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Knowledge and Attitudes of Mothers Towards Feeding Infants and Young Children

A Thesis submitted

By

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Supervised by

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﴿ وَالْوَالِدَاتُ يُرْضِعْنَ أَوْلَادَهُنَّ حَوْلَيْنِ كَامِلَيْنِ ﴾

صدق الله العظيم

سورة البقرة آية (233)

Dedication

To my father's soul

In God's mercy

To My Mother

For priceless, who taught me to trust in Allah and support me with her wisdom, no matter how much I tried, and whatever I tried to offer you, I will not give you your right, so accept my love and respect.

To the souls of my martyred brothers

In God's mercy

To My Husband

Who supported me throughout my studies

To My Sister

When my hope is lost ,I come to you. I want these moments last forever . you are my precious one.

To my dear friends with respect

Zainab

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To bless them all.

Abstract

Improving infant and young child feeding in children under the age of five is critical to improving their nutritional status, health and development, and ultimately impacting child survival. Therefore, the study aims to assess the knowledge and attitudes of mothers towards feeding infants and young children; and identify the socio-demographic variables associated with them .

A descriptive study was conducted in Babylon Governmental at two Primary Health Care Sectors. These sectors include (Hilla First and Second), from 19 October 2021 to 2 May 2022. The study sample consists of 300(mothers) using the non-probability sampling method. The questionnaire was presented to experts to prove its validity then reliable by a pilot study. The total number of items included in the questionnaire was 20 items for knowledge and 26 items for attitudes. The data was collected using the personal interview method and analyzed using the descriptive and inferential approach to statistical data analysis

The results of the study indicated that (50.3%) of the mothers showed poor knowledge and (45.3%) neutral attitudes towards infant and young child feeding. There were differences in knowledge regarding maternal age ($p = 0.000$), educational level ($p = 0.000$), number of children ($p = 0.000$), housing ($p = 0.005$) and sources of information ($p = 0.011$); With significant differences in attitudes towards mothers according to their residence ($p = 0.041$) there was a significant positive correlation between mothers' knowledge and their attitudes ($p = 0.118; p = 0.041$).

The study concluded that there is a positive, statistically significant relationship between mothers' knowledge and attitudes. The study adds knowledge related to health education. Further study is needed to explore other factors related to mothers' knowledge and attitudes in children nutrition to prevent malnutrition and associated factors to reduce hospital burden.

Table of Contents

List of Tables

List of Figures

List of Abbreviations

Item	Full Term
AAP	American Academy of Pediatrics
ABMPC	Academy of Breastfeeding Medicine Protocol Committee
CDC	Centers for Disease Control and Prevention
COVID-19	Corona Virus Disease 19
CSA	Central Statistical Agency
D.f	Degree of freedom
EBF	Exclusive breastfeeding
F	Frequency
GDHS	Ghana Demographic and Health Survey
HIV	Human immunodeficiency virus
HS	Highly significant
HTLV	Human T-lymph trophic virus
IYCF	Infant and young child feeding
PHC	Primary health center
C-Section	Caesarean
CFS	Complementary Nutritional Supplements
K	Number of items
M.S	Mean of Score
No.	Number
NS	Non Significant
P.	Page
p.p.	Pages
PSS	Post Psychosocial Support
P-value	Probability value
S	Significant

S.D	Standard Deviation
SPSS-XX	Statistical Package of Social Sciences 20
WHO	World Health Organization

Symbol table

%	Percentage
$\mathbf{E_i}$	Expected Frequency
$\mathbf{O_i}$	Observed Frequency
$\boldsymbol{\sigma_{ii}}$	Variance (not standard deviation) of Item i
$\boldsymbol{\sigma_{ij}}$	Estimated Covariance between Items i and j
$\sum$	Sum

List of Appendices

Appendix	Appendices
A1	Approval from the Research Ethical Committee at the College of Nursing/ University of Babylon
A2	Official permissions were also obtained from the Babylon Health Directorate
A3	Approval letter
A4	Research committee decision
B	Questionnaire
C	List of Experts
D	Linguistic Approval

