery

In Table (4.4.6) the results showed no significant differences in mothers' Attitudes (t=1.363; p=.175) regarding their type of delivery. This result supported by (El-hadary,2020) which found there are no significant differences between mothers' attitudes and type of delivery. This means type of delivery not effect on mothers attitudes.

Mothers' Attitudes and Gestational Age

In Table (4.4.7) the results showed no significant differences in mothers' Attitudes (F=.814; p=.369) toward preterm care after discharge from the concerning their gestational age. This finding agrees with results

conducted by (Aldirawi et al.,2019) which found there are no associated between mothers' attitudes and gestational age about preterm care post hospital discharge.

Mothers' Attitudes and Monthly Income

In Table (4.4.8) the results showed no significant differences in mothers' attitudes (F= 1.170; p=.314) regarding their monthly income. This finding agrees with the results from (Mohini et al.,2017) which found monthly income of the mothers are not associated with their attitudes ($p<0.05$). This means monthly income not effected on attitudes of mothers.

Mothers' Attitudes and Sources of Information

Findings demonstrated highly statistically significant differences in mothers regarding the sources of information attitudes (F= 2.636; p=.027). According to the data in (Figure. 4-8) showed mothers who asked health institutes (doctors and nurses) regarding sources of information on preterm care significantly elevated their attitudes because doctors and nurses have the right attitudes and knowledge and specialize in that regarding the care of the preterm infant, while mothers who use internet associated considerably with poor attitudes see (Figure. 4-8).

A supported study by (Hamilçıkan *et al*., 2017) found that the mothers' attitudes about neonatal care were significantly associated with mothers who used physicians and nurses as a source of their information.

These findings are consistent with studies demonstrating that many mothers' attitudes depend more on nurses than on the internet (Suryawati *et al*., 2020). This may be due to that healthcare professionals play a vital role not only in providing medical care but also in educating and guiding mothers about preterm care post discharge from hospital.

Chapter Six

Conclusions and Recommendations

Chapter Six

Conclusions and Recommendations

6.1. Conclusions

According to the study's findings, the researcher came to the following conclusions:

1. The mothers expressed good knowledge toward feeding and care of preterm neonates post hospital discharge.

2. Positive attitudes among mothers about the care of preterm neonates post hospital discharge.

3. There are significant differences in mothers' knowledge concerning their age groups, while no significant differences in mothers' attitudes toward age groups.

4. There are significant differences in mothers' knowledge and attitudes concerning their educational level and sources of information.

5. According to the independent sample t-test, findings there are significant differences in mothers' knowledge and attitudes regarding their occupation and residents, while no significant differences in mothers' knowledge and attitudes concerning their type of delivery, number of children, gestational age, and monthly income.

6.2. Recommendations

Depending on the findings of the study and the conclusions., The researcher recommended the following:

1. More emphasis is needed on maternal education during the mother's stay in the NICU before the neonate is discharged.

2. Within the neonatal department, the teaching program should focus more on certain components of the necessary neonate care package, recognizing the following as danger signs: signs of convulsions, prevention of hypothermia, immunization, and the effect of pre-lacteal food on preterm infant health.

3. Focus on training a specialized staff for postnatal rehabilitation.

4. The neonatology curricula should be reviewed before and during service medical and nursing education, including mother education regarding preterm care .

5. In the future, additional research is required to elaborate on the knowledge and attitudes of mothers regarding preterm neonates care in other government hospitals.

6. A manual booklet of essential care related to preterm neonates post hospital discharge and how to treat problems should be written in simple words and use meaningful pictures given to the mother.

References

References:

القران الكريم ، سورة النحل ، الاية ٧٨.

Abdallah, A. R. (2019). Assessment of Nurses' Knowledge Regarding Care of Preterm Babies, 1(1); 86-98.

Abdullah, C., & Hassan, S. (2019). Mothers' Awareness Regarding Home Care Management of a Preterm Baby at the Rapareen Pediatric Teaching Hospital in Erbil City. *Erbil Journal of Nursing and Midwifery*, 2(2), 163–179.

Adamiak T, Plati KF, (2018) Pediatric Esophageal Disorders: Diagnosis and Treatment of Reflux and Eosinophilic Esophagitis. *J Pediatric Rev*. 2018 Aug;39(8):392-402.

Adib-Hajbaghery, M. and Khosrojerdi, Z. (2017) Knowledge of Mothers about Post-Discharge Newborn Care. *Journal of Nursing and Midwifery Sciences*, 4, 33-41.

Afand, N., Keshavarz, M., Fatemi, N. S., & Montazeri, A. (2017). Effects of infant massage on state anxiety in mothers of preterm infants prior to hospital discharge. *Journal of clinical nursing*, 26(13-14), 1887-1892.

Agrawal, A., & Wenger, N. K. (2020). Hypertension During Pregnancy. *Current hypertension reports,* 22(9), 64.

Akimana, M. T. (2017). Mothers' awareness and attitudes on the care of their preterm infant at discharge from a neonatal intensive care unit in a selected referral hospital in the northern province of Rwanda ***(Doctoral dissertation, University of Rwanda).***

Akum, F. A. (2018). Assessment of Mothers' Challenges, Support and Coping Strategies towards Caring for Preterm Babies Post-Discharge from Presbyterian Hospital in Bawku Municipality, *Ghana. ARC Journal of Pediatrics*, 4(1), 14–24.

References

Al-abedi, N. F. H., & Al-asadi, K. M. N. (2016). Assessment of Mother's Knowledge in Najaf, *International Journal of Scientific and Research Publications*, 6(12), 31–38.

Al-Assadi, A. F., Al-Haroon, D. S., Al-Rubaye, A., & Abdul-Rahman, B. A. (2018). Risk Factors and neonatal outcome among preterm birth at Basrah central hospitals. *The Medical Journal of Basrah University*, 36(2), 87-96.

Aldirawi, A., El-Khateeb, A., Mustafa, A. A., & Abuzerr, S. (2019). Mothers' Knowledge and Attitudes of Health Caring for Premature Infants after Discharge from Neonatal Intensive Care Units in the Gaza Strip, Palestine. *Open Journal of Pediatrics,* 09(03), 239–252.

Al-Hindi, M., Alshamrani, Z., Alkhotani, W., Albassam, A., Amin Tashkandi, A., & AlQurashi, M. (2021). Utilization of healthcare resources of preterm infants during their first 2 years of life after discharge from neonatal intensive care unit. *Journal of Clinical Neonatology*, 10(1), 37.

Al-Joborae S, Alwan F (2018). Sociodemographic and medical factors of preterm delivery according to the clinical subtype of prematurity. *Med J Babylon* 15:341–348. Back to cited text no. 2.

Al-Mukhtar, S.H., & Abdulghani, M. (2020). Knowledge of Mothers regarding Premature Baby Care in Mosul city. *Mosul Journal of Nursing.* 8(2), 108–118.

Al-Qurashi F. O, Yousef A. wary B, H. (2016) Epidemiological aspects of

Alshanti. A., Mustafa, A., A. (2021). Mothers' Attitudes of Health Care for Preterm Neonates Post Discharge from Neonatal Intensive Care Units, *Open Journal of Pediatrics,* 4, 55.

Altamimi, E., Al Nsour, R., Al Dalaen, D., & Almajali, N. (2017). Knowledge, Attitude, and Practice of Breastfeeding Among Working Mothers in South Jordan. *Workplace health & safety*, 65(5), 210–218.

American Academy of Pediatrics. (2017). Guidelines for Perinatal Care (8th ed.). *The American Academy of Pediatrics.*

References

Amolo, L., Irimu, G., & Njai, D. (2017). Knowledge of postnatal mothers on essential newborn care practices at the Kenyatta National Hospital: a cross sectional study. *Pan African Medical Journal*, 28(1), 159.

Arab News, (2020), "Saudi Arabia Delivers 'Early Warning' on Preterm Births," November 21, 2019. *saudi-arabia*, 2020 Nov 10.

Aregawi, G., Assefa, N., Mesfin, F., Tekulu, F., Adhena, T., Mulugeta, M., & Gebreayezgi, G. (2019). Preterm births and associated factors among mothers who gave birth in Axum and Adwa Town public hospitals, Northern Ethiopia, 2018. *BMC Research Notes*, 12(1), 4–9.

Arianna, B. (2017). Light Therapy for Neonatal Jaundice. *Embryo Project Encyclopedia* 8-17. ISSN: 1940-5030.

Assefa, N. E., Berhe, H., Girma, F., Berhe, K., Berhe, Y. Z., Gebrehet, G., Werid, W. M., Berhe, A., Rufae, H. B., & Welu, G. (2018). Risk factors of premature rupture of membranes in public hospitals at Mekele city, Tigray, a case-control study 11 Medical and Health Sciences 1117 Public Health and Health Services 11 Medical and Health Sciences 1114 Paediatrics and Reproductive Medicine. *BMC Pregnancy and Childbirth*, 18(1), 1–7.

Aydon L., Hauck Y., Murdoch J., Siu D. & Sharp M. (2018). The transition from hospital to home: Parents' perception of their preparation and readiness for discharge with their preterm infant. *J Clin Nurs*. 2018;27:269–277.

Azene, G. K., & Since, H. (2019). Knowledge, Attitude, Practice and Associated Factors of Kangaroo Mother Care for Neonatal Survival Among Care Takers of Preterm and Low Birth Weight Infants in Health Care Settings, Hawassa, Southern Ethiopia, 2018. *Journal of Health, Medicine and Nursing*, February, 24-84.

Aziz, K., Lee, H. C., Escobedo, M. B., Hoover, A. V., Kamath-Rayne, B. D., Kapadia, V. S., Magid, D. J., Niermeyer, S., Schmölzer, G. M., Szyld, E., Weiner, G. M., Wyckoff, M. H., Yamada, N. K., & Zaichkin, J. (2021). Part 5: Neonatal resuscitation 2020 American Heart Association guidelines for cardiopulmonary resuscitation and emergency cardiovascular care. *J In Pediatrics* (Vol. 147, Issue 1).

References

Balest, A. L., Mahoney, A. S., Shaffer, A. D., White, K. E., Theiss, R., & Dohar, J. (2021). Infant aspiration and associated signs on clinical feeding evaluation. International *journal of pediatric otorhinolaryngology,* 149, 110856.

Barbeau, D. Y., & Weiss, M. D. (2017). Sleep Disturbances in Newborns. *Children (Basel, Switzerland),* 4(10), 90.