Chapter One
Introduction

Chapter One

Introduction

1.1. Background

Infant and young child feeding (IYCF) consists of initiation of breastfeeding within first hour of birth, exclusive breastfeeding (EBF) for 6 months, a continuation of breastfeeding for up to 2 years and beyond the introduction of complementary foods, minimum dietary diversity, minimum meal frequency, minimum acceptable diet, and consumption of iron-rich or iron-fortified foods (WHO, 2020,Sanghvi et al., 2013; Das et al., 2013)

Infant and young child feeding (IYCF) has a major role in determining the nutritional status of children, maximizing the growth rate of a child at early years of life, and has great potential for reducing under-five malnutrition and thereby affecting child mortality rate (WHO, 2021).

Micronutrient deficits, poor quality supplemental foods, poor new born feeding methods, and frequent infections all led to high infant and young child mortality in Sub-Saharan Africa (Kassa et al., 2016)

Child malnutrition is a global emergency affecting every country in the world. Globally, 151 children aged 0–59 months are stunted; 51 million wasted and 38.3 million have excess weight (Fanzo et al., 2018 Mengistu et al., 2013)

Proper nutrition is required for healthy development. Malnutrition increases morbidity and mortality in early children due to inadequate nutrition and micronutrient deficiencies such as vitamin A, iron, iodine, and zinc (Berisha et al., 2017).

The act of feeding has a number of consequences for a child's nutritional health. The way a child is fed is influenced by the mother's understanding of nutritional meals for youngsters. Infants and young

children are at higher risk of malnutrition in many underdeveloped nations due to a lack of knowledge about how to feed a child (Gupta et al., 2019).

Infant and young child feeding (IYCF) practice has been poor due to poor awareness and attitudes of mothers. Poor child feeding practices, inadequate quantities, and inadequate quality of complementary foods have a severe consequence on health and growth in children less than 2 years of age (Asmare et al., 2020, Demilew et al., 2017).

A multitude of underlying reasons, such as a lack of access to health care, insufficient care and feeding practices, and a lack of awareness among children's primary care providers, can all contribute to the increased prevalence of malnutrition among children .Appropriate supplementary feeding is one of these, and it has been found to improve children's nutritional status (Saaka et al., 2016, Branca et al., 2015).

Complementary feeding knowledge may have a favourable impact on practice or may result in no change in feeding habits. When mothers were given nutritional education to improve their awareness about infant feeding in terms of variety, quantity, quality, and consistency of complementary feeding, it was discovered that 86% of complementary feeding practices were inadequate in terms of quality, quantity, frequency, and consistency (Cameron et al., 2012).

A number of factors have been noted for the less optimal rates of appropriate complementary feeding including maternal education, income levels, antenatal attendance, spouse employment status, quality of institutional healthcare delivery, women empowerment in decision making, and among others (Mulat et al., 2019).

Notable among these factors is the mothers' knowledge and attitudes regarding child feeding recommendations. There is evidence that

high knowledge is associated with improved complementary feeding practices among mothers (Gyampoh et al., 2014; Egata et al., 2013;)

Several observational studies have found that knowing a child's ideal eating habits, such as exclusive breastfeeding for six months, continuous nursing, and a timely transition to enough complementary meals, is crucial to a child's health(Mezzavilla et al., 2018).

A correlation has been found in most developing countries between breastfeeding in the first month of life and neonatal mortality (in the first month of life), as well as the fact that breastfeeding plays an essential role in lowering neonatal mortality (King et al., 2018).

1.2. Importance of Study

Nutrition is one of the most effective strategies to ensure child health, preventing 13% of deaths in children under the age of five around the world, while proper supplemental feeding techniques reduce under-five mortality by another 6% (Khan et al., 2017).

According to a recent World Health Organization research, nearly two out of every three babies are not breastfed for the recommended six months, a rate that has remained unchanged for the past two decades (WHO, 2020).