Begum, M. B., Mittra, C. R., Shaha, A. K., Mondal, P. L., Naher, K., & Halim, K. S. (2021). Knowledge and practice of essential newborn care among rural mothers. *Asian Journal of Medical and Biological Research*, 6(4), 785–794.

Beletew, B., Mengesha, A., Wudu, M., & Abate, M. (2020). Prevalence of neonatal hypothermia and its associated factors in East Africa: a systematic review and meta-analysis. *BMC Pediatrics,* 20(1), 148.

Bhattacharjee, E., & Maitra, A. (2021). Spontaneous preterm birth: the underpinnings in the maternal and fetal genomes. *Npj Genomic Medicine*, 6(1), 1–6.

Bulimba, M., Cosmas, J., Abdallah, Y., Massawe, A., & Manji, K. (2022). Early outcomes of preterm neonates with respiratory distress syndrome admitted at Muhimbili National Hospital, a prospective study. *BMC Pediatrics*, 1–10.

Cacho, N. T., & Lawrence, R. M. (2017). Innate immunity and breast milk. *Frontiers in Immunology,* 8(MAY), 55-57.

Cai, W., Huang, Y., Chen, L., Wang, X., Zhao, C., Guo, Z., Li, J., & Yang, F. (2022). Maternal knowledge, attitudes and practices related to neonatal jaundice and associated factors in Shenzhen, China: a facility- based cross-sectional study. *BMJ Ope*, 12(8).

Chawla, S., & Sultan, P. (2022). Antenatal Care for Uncomplicated Pregnancies, *Obstetric Anesthesia,* pp. 177–184.

References

Chen Y, Zhang J, Bai J. (2016). Effect of an educational intervention on parental readiness for premature Infant discharge from the neonatal intensive care units. *Journal of Advanced Nursing;* 72(1), 135–146.

Chen, Y., Ho, C., Lin, S., & Tsai, W. (2022). ScienceDirect Identifying additional risk factors for early asymptomatic neonatal hypoglycemia in term and late preterm babies. *Pediatrics and Neonatology,* 63(6), 625–632.

Cheng, Y. C., Chen, L. L., Chang, Y. S., Li, T. C., Chen, C. J., & Huang, L. C. (2018). The effectiveness of learning portfolios in learning participation and learners' perceptions of skills and confidence in the mother of the preterm infant. Midwifery, 62(July), 86–91.

Chollat, C., Bertrand, E., Petit-ledo, A., Vansay, C. De, Voisin, C., Dabaj, I., Gillibert, A., Marret, S., & Network, P. (2021). Jo ur l P re of. *The Journal of Pediatrics.*

Cohen, M. L., Lanzkowsky, S., Gupta, M., & Street, J. (2019). Caring for your newborn. Pediatrics, 145(1), e20191061.

Collins, A., Weitkamp, J. H., & Wynn, J. L. (2018). Why are preterm newborns at increased risk of infection?. Archives of disease in childhood. Fetal and neonatal edition, 103(4), F391–F394.

Content, S. F. (2023). Iraq Infant Mortality Rate Death Rate 1950-2023. *Economic Research Resources*, www.macrotrends.net.

Cristina I. Pravia, MD and Merline Benny (2020), Long-term consequences of prematurity MD, *Cleveland Clinic Journal of Medicine* December, 87 (12) 759-767.

Cunningham, F. G., Leveno, K. J., Bloom, S. L., Dashe, J. S., Hoffman, B. L., Casey, B. M., & Spong, C. Y. (2018). *Overview of Obstetrics. In Williams Obstetrics,* 25e. McGraw-Hill Education.

Dam, E. (2020). Environmental Humidity for Premature Neonates. Melbourne, *The Journal of Pediatrics.* May, 613-617. R.C.H Environmental_humidity_for_premature_neonates.

References

De Moura, M. D. R., Margotto, P. R., Costa, K. N., & Garbi Novaes, M. R. C. (2021). Hypertension induced by pregnancy and neonatal outcome: Results from a retrospective cohort study in preterm under 34 weeks. *PLoS ONE*, 16- 37 (8 August).

Degefa, N., Diriba, K., Girma, T., Kebede, A., Senbeto, A., Eshetu, E., Aschalew, Z., Tariku, B., & Zerihun, E. (2019). Knowledge about Neonatal Danger Signs and Associated Factors among Mothers Attending Immunization Clinic at Arba Minch General Hospital, Southern Ethiopia: A Cross-Sectional Study. *BioMed Research International,* 2019, 1–8.

Delnord, M., Blondel, B., Prunet, C., & Zeitlin, J. (2018). Are risk factors for preterm and early-term live singleton birth the same? A population-based study in France. *BMJ open*, 8(1), e018745.

Demilew, Y. M. (2017). Factors associated with mothers' Knowledge on infant and young child feeding recommendation in slum areas of Bahir Dar City, Ethiopia: a cross-sectional study. *BMC research notes,* 10(1), 191.

Demtse, A. G., Pfister, R. E., Nigussie, A. K., McClure, E. M., Ferede, Y. G., Tazu Bonger, Z., Mekasha, A., Demisse, A. G., Gidi, N. W., Metaferia, G., Worku, B., Goldenberg, R. L., & Muhe, L. M. (2020). Hypothermia in Preterm Newborns: Impact on Survival. *Global pediatric health,* 7, 2333794X20957655.

Ding, L., Wang, H., Geng, H., Cui, N., Huang, F., Zhu, X., & Zhu, X. (2020). Prediction of Bronchopulmonary Dysplasia in Preterm Infants Using Postnatal Risk Factors. *Frontiers in Pediatrics,* 8(12).

Dosani, A., Hemraj, J., Premji, S. S., Currie, G., Reilly, S. M., Lodha, A. K., Young, M., & Hall, M. (2017). Breastfeeding the late preterm infant: Experiences of mothers and perceptions of public health nurses. *International Breastfeeding Journal,* 12(1).

Dyer, R. A., & Schoeman, L. K. (2022). Fetal Distress. Anesthesia and the Fetus, 315–324.

Editorial, A. C., & Outs, C. (2022). Phototherapy unit Stock Photos and Images (128). 128.

References

Elashmawy M. (2017). Discharge Care Plan for Mothers Having Preterm Infant Admitted in Neonatal Intensive Care Unit. Master thesis. *Ain Shams University, Egypt.*

El-hadary, S. M. M., Dabash, S. A., Rashad, H. M., & Osman, Z. E. (2020). Impact of Discharge Educational Program on Preterm Infants' Mothers' Knowledge and Practice. *Indian Journal of Public Health Research & Development*, 11(03), 1084–1089.

Esmaeeli, H. (2013). Knowledge assessment of neonatal care among postnatal mothers.*Iranian Journal of Neonatology IJN*, 4(1), 28-31.

Fanaroff, A. A. & Fanaroff, J. M. (2019). Klaus and Fanaroff's Care of the High-Risk Neonate (7thed). *Chapter 13*, neonatal hyperbilirubinemia. Pp 310-345. Elsevier sunders. United States.

Fawzi, H. A., Hameed, N. N., & Yousif, H. N. (2020). Assessment of adherence level for neonatal hyperbilirubinemia management by various physicians in Iraq: A multi-clinic study. F1000Research, 9. 1-8. 10.12688/f1000research.24258.1.

Fernandez Medina, I. M., Granero-Molina, J., Fernández-Sola, C., Hernández-Padilla, J. M., Camacho Ávila, M., & López Rodríguez, M. D. M. (2018). Bonding in neonatal intensive care units: Experiences of extremely preterm infants' mothers. Women and birth : *journal of the Australian College of Midwives*, 31(4), 325–330.

Flannery, D. D., Edwards, E. M., Puopolo, K. M., & Horbar, J. D. (2021). Early-Onset Sepsis Among Very Preterm Infants. *J Pediatrics*, 148(4), e2021052456.

Fortmann, M. I., Dirks, J., Goedicke-Fritz, S., Liese, J., Zemlin, M., Morbach, H., & Härtel, C. (2022). Immunization of preterm infants: current evidence and future strategies to individualized approaches. *In Seminars in Immunopathology* (Vol. 44, No. 6, .767-784). Berlin/Heidelberg: Springer Berlin Heidelberg.

Fraga, E., da Silva Dittz, E., & Guimarães Machado, L. (2019). The construction of maternal co- occupation in the neonatal intensive care unit.

Brazilian Journal of Occupational Therapy/Cadernos Brasileiros de Terapia Ocupacional, 27(1), 92-104.

Frasch, M. G., Strong, S. B., Nilosek, D., Leaverton, J., & Schifrin, B. S. (2021). Detection of Preventable Fetal Distress During Labor From Scanned Cardiotocogram Tracings Using Deep Learning. *Frontiers in Pediatrics,* 9.

Fuchs, F., Monet, B., Ducruet, T., Chaillet, N., & Audibert, F. (2018). Effect of maternal age on the risk of preterm birth: A large cohort study. PloS one, 13(1), e0191002. *journal.pone*.0191002.

Furdon, S. A. (2017). Prematurity Clinical Presentation. Dharmendra J Nimavat, MD, FAAP in a systematic review and meta-analysis, Conde-Agudelo. *J Pediatr.* 119 (3):417-23.

Garti, I., Donkor, E., Musah, N. (2021). RETRACTED ARTICLE: Mothers' experiences of caring for preterm babies at home: qualitative insights from an urban setting in a middle-income country. *BMC Pregnancy Childbirth* 21, 395.

Gonca¸lves, J. L., Fuertes, M., Alves, M. J., Antunes, S., Almeida, A. R., Casimiro, R., & Santos, M. (2020). Maternal pre and perinatal experiences with their full-term, preterm, and very preterm newborns. *BMC Pregnancy and Childbirth*, 20(1).

Granés, L., Torà-Rocamora, I., Palacio, M., De la Torre, L., & Llupià, A. (2023). Maternal educational level and preterm birth: Exploring inequalities in a hospital-based cohort study. *J PloS One,* 18(4), e0283901.

Günther, V., Alkatout, I., Stein, A., Maass, N., Strauss, A., & Voigt, M. (2021). Impact of smoking and fetal gender on preterm delivery. *Journal of Developmental Origins of Health and Disease*, 12(4), 632–637

Gurko, K. L. (2018). Socioeconomic status influence on mothers' interactions with infants: Contributions to early infant development. Dissertation Abstracts International Section A: Humanities and Social Sciences, 79(10-A(E).

References

Gurung, A., Wrammert, J., Sunny, A. K., Gurung, R., Rana, N., Basaula, Y. N., Paudel, P., Pokhrel, A., & Kc, A. (2020). Incidence, risk factors and consequences of preterm birth - findings from a multi-centric observational study for 14 months in Nepal. *Archives of Public Health,* 78(1), 1–9.

Hägi-Pedersen, M. B., Norlyk, A., Dessau, R., Stanchev, H., & Kronborg, H. (2017). A multicentre randomized study of the effect and experience of an early in-home program (Pre Home Care) for preterm infants using video consultation and smartphone applications compared with in-hospital consultations: Protocol of the PeHome Care study. *BMJ Open*, 7(3).

Halimi Asl, A. A., Safari, S., & Parvareshi Hamrah, M. (2017). Epidemiology and Related Risk Factors of Preterm Labor as an obstetrics emergency. *Emergency (Tehran, Iran),* 5(1), e3.

Hameed, N. N. (2020). Assessment of mother's Knowledge, practices, and beliefs toward home management of Neonatal jaundice in two pediatric teaching hospitals. *Journal of the Faculty of Medicine Baghdad*, 3(4).

Hamilçıkan, Ş., Polat, Y., Can, E., Erol, M., Gayret, Ö. B., & Yiğit, Ö. (2017). Evaluation of the Knowledge and Attitude Changes of Mothers in Neonatal Care. *Journal of Pediatric Research* 4(2), 46–52.

Hammer, N. C., Koch, J. J., & Hopkins, H. C. (2021). Neonatal Resuscitation: Updated Guidelines from the American Heart Association. *American Family Physician*, 104(4), 425–428.

Hamrick, S. E., Sallmon, H., Rose, A. T., Porras, D., Shelton, E. L., Reese, J., & Hansmann, G. (2020). Patent ductus arteriosus of the preterm infant. *American Academy of Pediatrics,* 146(5).

Hemati, Z., Namnabati, M., Taleghani, F., & Sadeghnia, A. (2017). Mothers' challenges after infants' discharge from neonatal intensive care unit: A qualitative study. *Iranian Journal of Neonatology,* 8(1), 31–36.

Himangn, J., Bishan D, S.K. Verma & Aditi Sharma, (2019). Consequences of antepartum hemorrhage and its maternal and perinatal outcome.

International Journal of Reproduction, Contraception, Obstetrics and Gynecology, vol. 8 (4), pp. 1480.

Hockenberry M., Rodgers C. & Wilson D. (2018). Wong's Essentials of Pediatric Nursing. Ch: 8. Health Problems of Newborns. Pp: 189. 10th Edition.

Huang, Y., Chen, L., Wang, X., Zhao, C., Guo, Z., Li, J., & Yang, F. (2022). Maternal knowledge, attitudes and practices related to neonatal jaundice and associated factors in Shenzhen, China: a facility-based cross-sectional study. 12(8).

Hussein, H. S. A., & Aziz, A. R. (2018). Mothers' beliefs toward the care of neonatal jaundice in a pediatric teaching hospital in Karbala city. *Indian Journal of Public Health Research and Development*, 9(8), 295–300.

Infant mortality. (2020). Measuring Progress Towards Universal Health Coverage, 1–4. https://www.oecd-ilibrary.org/sites/f7b3e551.

Ingram J., Redshaw M., Manns S., Beasant L., Johnson D., Fleming P., & Pontin D. (2017). ―Giving us hope‖: Parent and neonatal staff views and expectations of a planned family-centered discharge process (Train-to-Home). Health Expectations, 20(4),751–759.

Interim edition. (2022). Essential Newborn Care Course. second edition Launch of the interim version 11.

James M., Beth H., Vivek N., Amy T. & Kurt S. (2019). Neonatal Morbidities of Prenatal and Perinatal Origin. Ch 73. Pp 1309- 1333. Available at: EKB. Accessed on February 14, 2019.

Johnson, D. E. (2016). Extremely preterm infant skin care: a transformation of practice aimed to prevent harm. *Advances in Neonatal Care*, 16, S26-S32.

José et al. (2018). Experiences of mothers of extremely preterm infants after hospital discharge. *journal of Pediatric Nursing*, pedn.2018.12.003.

Joseph E Maakaron ,(2021). Practice Essentials, preterm with Blood problem.

References

Jovandaric, M. Z., Milenkovic, S. J., Dotlic, J., Babovic, I. R., Jestrovic, Z., Milosevic, B., Culjic, M., & Babic, S. (2022). Neonatal Pneumothorax Outcome in Preterm and Term Newborns. *Medicina*, 58(7), 965.

Kalufya, N. A., Seif, S. A., & Masoi, T. J. (2022). Knowledge and practice of umbilical cord care among young mothers of neonates in Tabora region: *Analytical cross-sectional study. Medicine,* 101(49).

Karlsson, V., Blomqvist, Y. T., & Ågren, J. (2022). Nursing care of infants born extremely preterm. *Seminars in Fetal and Neonatal Medicine*, 27(3).

Kaushal, M. (2019). Pediatrics Neonatal Care Point of care ultrasound in NICU. *Journal of Bioengineering and Bioelectronics,* 5(2), 23-30.

Kemer, S. N., Comuk-Balci, N., & Serel-Arslan, S. (2022). Knowledge, Attitude and Practice of Mothers with Preterm Infants in Terms of Feeding. 1–15.

Kenya National Bureau of Statistics, Government of Kenya. (2015). Kenya Demographic and Health Survey National bureau of statistics Kenya and ICF international USA; 2015. Dec, 56.

Khasawneh, W., & Khriesat, W. (2020). Assessment and comparison of mortality and short-term outcomes among premature infants before and after 32-week gestation: A cross-sectional analysis. *Annals of Medicine and Surgery*, 60, 44–49.

Khazaeni, B., & Khazaeni, L. (2022). Pathophysiology Treatment / Management. National Library of Medicine, *National Institutes of Health*, 9(4), 5–9.

Kheir, A. E. M., Ibrahim, S. A., & Yahia, E. A. K. (2014). Knowledge, attitude and practice of Sudanese mothers towards home management of febrile convulsions. *Khartoum Medical Journal,* 6.

Kildea, S., Gao, Y., Rolfe, M., Boyle, J., Tracy, S., Barclay, LM. (2017). Risk factors for preterm, low birth weight, and small gestational age births among Aboriginal women from remote communities in Northern Australia. *Women and Birth*, 30(5): 398-405

References

Kilpatrick, Papile & Macones. (2017). Perinatal care. Midwife, Health Visitor & Community Nurse, *American Academy of Pediatrics,* 14(11), 377.

Lafta, R., & Habeeb, H. (2019). Assessment of neonatal mortality major factors. *Iraqi National Journal of Medicine,* 2(2), 124–130.

Lee, A. C., Panchal, P., Folger, L., Whelan, H., Whelan, R., Rosner, B., Blencowe, H., & Lawn, J. E. (2017). Diagnostic Accuracy from the

neonatal Assessment for Gestational Age Determination: A Systematic Review. Pediatrics, 140(6), e20171423

Lee, N. H., Nam, S. K., Lee, J., & Jun, Y. H. (2019). Clinical impact of admission hypothermia in very low birth weight infants : results from Korean Neonatal Network. 62(10).

Lee, S. Y., Jang, G. J., Lee, S. Y., & Jang, G. J. (2016). Prevalence and predictors of exclusive breastfeeding in late preterm infants at 12 weeks. *Child Health Nursing Research,* 22(2), 79-86.

Lilliecreutz, C., Larén, J., Sydsjö, G., & Josefsson, A. (2016). Effect of maternal stress during pregnancy on the risk for preterm birth. *BMC Pregnancy and Childbirth*, 16(1), 1–8.

Liu, J., Wu, S., & Zhu, X. (2022). Advances in the Prevention and Treatment of Neonatal Hypothermia in Early Birth. 12(2), 51–56.

Lopes, L. S., da Silva, G. D., Alves, A. M. A., Reis, A. T., da Silva, G. R. G., & Silvino, Z. R. (2019). Gastric tube insertion in preterm infants: Prevalence analysis of measurement techniques. *Revista Enfermagem,* 27, 1–7.

Lorthe, E., Kayem, G., Ancel, P. Y., Abdoul, H., Briand, N., Lehmann, B., Cabanne, C., Marret, S., Foix l'Hélias, L., Goffinet, F., Schmitz, T., Charlier, C., Autret, F., Azria, E., Balitalike, J., Billiemaz, K., Bohec, C., Bolot, P., Bornes, M., … Winer, N. (2021). Tocolysis in the management of preterm pre-labor rupture of membranes at 22–33 weeks of gestation: study protocol for a multicenter, double-blind, randomized controlled trial comparing nifedipine with placebo (TOCOPROM). *BMC Pregnancy and Childbirth,* 21(1), 1–13.

References

Luu, T. M., Katz, S. L., Leeson, P., Thébaud, B., & Nuyt, A. M. (2016). Preterm birth: risk factor for early-onset chronic diseases. CMAJ : Canadian Medical Association journal = *journal de l'Association medicale canadienne*, 188(10), 736–746.

Lyne, H., Burgoine, K., Ogara, C., Ditai, J., & Gladstone, M. (2022). 'They said, let's teach you how you will care for the child at home…' caregivers' and healthcare workers' perceptions and experiences of post-discharge preterm care in eastern Uganda. *BMC Health Services Research*, 22(1), 1–17

Mahajan, A., & Magon, S. (2017). Study of Risk Factors for Preterm Births in a Teaching Hospital: A Prospective Study. *International Journal of Medical and Dental Sciences*, 6(1), 1407

Mandy, G. (2021). Preterm birth: Definitions of prematurity, epidemiology, and risk factors for infant mortality. UpToDate, 1–31.

Margolis, K. G., & Picoraro, J. A. (2017). Development of Gastrointestinal Motility. *Fetal and Neonatal Physiology*. Elsevier 35214-7.00090

Mb, B., Ks, H., Sultana, H., Haque, A., Nahar, K., & Mg, A. (2021). Essential Newborn Care : Practices among Rural Mothers. 6. 43-51.

Mckerrow, Ms Lesley Liebenberg, M. R. D. (2019). Guidelines for Infection Prevention and Control in Endoscopy. Infection control guidelines for infection prevention and control in the neonatal unit, September, 1–12.

Mdegela, S., Outwater, A., & Ndomondo, M. D. (2022). Assessment of knowledge and practices on cord care among postnatal mothers attending public health facilities in Morogoro municipality. *Tanzania Journal of Health Research,* 23(1), 1–10.

Megli, C. J., & Coyne, C. B. (2022). Infections maternal–fetal interface: an overview of pathogenesis and defence. *Nature Reviews Microbiology*, 20(2), 67–82.

Meng, L., Lingling, Z., Haihong, Z., Xiaobai, Z., Dandan, H., & Shaoyan, W. (2022). Readiness for Hospital Discharge and Its Correlation with the

Quality of Discharge Teaching among the Parents of Premature Infants in NICU. *Applied Bionics and Biomechanics*, 2022, 4924021.

Mohamed, M. (2018). Effect of Umbilical Cord Care Intervention Program on Mothers' Performance and Occurrence of Cord Problems among Their preterm newborn Infants. *Journal of Nursing and Health Science (IOSR-JNHS)*, 01-10.

Mohammed, Q. N., & Alsawaf, B. F. (2016). Assessment of Nursing staff's Knowledge and Practice regarding Care of Premature Babies in Mosul Teaching Hospitals. *Mosul Journal of Nursing*, 2(1), 1–1.

Mohini H & Shetty B. (2017). A study to assess the Knowledge of mothers on home based neonatal care at selected area of rural Bangalore. *International Journal Of Community Medicine And Public Health,* 4(5), 1695-1700.

Moradi S, Arshdi-Bostanabad M, Seyedrasooli A, Tapak L, Valizadeh S. (2018). The effect of empowerment program on maternal discharge preparation and neonatal length of hospital stay: a randomized controlled trial. *Iran J Nurs Midwifery*. 23(3): 172–177.

Moran M. M., Gunn-Charlton J. K., Walsh J. M., Cheong J. L. Y., Anderson P. J., Doyle L. W., et al. (2019). Associations of Neonatal Noncardiac Surgery with Brain Structure and Neurodevelopment: A Prospective Case-Control Study. *The Journal of Pediatrics.* 212, 93–101.

More, J. (2021). Infant, Child and Adolescent Nutrition: *A Practical Handbook* (2nd ed.). CRC Press. https://doi.org/10.1201/9781003093657.

Mullan, C. (2018). Management of preterm labour. *Obstetrics, Gynaecology & Reproductive Medicine* . 28(7); 208-214.

Namnabati, M., Hemati, Z., Taleghani, F., & Sadeghnia, A. (2017). Home-based Care Needs of Preterm Infants Discharged Early from the Neonatal Intensive Care Unit : A Descriptive Qualitative Study. 8(4).

Nelson, Jennifer & Winston, Kristin & Bloch, Elise & Craig, Jenene. (2022). What is the lived experience of mothers in a Level-IV neonatal intensive

care unit. *British Journal of Occupational Therapy.* 84. 85. 030802262210973.

NICE (2019). National Institute for Health and care excellence,Twin and triplet pregnancy. pp. 67-68. https://www.nice.org.uk/.

Nisar, M. I., & Yoshida, S. (2022). Population-based rates, risk factors and consequences of preterm births in South-Asia and sub-Saharan Africa: A multi-country prospective cohort study. *Journal of Global Health,* 12, 2–3.

Obaid, A. A., M, B. A., Mahdi, Z. K., Hussein, M. J., & Al-, I. (2019). Maternal Attitude Toward Formula Feeding among Sample of Iraqi Mothers. *Indian Journal of Public Health Research & Development.*

Ontita, M., Abong, G. O., Mwangi, A. M., & Andago, A. A. (2016). Knowledge and Practice of Essential Care Among Preterm and Low. *Journal of International Academic Research for Multidiscilinary*, *4*(8)

Oxford English and Spanish Dictionary. (2020). Definition of Attitudes Retrieved from https://www.lexico.com/definition/ attitude.

Patel, R. M., Rysavy, M. A., Bell, E. F., & Tyson, J. E. (2017). Survival of Infants Born at Periviable Gestational Ages. *Clinics in perinatology*, 44(2), 287–303.

Patricia, S., & Galeano, O. (2017). Preparing for post-discharge care of premature infants: *Experiences of parents.* 35(1), 100–106.

Peelen, M. J., Kazemier, B. M., Ravelli, A. C., De Groot, C. J., Van Der Post, J. A., Mol, B. W., Hajenius, P. J., & Kok, M. (2016). Impact of fetal gender on the risk of preterm birth, a national cohort study. *Acta obstetricia et gynecologica Scandinavica,* 95(9), 1034–1041.

Pervin, J., Rahman, S. M., Rahman, M., Aktar, S., & Rahman, A. (2020). Association between antenatal care visit and preterm birth: a cohort study in rural Bangladesh. *BMJ Open*, 10(7), e036699.

References

Phagdol, T., Nayak, B. S., Lewis, L. E., Bhat Y, R., & Guddattu, V. (2022). Effectiveness of mHealth application in improving knowledge of mothers on preterm home care. *Journal of Neonatal Nursing, September*, PP. 15-20

Pieszak, G. M., Paust, A. M., Gomes, G. C., Arrué, A. M., Neves, E. T., & Machado, L. M. (2017). Hospitalization of premature infants: parents' perceptions and revelations about nursing care. Revista Da Rede de Enfermagem Do Nordeste, 18(5), 591

Pimentel, G. (2021). Mothers' knowledge of premature newborn care and application of Kangaroo Mother Care at home. 74(6), 1–9.

prematurity in the Eastern region of Saudi Arabia. *Saudi Med J* 37(4): 414-9.

Prescott, S., & Hehman, M. C. (2017). Premature Infant Care in the Early 20th Century. 46(4), 2017.

Priyadarshanie, M. N., & Pethiyagoda, K. (2017). Mothers' knowledge regarding neonatal baby care. *GSTF Journal of Nursing and Health Care (JNHC)*, 2(1).

Quinn, J. M., Sparks, M., & Guephart, S. M. (2017). Discharge criteria for the late preterm infant. A review of the literature. *Advances in Neonatal Care*, 17(5), 362–371.

Raimondi, F., Migliaro, F., Corsini, I., Meneghin, F., Dolce, P., Pierri, L., ... & Lista, G. (2021). Lung ultrasound score progress in neonatal respiratory distress syndrome. *Pediatrics,* 147(4).

Rajabi, A., Maleki, A., Dadashi, M., & Karami Tanha, F. (2021). The Effect of Problem-Solving-Approach-Based Counselling on Maternal Role Adaptation in Women with Late Preterm Infant: A Randomized Controlled Trial. *Journal of Caring Sciences*, 10(2), 62–69.

Rasheed, H. A., Al Jadiry, H., & Al-Kaseer, E. A. (2022). Neonatal mortality rates at Al-Sadar City 2015 – 2019. Technium *BioChemMed*, 3(2), 74–80.

Robinson, C. L., Romero, J. R., Kempe, A., Pellegrini, C., & Szilagyi, P. (2018). Advisory Committee on immunization practices recommended immunization schedule for children and adolescents aged 18 years or

younger—United States, 2018. Morbidity and Mortality Weekly Report, 67(5), 156

Ross, K., Heiny, E., Conner, S., Spener, P., & Pineda, R. (2017). Occupational therapy, physical therapy and speech-language pathology in the neonatal intensive care unit: Patterns of therapy usage in a Level IV NICU. Research in Developmental Disabilities, 64, 108-117.

Saeed, N., Ahmed, O. M., & Al-gamar, E. A. (2022). Mother' s knowledge and attitude regarding recognition of neonatal signs of danger. *Sudanese Journal of Paediatrics*, 22(1), 27–35.

Salama, E., Salama, H., & Al-Obaidly, S. (2021). Socioeconomic risk factors for preterm birth in the state of QATAR: A population-based study. *Acta Biomedica*, 92(3).

Sankar, B. K., Marakkar, R. K., & Varghese, S. (2022). Effectiveness of Developmentally Supportive Education Program on Nursing Knowledge of Retinopathy of Prematurity in Neonatal Intensive Care Unit. *Iranian journal of nursing and midwifery research,* 27(1), 67–70.

Santos, H. M. dos, Silva, L. J. da, Góes, F. G. B., Santos, A. C. N. dos, Araújo, B. B. M. de, & Santos, I. M. M. dos. (2020). Banho enrolado em bebês prematuros em unidade neonatal: a prática na perspectiva de enfermeiros. Rev Rene, 21, e42454.

Shah, A., & Madhok, M. (2019). Management of pediatric hypothermia and peripheral cold injuries in the emergency department. *Pediatric emergency medicine practice*, 16(1), 1–16.

Shahirose et al. (2018). Mother's level of confidence in caring for her late preterm infant: A mixed methods study. *J Clin Nurs.* 2018;27:e1120–e1133.

Shahla Moradi. (2018). The Effect of Empowerment Program on Maternal Discharge Preparation and Neonatal Length of Hospital Stay : A Randomized Controlled Trial.

References

Shailja Dayal, peter l. H. (2022). Pathophysiology Treatment / Management. National Library of Medicine, *National Institutes of Health*, 9(4), 5–9.

Singh M, Parvez B, Banquet A, Kase J. Habilitation of very preterm infants at a post-acute care inpatient rehabilitation (pacir) center after neonatal intensive care unit (nicu) discharge. *Dev Neurorehabil.* 2019 Jan;22(1):53-60.

Srinivasa, S., Bhavya, G., Patel, S., Harish, S., & Anjum, S.K. (2018). Knowledge, attitude and practice of mothers in infantile skin care. *International Journal of Contemporary Pediatrics*, 5, 536.

Stewart D, Benitz W. (2016). Committee on fetus and newborn. Umbilical Cord Care in the Newborn Infant. *American Academy of Pediatrics* . Sep;138(3):e20162149.

Stock, S. J., Thomson, A. J., & Papworth, S. (2022). Antenatal corticosteroids to reduce neonatal morbidity and mortality: Green-top Guideline No. 74. BJOG: *An International Journal of Obstetrics and Gynaecology,* 129(8), e35–e60 strategies. *Seminars in Perinatology*, 41(7), 385–386.

Sullivan, G., Galdi, P., Borbye-Lorenzen, N., Stoye, D. Q., Lamb, G. J., Evans, M. J., Skogstrand, K., Chandran, S., & Boardman, J. P. (2021). Preterm Birth Is Associated With Immune Dysregulation Which Persists in Infants Exposed to Histologic Chorioamnionitis. *Frontiers in Immunology,* 12(August), 1–10.

Suman, V., & Luther, E. E. (2020). Preterm Labor Pathophysiology Treatment / Management. StatPearls Publishing , *Bookshelf ID*: NBK 536939, 4–8.

Suryawati, L., Harmayetty, H., & Has, E. M. M. (2020). The Effect of Supportive Educative Nursing Program on Mother's Knowledge and Attitude of Feeding Practice among Stunting Children Aged 6-24 Months. *Pediomaternal Nursing Journal,* 6(2), 80.

Tambunan, D. M., & Mediani, H. S. (2019). Bathing Method for Preterm Infants : A Systematic Review. 2019, 1–11.

Thompson-Branch, A., & Havranek, T. (2017). Neonatal hypoglycemia. Pediatrics in Review, 38(4), 147–150.

Toca, M. D. C., Balbarrey, S., Bastianelli, C., Guzmán, L., & Leta, K. (2022). Functional gastrointestinal disorders. How to manage them without medication. Archivos Argentinos de Pediatria, 120(5), 346–353.

Torres, A. M. (2019). Final master's thesis A comparison of respiratory therapy among VLBW infants in Kaunas NICU 2005 and 2015 Kaunas 2019.

Torró-Ferrero, G., Fernández-Rego, F. J., & Gómez-Conesa, A. (2021). Physical therapy to prevent osteopenia in preterm infants: A systematic review. Children, 8(8), 1–18.

Tunçalp, Pena-Rosas, J. P., Lawrie, T., Bucagu, M., Oladapo, O. T., Portela, A., & Metin Gülmezoglu, A. (2017). WHO recommendations on antenatal care for a positive pregnancy experience—going beyond survival. BJOG: *An International Journal of Obstetrics and Gynaecology,* 124(6), 860–862

Urmila K. V.,.Ravikumar, and Usha Karunakaran. (2018) Study to assess the Knowledge, attitude and practice of Kangaroo mother care among postnatal mothers in a tertiary care centre of North Kerala,

india. *international journal of contemporary pediatrics,* 5(3):992-99.

Van Bel F., Vaes J., Groenendaal F. (2019). Prevention, Reduction, and Repair of Brain Injury of the Preterm Infant. Front. Physiol. 10, 181. doi:10.3389/Phys.2019.00181

Van den Hoogen, A., Teunis, C. J., Shellhaas, R. A., Pillen, S., Benders, M., & Dudink, J. (2017). How to improve sleep in a neonatal intensive care unit: a Bhattacharjee, E., & Maitra, A. (2021). Spontaneous preterm birth: the underpinnings in the maternal and fetal genomes. *Npj Genomic Medicine,* 6(1), 1–6.

Vink, J., & Gyamfi-Bannerman, C. (2017). Current preterm birth prevention strategies. *Seminars in perinatology,* 41(7), 385–386.

Waitzman NJ, Jalali A, Grosse SD . (2021) . Preterm birth lifetime costs in the United States in 2016: An update. *Semin Perinatol.* Apr;45(3):151390.

References

Wassie, A. Y. (2020). Knowledge , Attitude , and Associated Factors towards Colostrum Feeding among Antenatal Care Attendant Mothers in Gununo Health Centre , Wolaita Zone , Ethiopia 2019 : Cross-Sectional Study. 2020.

White-Traut, R., Rankin, K., Fabiyi, C., Liu, L., Cheung, I., & Norr, K. (2017). Maternal Characteristics Associated With Social Support in At-Risk Mothers of Premature Infants. JOGNN - *Journal of Obstetric, Gynecologic, and Neonatal Nursing*, 46(6), 824–833.

WHO (2021) Vaccines and Immunization. Available online: Vaccines and immunization of Preterm birth. Available online: https://www.who.int/news-room/fact-sheets/detail/preterm-birth

WHO. (2022) Pre-term Birth. Quick Hits in Obstetric Anesthesia, November, 209–219. https://doi.org/10.1007/978-3-030-72487-0_33

Wilde, B. B., & Park, D. J. (2019). Immunizations. Primary Care: Clinics in Office Practice, 46(1), 53-68. at EKB.

Willacy, H. (2022). Antepartum Haemorrhage. *British Medical Journal*, 1(5293), 1698.

Wong, A. R. J., & Bhutani, V. K. (2022). Patient education : Jaundice in newborn infants (Beyond the Basics), 9 (3): 2515-9615.

Yulia, D. E., & Soeharto, D. A. (2022). One year follow-up of intravitreal bevacizumab injection in Aggressive Retinopathy of Prematurity at Indonesian national referral hospital: Case series. *Annals of Medicine and Surgery,* 84(September), 104853

Zainal, H., Dahlui, M., Soelar, S. A., & Su, T. T. (2019). Cost of preterm birth during initial hospitalization : A care provider ’ s perspective.. *journal.pone.*0211997. PLoS One. 2019;14(6):e02.

Appendices

Appendix (A1): Administrative Arrangements

University of Babylon
College of Nursing
Research Ethics Committee
Issue No:
Date: / 2 /2023

جـــامـعة بـــابـــل
كـــلية التمريـض
لجنة اخلاقيات البحث العلمي

Approval Letter

To, بتول يحيى عبد مسير

The Research Ethics committee at the **University of Babylon, College of Nursing** has reviewed and discussed your application to conduct the research study entitled **" Mothers' knowledge and attitudes toward the Essential Care of their Preterm Neonates Post Discharge from Hospital".**

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. Shatha Saadi Mohammed
Chair Committee
College of Nursing
Research Ethical Committee
/ 2 /2023

UNIVERSITY OF BABYLON - FACULTY OF NURSING

Appendix(A2): Administrative Arrangements

وزارة التعليم العالي والبحث العلمي
جمهورية العراق
Ministry of Higher Education and Scientific Research
جامعة بابل
University of Babylon
كلية التمريض
College of Nursing
شعبة الدراسات العليا

العدد : ٤٧٩
التاريخ : ٥ / ٢ / ٢٠٢٣

Ref. No. :
Date: /

الى / دائرة صحة الديوانية / مركز التدريب والتطوير

م/ تسهيل مهمة

تحية طيبة :

يطيب لنا حسن التواصل معكم ويرجى تفضلكم بتسهيل مهمة طالبة الماجستير (بتول يحيى عبد مسير) لغرض جمع عينة دراسة الماجستير والخاصة بالبحث الموسوم :

معارف الامهات واتجاهاتهن نحو الرعاية الاساسية لحديثي الولادة الخديج بعد الخروج من المستشفى .

Mothers' Knowledge and Attitudes toward the Essential Care of their Preterm Neonates Post Discharge from Hospital.

مع الاحترام ...

ا. د. نهاد محمد قاسم
معاون العميد للشؤون العلمية والدراسات العليا
٢٠٢٣/٢/٥

المرافقات //
- بروتوكول.
- استبانة.

الدكتور
اسامة عبد الرضا العبادي
مدير قسم الامور الفنية

صورة عنه الى //
- مكتب السيد العميد للتفضل بالاطلاع مع الاحترام .
- شعبة الدراسات العليا
- الصادرة .

E-mail:nursing@uobabylon.edu.iq
STARS
وطني 07711632208
المكتب 009647711632208
www.uobabylon.edu.iq

Appendix(A3): Administrative Arrangements

جمهورية العراق
محافظة الديوانية
دائرة صحة الديوانية
قسم التدريب التنمية البشرية
العدد / ٥٥٥
التاريخ / ٩ / ٤ /٢٠٢٣

وزارة الصحة العراقية
مركز التدريب والتطوير
Iraqi Ministry of Health
Training & Dev. Center

قسم التدريب والتنمية البشرية
الصادرة
العدد/
التاريخ / /

إلى / مستشفى النسائية والاطفال
مستشفى الحسين(ع) للاطفال

م / تسهيل مهمة بحثية

تحديكم أطيب التحياة...

كتاب جامعة بابل / كلية التمريض المرقم٤٧٩ في ٢٠٢٣/٢/٥ ،المتضمن تسهيل مهمة طالبة الماجستير (بتول يحيى عبد مسير) ،الغرض جمع العينة البحثية في مستشفاكم ببحثها الموسوم:-

Mothers' knowledge and attitudes toward the essential care of their preterm neonates post discharge from hospital.

لامانع لدينا من اجراء بحثها على ان لا تتحمل مؤسستكم اي تبعات مالية او قانونية من جراء البحث

مـــع الاحترام

المرفقات/ كتاب جامعة بابل / كلية التمريض المرقم ٤٧٩ في ٢٠٢٢/٢/٥
استمارة المعلومات البحثية + اقرار بحث

الطبيب الاختصاص
يحيى فالح محمد
مدير قسم التدريب والتنمية البشرية
٢٠٢٣/

نسخة منه إلى//
قسم التدريب والتنمية البشرية / شعبة ادارة المعرفة والبحوث

Appendix(A4): Administrative Arrangements

جمهورية العراق
محافظة الديوانية
دائرة صحة الديوانية
قسم التدريب التنمية البشرية
العدد / ٥٥
التاريخ / ٩ / ٢٠٢٣

وزارة الصحة العراقية
مركز التدريب والتطوير
Iraqi Ministry of Health
Training & Dev. Center

قسم التدريب والتنمية البشرية
الصادرة
العدد/
التاريخ / /

إلى / مستشفى النسائية والاطفال
مستشفى الحسين(ع) للاطفال

م / تسهيل مهمة بحثية

تحياتي أطيب التحيات...

كتاب جامعة بابل / كلية التمريض المرقم٤٧٩ في ٢٠٢٣/٢/٥ ،المتضمن تسهيل مهمة طالبة الماجستير (بتول يحيى عبد مسير) ،لغرض جمع العينة البحثية في مستشفاكم ببحثها الموسوم:-

Mothers' knowledge and attitudes toward the essential care of their preterm neonates post discharge from hospital.

لامانع لدينا من اجراء بحثها على ان لا تتحمل مؤسستكم اي تبعات مالية او قانونية من جراء البحث

مـــع الاحترام

المرفقات/ كتاب جامعة بابل / كلية التمريض المرقم ٤٧٩ في ٢٠٢٢/٢/٥
استمارة المعلومات البحثية + اقرار بحث

الطبيب الاختصاص
يحيى فالح محمد
المدير العام لقسم التدريب والتنمية البشرية
٢٠٢٣/

الطبيب الاختصاص
مدير مركز تدريب والتطوير الديوانية

نسخة منه إلى//
قسم التدريب والتنمية البشرية / شعبة ادارة المعرفة والبحوث

Appendix(A5): Administrative Arrangements

وزارة الصحة
دائرة صحة الديوانية
قسم التدريب والتنمية البشرية
شعبة ادارة المعرفة والبحوث
قرار لجنة البحوث

وزارة الصحة العراقية

استمارة رقم ٠١ / ٢٠٢١

رقم القرار:٩

تاريخ القرار :٩/٨/٢٠٢٣

دائرة صحة الديوانية
قسم التدريب والتنمية البشرية
الصادرة
العدد/
التاريخ

قرار لجنة اخلاقيات البحث العلمي

درست لجنة البحوث في دائرة صحة الديوانية مشروع البحث المقدم من قبل السيد الباحثة (بتول يحيى عبد مسير) طالبة الماجستير في جامعة بابل / كلية التمريض ، لغرض اجراء اكمال الجانب العملي في البحث ، علماً ان عنوان البحث.

Mothers' Knowledge and Attitudes toward the Essential care of their Preterm Neonates Post Discharge from Hospital

والمقدم من قبل الباحثة الى قسم التدريب والتنمية البشرية شعبة ادارة المعرفة والبحوث / لجنة البحوث في دائرة صحة الديوانية بكتاب جامعة بابل / كلية التمريض العزيز ٤٢٣ في ٢٠٢٣/٢/٥ قررت اللجنة :-

قبول مشروع البحث اعلاه كونه مستوفياً للمعايير المعتمدة في وزارة الصحة والخاصة بتنفيذ البحوث ولا مانع لدينا من تنفيذه .

-تعديلات وملاحظات لجنة البحوث / لايوجد

البحث مستوفي الشروط العلمية ومطابق لأخلاقيات البحث العلمي ولامانع لدينا من أجراء البحث في (مستشفى النسائية والاطفال ، مستشفى الحسين ع للاطفال)

رئيس لجنة البحوث

الطبيب الاختصاص/ د.يحيى فالح محمد

٢٠٢٣ /٨/٩

الطبيب الاختصاص
يحيى فالح محمد
مدير مركز تدريب وتطوير الادارة

دائرة صحة الديوانية
قسم التدريب والتنمية البشرية
لجنة البحوث

Appendix(B): Questionnaire

صفحة موافقة المبحوث

عزيزتي الام

بين يديك استبانة لدراسة :

" معارف واتجاهات الامهات للرعاية الاساسية لاطفالهن حديثي الولادة المبتسرين بعد مغادرة المستشفى "

Mothers' Knowledge and Attitudes Toward Essential Care of their Preterm Neonates Post Hospital Discharge.

لذا يرجى تفضلكم بملئ المعلومات المتعلقة بالبحث اعلاه ، واود اعلام حضراتكم بان المعلومات التي ستدلون بها في غاية السرية ، وفقط لاغراض البحث العلمي خدمة للصالح العام .

توافق بالمشاركة

نعم ☐

لا ☐

الباحثة :

بتول يحيى عبد

ماجستير تمريض اطفال

كلية التمريض / جامعة بابل

Appendix(B): English Questionnaire

Part I: Sociodemographic Characteristics of the mothers

1. Age of Mother: **years**

2. level of Educational :

Not read and write ☐ Read and write ☐ Graduation of Primary school ☐ Graduation of secondary school ☐ Graduation of institute and above☐

3. Occupation:

Housewife ☐ Employee☐

4 .Number of children:

1 child ☐ 2 children ☐ 3 children ☐ 4 and more☐

5 .Residence:

Rural☐ Urban☐

6. Type of delivery:

Normal delivery ☐ Cesarean section☐

7. Gestational age:

Less than 28 weeks ☐ (28 to <32) weeks ☐ (32 to<37) week ☐

8. Monthly income:

Sufficient ☐ Sufficient to some extent☐ In-sufficient ☐

9. Do you have information about preterm neonate care post hospital discharge?

Yes ☐ No☐

If yes, what Source of information about preterm neonate care post hospital discharge?

Family members ☐ Internet ☐ Media ☐ Doctor ☐ Nurse☐

Part II: Mothers' Knowledge about preterm neonates post hospital discharge

Section A: Mothers' Knowledge toward Feeding of preterm neonates

No.	item	I know	I'm not sure	I don't know
1.	Colostrum has many benefits for your neonate immune system.			
2.	Breastfeeding absorbs faster than bottle-feeding.			
3.	Most neonates with jaundice can continue breastfeeding.			
4.	Preterm neonates who breastfeed may need iron and vitamin supplements.			
5.	Keeping the neonate upright for 20 to 30 minutes after feeding will give the neonate's tummy time to settle and reduce feeding intolerance.			
6.	Breastfeed successfully every (2-3) hours a day.			
7.	You can express breastmilk for preterm by tube or bottle.			
8.	You know, should maintain sufficient feeding.			
9.	Breast milk is considered a natural laxative.			
10.	Breastfeeding helps the uterus return to its normal position.			

11.	Breastfeeding strengthens the bond between mother and neonate.			

Section B: Mothers' Knowledge toward care affecting of preterm neonates

NO.	item	I know	I'm not sure	I don't know
1.	Wash hands with soap and water to prevent transmission of infection to preterm.			
2.	Eye protection is important during phototherapy.			
3.	Vaccination of Preterm neonates according to the recommended schedule.			
4.	Giving vaccines to the neonate after birth to prevent diseases.			
5.	Jaundice is a significant health problem that affects the brain.			
6.	Phototherapy is the most common treatment for jaundice in neonates.			
7.	Jaundice in the child needs to be followed up in the Hospital.			
8.	The average normal body temperature of a neonate is 37°C.			
9.	The diaper is placed below the cord to prevent irritation.			
10.	Taking care of the preterm umbilical cord during its first days.			
11.	Redness of the navel and the surrounding skin and pus are signs of skin infection in the child.			
12.	Clean your hands before you touch the preterm cord area.			

13.	Clean discharge around the cord with a cotton swab dipped in tap water and then a dry cotton swab.			
14.	Keep the stump dry, and let the stump fall off on its own.			
15.	Bathing is an essential and convenient way to prepare a preterm for sleep.			

Part III: Mother's Attitudes about preterm neonates post hospital discharge

No.	item	Agree	Neutral	Disagree
1.	I want to adhere to the crucial recommendations and instructions for raising neonate care.			
2.	attending health education programs is essential for the care of preterm neonates.			
3.	I prefer to visit the primary care center regularly to follow up health state of my preterm.			
4.	I think a fever is a body temperature of more than 38°c .			
5.	I want to breastfeed because breast milk contains hormones, nutrients, and growth factors that help preterm neonates grow and develop.			
6.	I prefer to keep my breast clean constantly because it reduces infection for me and my neonate.			
7.	I think good breastfeeding helps to gain my preterm weight.			
8.	I want to breastfeed because it reduces jaundice in my preterm.			
9.	I think washing the feeding bottle with boiling water after each feed is necessary.			

10.	I prefer breastfeeding because it is easier to digest and absorb than bottle feeding.			
11.	I want to breastfeed because it provides preterm with immune bodies that reduce infection.			
12.	I want to take plenty of rest between feedings.			
13.	I believe my neonate must attend vaccination in the first month after leaving the Hospital.			
14.	I prefer to adhere to the vaccine schedule in the primary care center.			
15.	I think it's necessary to keep my preterm warm after the bath.			
16.	I feel that hand washing is very important when I take care of a preterm.			
17.	I prefer to show love to my preterm by touching, embracing, and hugging him.			
18.	I want to give my preterm enough time to sleep and only wake him to feed.			
19.	I think signs of inflammation or jaundice need to be reviewed by the nearest hospital.			

Appendix(B): Arabic Questionnaire

جزء الأول : الخصائص الاجتماعية الديموغرافية للام

١ : عمر الام ☐ **بالسنوات**

٢: المستوى التعليمي

☐ لا تقرا ولا تكتب ☐ تقرا وتكتب ☐ تخرجت من الابتدائيه

☐ تخرجت من الثانويه ☐ تخرجت من المعهد فما فوق

٣:المهنة

☐ربة بيت ☐ موظفه

٤:عدد الأطفال

☐طفل واحد ☐ ٢ اطفال ☐ ٣ اطفال ☐ ٤ اطفال فما فوق

٥: السكن

☐الريف ☐ المدينه

٦: نوع الولادة

☐ الولادة الطبيعية ☐ الولادة القيصرية

٧ :مدة الحمل

☐أقل من ٢٨ أسبوعًا ☐ من ٢٨الى اقل من٣٢ أسبوعا ☐ من٣٢ الى اقل من٣٧ اسبوعا

٨:الدخل الشهري للأسرة

☐يكفي ☐ يكفي الى حد ما ☐ لايكفي

٩ :هل لديك معلومات حول الرعايه المبكره لحديثي الولادة المبتسرين بعد مغادرة المستشفى؟

☐ نعم ☐ لا

اذا كانت الاجابه بنعم , ما مصدر المعلومات حول الرعايه المبكره لحديثي الولادة المبتسرين بعد مغادرة المستشفى؟

☐افراد الاسره ☐ الانترنيت ☐ وسائل الاعلام ☐ الطبيب ☐ الممرض

الجزء الثاني : معارف الأمهات لحديثي الولادة المبتسرين بعد مغادرة المستشفى

القسم أ : معارف الأمهات اتجاه التغذية لحديثي الولادة المبتسرين بعد مغادرة المستشفى

الرقم.	الفقرة	نعم أعرف	لست متاكدة	لا أعرف
١	يحتوي اللبأ على العديد من الفوائد لجهاز المناعة عند حديثي الولادة.			
٢	الرضاعه الطبيعيه اسرع امتصاصا من الرضاعه الاصطناعيه .			
٣	يمكن لمعظم حديثي الولادة المصابين باليرقان الاستمرار في الرضاعه الطبيعية.			
٤	يحتاج حديثي الولادة المبتسرين الذين يرضعون رضاعة طبيعية إلى مكملات الحديد والفيتامينات.			
٥	إن إبقاء المولود في وضع مستقيم لمدة 20 إلى 30 دقيقة بعد الرضاعة سيعطي بطن حديثي الولادة وقتًا للاستقرار وتقليل عدم تحمل التغذية.			
٦	ترضع بنجاح كل (٢-٣) ساعات يوميا.		.	
٧	يمكنك شفط لبن الأم لحديثي الولادة المبتسرين عن طريق الأنبوب أو الزجاجة.			
٨	يجب الحفاظ على التغذيه الكافيه للحديثي الولادة المبتسرين.			
٩	يعتبر حليب الام ملينا طبيعيا.			
١٠	الرضاعه الطبيعيه تساعد في رجوع الرحم الى وضعه الطبيعي .			
١١	الرضاعه الطبيعيه تقوي العلاقه بين الام وحديثي الولادة .			

القسم ب: معارف الأمهات حول الرعاية لحديثي الولادة المبتسرين بعد مغادرة المستشفى

الرقم	الفقره	نعم أعرف	لست متاكدة	لا أعرف
١	غسل اليدين بالماء والصابون لمنع انتقال العدوى لحديثي الولادة المبتسرين.			
٢	حماية العين مهمة أثناء العلاج بالضوء.			
٣	تطعيم حديثي الولادة المبتسرين وفقا للجدول الزمني الموصي بها.			
٤	اعطاء اللقاحات لحديثي الولادة المبتسرين بعد الولادة للوقاية من الأمراض.			
٥	اليرقان مشكلة صحية خطيرة تؤثر على الدماغ.			
٦	العلاج بالضوء هو العلاج الأكثر شيوعًا لليرقان عند الحديثي الولادة.			
٧	اصابه حديثي الولادة باليرقان تحتاج الى المتابعه في المستشفى.			
٨	متوسط درجه حراره الجسم الطبيعيه لحديثي الولاة المبتسرين هو ٣٧ درجة سيليزية.			
٩	توضع الحفاضه تحت الحبل السري لمنع التهيج.			
١٠	الاعتناء بالحبل السري لحديثي الولادة المبتسرين خلال ايامه الاولى.			
١١	احمرار السرة والجلد المحيط بها والقيح من علامات التهابات الجلديه لحديثي الولادة .			
١٢	تنظيف اليدين قبل لمس منطقه الحبل السري للرضيع.			
١٣	ينظف التفريغ حول الحبل السري باستخدام قطعه قطن مغموسه في ماء نظيف ثم قطعه قطن جافه .			
١٤	أحافظ على الحبل السري جافا وتركه يسقط من تلقاء نفسه.			
١٥	يعتبر الاستحمام ضروري و طريقه مريحة لتحضير حديثي الولادة المبتسرين للنوم.			

الجزء الثالث :اتجاهات الأمهات حول حديثي الولادة المبتسرين بعد مغادرة المستشفى

الرقم	الفقرة	اوافق	محايد	لا اوافق
١	ارغب باتباع النصائح والإرشادات المهمه في رعاية طفلي .			
٢	حضور برامج التثقيف الصحي اساسي لرعايه حديثي الولادة المبتسرين.			
٣	أفضل زيارة مركز الرعاية الصحية الأولية بانتظام لمتابعة الحالة الصحية لطفلي.			
٤	أعتقد أن الحمى هي درجة حرارة الجسم أكثر من 38 درجة سيليزية .			
٥	أرغب في الرضاعة الطبيعية لأن حليب الام يحتوي على الهرمونات والمواد المغذية وعوامل النمو التي تساعد حديثي الولادة المبتسرين على النمو والتطور.			
٦	أفضل الحفاظ على ثدي نظيفًا باستمرار لأنه يقلل من العدوى لي ولطفلي .			
٧	أعتقد أن الرضاعة الطبيعية الجيدة تساعد على زيادة وزن طفلي المبتسر .			
٨	أرغب بالرضاعة الطبيعية لأنها تقلل من اليرقان لدى طفلي.			
٩	أعتقد من الضروري غسل زجاجة الرضاعه بالماء المغلي بعد كل رضعه .			
١٠	أفضل الرضاعه الطبيعيه لأنه تمد الطفل باجسام مناعيه تقلل العدوى .			
١١	أرغب أن أخصص الكثير من الراحة بين الرضعات .			
١٢	افضل الرضاعه الطبيعيه لانه اسرع هضما من الرضاعه الصناعيه .			
١٣	أشعرمن الضروري حضورطفلي المبتسر للتلقيح في الشهر الأول بعد مغادرة المستشفى .			
١٤	أفضل الالتزام بجدول اللقاحات في مركز الرعايه الاوليه .			

١٥	أعتقد من الضروري بقاء حديثي الولادة دافئا بعد الاستحمام .			
١٦	أشعر أن غسل اليدين مهم جداعندما أعتني بطفل المبتسر.			
١٧	أفضل اظهارالحب لطفلي بلمسه واحتضان و معانقه .			
١٨	أرغب باعطاء طفلي المبتسر الوقت الكافي للنوم وإيقاضة فقط عند الرضاعة الطبيعية .			
١٩	أعتقد علامات التهاب أو اليرقان يحتاج إلى مراجعه أقرب مستشفى .			

Appendix(B): Questionnaire

استبانة الخبراء والمحكمين

بسم الله الرحمن الرحيم

السيد/ة الخبير المحترم

تحيه طيبه .....

نظرا لما تمتلكه من خلفيه ومكانه علميه وخبرة عمليه في مجال اختصاصك يرجى التفضل بمراجعه ورقة الاستبانة المرفقه والخاصه برساله الماجستير الموسومه :

(Mothers' Knowledge and Attitudes Toward Essential Care of their Preterm Neonates Post Hospital Discharge)

(معارف واتجاهات الامهات للرعاية الاساسية لاطفالهن حديثي الولادة المبتسرين بعد مغادرة المستشفى)

Objectives of the study

1. To assess mothers' knowledge and attitudes toward Essential care of their preterm neonates post hospital discharge.

2. To find out the differences between sociodemographic characteristics with the knowledge and attitudes of mothers with their preterm neonates post hospital discharge.

ولكم فائق الشكر والاحترام

اسم الخبير..... **الباحث : بتول يحيى عبد مسير**

اللقب العلمي ..... **ماجستير تمريض اطفال**

مكان العمل ..... **اشراف: ا.م.د وفاء احمد امين**

سنوات الخبرة ..... **جامعه بابل /كليه التمريض**

التوقيع .....

Appendix (C)

خبراء تحكيم استمارة الاستبانة

ت	اسم الخبير	اللقب العلمي	مكان العمل	الاختصاص	سنوات الخبرة
١	د.عبدالمهدي عبدالرضا حسن	استاذ	كليه التمريض/جامعه بابل	تمريض الصحه النفسيه والعقليه	٤٣
٢	د.عفيفه رضا عزيز	استاذ	كليه التمريض /جامعه بغداد	تمريض اطفال	٤١
٣	د.سلمى كاظم جهاد	استاذ	كليه التمريض /جامعه بابل	تمريض صحه الاسره والمجتمع	٤٠
٤	د.امين عجيل ياسر	استاذ	كليه التمريض /جامعه بابل	تمريض صحه الاسره والمجتمع	٣٨
٥	د.يحيى عبدالشهيد عبدالله	استاذ	كليه الطب/ جامعه بابل	طب اطفال	٣٧
٦	د.نهاد محمد قاسم	استاذ	كليه التمريض /جامعه بابل	تمريض اطفال	٣٥
٧	د.مضر حسن نور الاعرجي	استاذ	كليه الطب / جامعه بابل	دكتوراه طب اطفال	٣١
٨	د.ختام مطشر حطاب	استاذ	كليه التمريض / جامعه بغداد	تمريض اطفال	٢٤
٩	د.خميس بندر عبيد	استاذ	كليه التمريض / جامعه كربلاء	تمريض اطفال	٢٤
١٠	د.سجال فاضل فرهود	استاذ	كليه الطب / جامعه بابل	طب الاسرة والمجتمع	٢٠
١١	د.محمد باقر حسن	استاذ مساعد	كليه التمريض / جامعه كوفه	تمريض اطفال	١٨
١٢	د.احمد عبدالله عبد	استاذ مساعد	كليه التمريض / جامعه ذي قار	تمريض اطفال	١٣

١٣	د.رضا محمد لفتة	استاذ مساعد	كليه التمريض / جامعه العميد	تمريض اطفال	٧
١٤	د.ساجده خميس عبدالله	مدرس	كليه التمريض / جامعه القادسيه	تمريض صحه الاسره والمجتمع	٣٣
١٥	د.ساجدة سعدون عليوي	مدرس	كليه التمريض / جامعة الكربلاء	تمريض نسائية	٢٩
١٦	د.محمد طالب عبد حمادي	مدرس	كليه التمريض / جامعه بابل	تمريض صحه الاسرة والمجتمع	١٠
١٧	د.وسام خالد السمرمد	طبيب اختصاص	مستشفى كربلاء التعليمي للاطفال	بورد حديثي الولادة واطفال الخدج	١٨
١٨	د.رائد خضير البديري	طبيب اختصاص	مستشفى النسائيه والاطفال التعليمي في الديوانيه	بورد اطفال	١١
١٩	د. سارة مجيد كريم	طبيب اختصاص	مستشفى النسائيه والاطفال التعليمي في الديوانيه	بورد نسائيه والتوليد	٧

Appendix (D1):

Ministry of Higher Education and Scientific Research
University of Babylon
College of Nursing

جمهورية العراق
وزارة التعليم العالي والبحث العلمي
جامعة بابل
كلية التمريض
شعبة الدراسات العليا

Ref. No. :
Date: / /

العدد : ٢٤١٣
التاريخ : ٢١ / ٦ / ٢٠٢٣

الى / جامعة بابل – كلية التربية الاساسية –قسم اللغة الانكليزية
م/ مقوم لغوي

تحية طيبة :

يرجى التفضل بتقويم رسالة الماجستير للطالبة (بتول يحيى عبد) والموسومة ب:

معارف الامهات واتجاهاتهن نحو الرعاية الاساسية لحديثي الولادة الخديج بعد الخروج من المستشفى .

Mothers' Knowledge and Attitudes toward the Essential Care of their Preterm Neonates Post Discharge from Hospital.

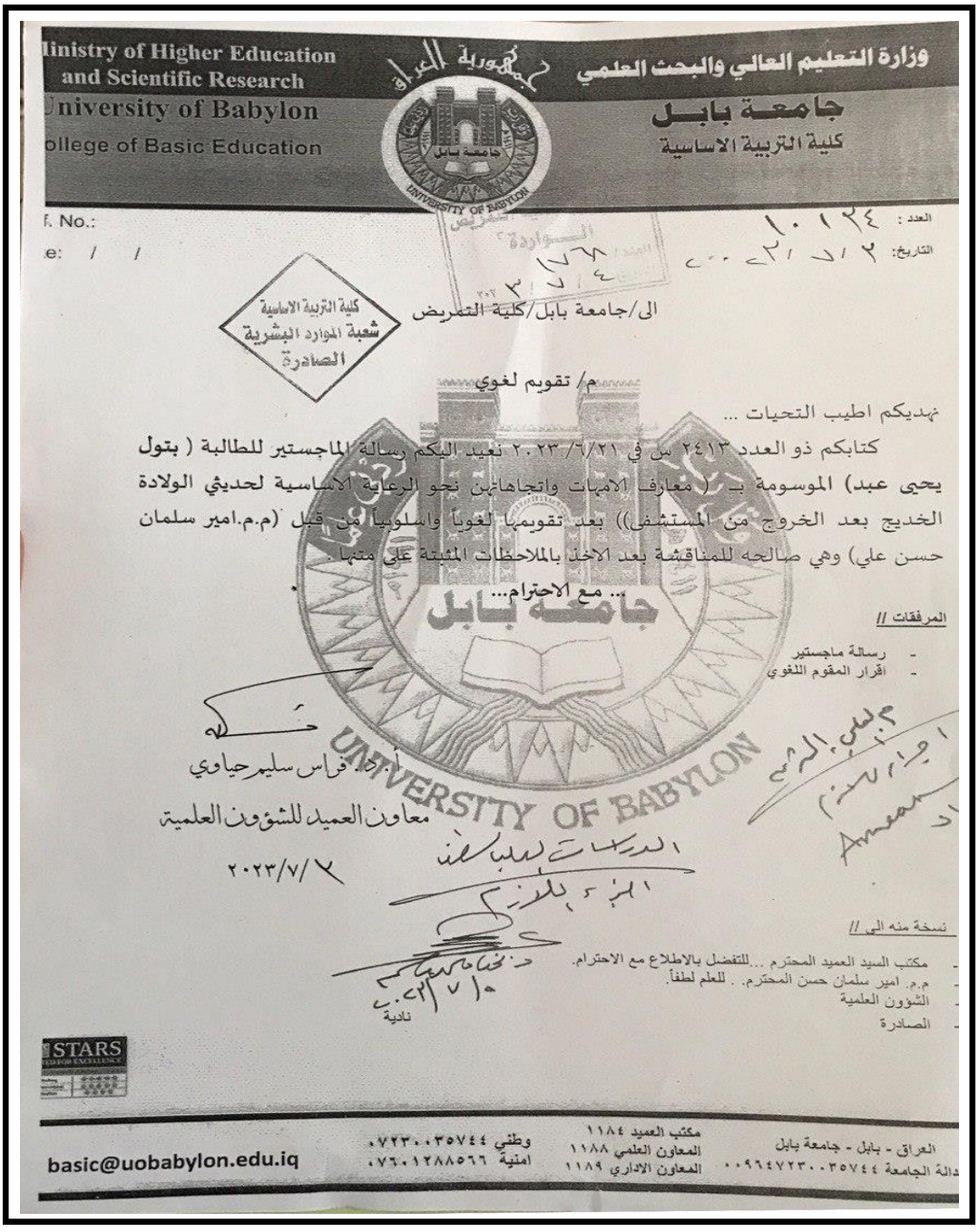
... مع الاحترام ...

ا. د. نهاد محمد قاسم
معاون العميد للشؤون العلمية والدراسات العليا
٢٠٢٣/٦/٢١

نسخة منه الى//
-مكتب السيد العميد... للتفضل بالاطلاع مع الاحترام.
-مكتب السيد معاون العميد للشؤون العلمية...للتفضل بالاطلاع مع الاحترام.
- شعبة الدراسات العليا مع الاوليات.
-الصادرة .

E-mail:nursing@uobabylon.edu.iq
وطني 07711632208
المكتب 009647711632208
www.uobabylon.edu.iq

Appendix (D2):



وزارة التعليم العالي والبحث العلمي
جامعة بابل
كلية التربية الاساسية

Ministry of Higher Education and Scientific Research
University of Babylon
College of Basic Education

جمهورية العراق

F. No.:
Date: / /

العدد : ١٠١٢٤
التاريخ: ٢ / ٧ / ٢٠٢٣

كلية التربية الاساسية
شعبة الموارد البشرية
الصادرة

الى/جامعة بابل/كلية التمريض

م/ تقويم لغوي

نهديكم اطيب التحيات ...

كتابكم ذو العدد ٢٤١٣ س في ٢٠٢٣/٦/٢١ نعيد اليكم رسالة الماجستير للطالبة (**بتول يحيى عبد**) الموسومة بـ (معارف الامهات واتجاهاتهن نحو الرعاية الاساسية لحديثي الولادة الخديج بعد الخروج من المستشفى)) بعد تقويمها لغويا واسلوبيا من قبل (م.م.امير سلمان حسن علي) وهي صالحه للمناقشة بعد الاخذ بالملاحظات المثبتة على متنها .

... مع الاحترام...

جامعة بابل

UNIVERSITY OF BABYLON

المرفقات //
- رسالة ماجستير
- اقرار المقوم اللغوي

أ.د. فراس سليم حياوي
معاون العميد للشؤون العلمية
٢٠٢٣/٧/٢

نسخة منه الى //
- مكتب السيد العميد المحترم ...للتفضل بالاطلاع مع الاحترام.
- م.م. امير سلمان حسن المحترم. . للعلم لطفاً.
- الشؤون العلمية
- الصادرة

نادية

STARS

basic@uobabylon.edu.iq
وطني ٠٧٢٣٠٠٣٥٧٤٤
امنية ٠٧٦٠١٢٨٨٥٦٦
مكتب العميد ١١٨٤
المعاون العلمي ١١٨٨
المعاون الاداري ١١٨٩
العراق - بابل - جامعة بابل
دالة الجامعة ٠٠٩٦٤٧٢٣٠٠٣٥٧٤٤

المستخلص

تعد الولادات قبل الاوان من المشاكل الخطيرة بين النساء حيث شملت عالميا ٥ إلى ١٨٪ من النساء الحوامل قد تعرضن الى ذلك , الولادة قبل الاوان تعني ولادة الاطفال الاحياء لعمر يقل عن ٣٧ اسبوع من الحمل والذي يعد السبب الثاني الشائع الذي يعود الى ارتفاع نسبة المراضة والوفيات بين هولاء الاطفال. تهدف الدراسة إلى تقييم معارف واتجاهات الامهات للرعاية الاساسية لاطفالهن حديثي الولادة المبتسرين بعد مغادرة المستشفى.

اعتمدت الدراسة التصميم الوصفي المقطعي لتحقيق اهداف الدراسة تم اختيار مركزمحافظة الديوانية لتنفيذ مجريات الدراسة حيث تم اختيار مستشفى النسائيه والأطفال التعليمي في الديوانية ومستشفى الحسين (ع) للأطفال, تم اختيارعينة عرضية غير احتمالية حيث بلغت عدد العينه ١٢٠ ام لاطفال مولودين قبل الاوان. قام الباحث ببناء استمارة استبيانية بالاعتماد على الادبيات ودراسات السابقة بما يتلائم ويحقق اهداف البحث القائم . يتكون الاستبيان من ثلاثة أجزاء : يتضمن الجزء الأول من معلومات اجتماعية وديموغرافية للأم. ويتضمن الجزء الثاني قسمين يتناولان معرفة الأمهات بالأطفال المبتسرين بعد مغادرة المستشفى. أ: معرفة الأمهات بالتغذية لحديثي الولادة المبتسرين. ب: معرفة الأمهات بالرعاية لحديثي الولادة المبتسرين. يتضمن الجزء الثالث اتجاهات الأمهات بعد مغادرة المستشفى . تم جمع البيانات من فترة العاشر من الشباط لغاية الخامس عشر من اذاروتم تحليلها باستخدام الأساليب الإحصائية الوصفية والاستنتاجية.

أشارت نتائج الدراسة إلى ان الامهات لديهن معرفة جيده حول الرعاية الاساسية لاطفالهن حديثي الولادة المبتسرين بعد مغادرة المستشفى (٧٩٪) ,(٧٥٪) من الامهات لديهن معرفه جيدة من حيث التغذية ,(٦٨,٣ %) معرفة جيدة من حيث الرعاية وحوالي (٧٤,٢٪) كان لديهن اتجاهات إيجابية حول الرعاية الاساسية لحديثي الولادة المبتسرين بعد مغادرة المستشفى.

استنتجت الدراسة أن معارف الأمهات حول الرعاية لحديثي الولادة المبتسرين ليست في المستوى الأمثل ، قد يرجع ذلك إلى إعادة الدخول إلى المستشفى كانت هناك اختلافات كبيرة في المعارف فيما يتعلق بعمر الأم والتعليم ومهنة وسكن و كذلك لديهن الاتجاهات الإيجابية بسبب المهنة والسكن ومصدر المعلومات وتأثرهن بها .أوصت الدراسة بان يجب توزيع كتيب عن الرعاية الأساسية المتعلقة لحديثي الولادة من المبتسرين بعد مغادرة المستشفى وكيفية علاج المشاكل بكلمات بسيطة واستخدام صور ذات مغزى تعطى مفهوم واضح للامها

جمهورية العراق
وزارة التعليم العالي والبحث العلمي
جامعة بابل / كلية التمريض

معارف واتجاهات الامهات للرعاية الاساسية لاطفالهن حديثي الولادة المبتسرين بعد مغادرة المستشفى

رسالة مقدمة

من قبل

بتـــول يحيـــى عـــبـد

الى مجلس جامعة بابل / كلية التمريض / تمريض صحة الطفل

كجزء من متطلبات نيل درجة الماجستير في علوم التمريض

إشـــراف

ا. م. د. وفـــاء احمـــد اميـــن

ربيع الاول / ١٤٤٥ هجرية تشرين الاول / ٢٠٢٣ ميلادية