Since 2004, Ethiopian mothers' knowledge and attitudes have been used to develop and implement a guideline to enhance infant and young child feeding practice (IYCF). Only 7% of infants aged 6–24 months met all three infant and toddler eating habits, including breast-feeding status, number of food categories, and feeding times, according to the study (CSA, 2016).

Feeding is critical for optimal nutrition in infants and young children as it ensures their growth, health and development to attain their full potential. However, evidence shows that children from developing countries do not meet the core indicators for appropriate complementary

feeding due to limitation of mothers knowledge in practices of feedings (Appiah et al., 2020).

In a similar trial in southern India, moms were given advice on what complementary foods to choose and how often to feed their children. The intervention group improved feeding patterns such as avoiding bottle-feeding and increasing the variety and types of complementary foods in their diet (Phuong et al., 2014).

Improving baby and young child feeding expertise is crucial for improving child health and development outcomes in under-resourced settings .As a result, factors like as mothers' and caregivers' knowledge and attitudes about baby and young child eating at this key time are critical for the kids health ,growth ,and development (Dhami et al.,2021 .,Hackett et al .,2015)

Stunting affects 39 percent of children in Sub-Saharan Africa. According to UNICEF/WHO, 28% of children are wasting, and 24% are overweight (UNICEF/WHO, 2020). According to the Ghana Demographic and Health Survey (GDHS), 19% of Ghanaian children are stunted, 5% are wasted, 11% are underweight, and 3% are overweight, according to the 2014 Ghana Demographic and Health Survey (GDHS) (GSS, 2014).

Twenty-five percent of children under the age of five show growth stagnation that is moderate, heavy, or very short for their age, indicating chronic malnutrition as a result of chronic or recurrent disease. This low percentage does not indicate any clear issues with underdevelopment or obesity (Wijnhoven, 2015).

Adequate nutrition during infancy and early childhood is critical for children to grow, develop, and reach their full potential. Malnutrition raises the risk of sickness and is thought to be to blame for a third of the 9.5 million children under the age of five who died in 2006. Poor nutrition can also contribute to child obesity, which has become a public health issue in

many nations. Adults who were malnourished as children have been proven to have lower intellectual performance. (Kelmendi et al., 2021).

In a study of baby and young child feeding behaviours in Chibang communities in Nepal, found that just 35% knew to start nursing within one hour, and only 62% knew the exact time. 81 percent of women knew when to begin complementary feeding and the total time for 11 breastfeeding for exclusive breastfeeding. A large number of respondents were aware of starting supplemental feeding at 6 months(Sanusi et al(.2016), Chapagain (2012),Subedi et al. 2012).

1.3. Statement of problem

Knowledge and Attitudes of Mothers towards Feeding Infants and Young Children

1.4. Objectives of Study

1. To assess the mothers knowledge and attitudes towards feeding infant and young children at primary health care centers in Hill City.
2. To investigate the differences in mothers knowledge and attitudes with regards socio-demographic information.
3. To find out the association between knowledge and attitudes towards feeding infant and young children among mothers attending primary health care centers

1.5. Definition of terms

1.5.1. Knowledge of mothers

Theoretical Definition

Knowledge is defined as a person's collection of facts, knowledge, and ideas (UNICEF, 2014).

Operation Definition

The term "knowledge" refers to the facts, information of mothers under five age to 20 items of knowledge about infant and young children nutrition .

1.5.2. Attitudes of mothers

Theoretical Definition

"Non-obvious ways of thinking or feeling about something or someone" (UNICEF, 2014).

Operation Definition

The idea of attitudes refers to the study participants' views, feelings, and behaviors in respect to the topic of baby and young child nutrition.

1.6.3. Mothers

Theoretical Definition

A mother with a baby or a small child (WHO, 2010).

Operation Definition

Women attending PHC with infants/young children.

1.5.4. Infants and Young Children Feeding

Theoretical Definition

"The process of transitioning from exclusive nursing to family foods when breast milk alone is insufficient to supply the nutritional needs of newborns and continues until 24 months of age and beyond," (WHO, 2016).

Operation Definition

Defined as the process that occurs when breast milk alone is no longer sufficient to support an infant's nutritional needs, and other foods and fluids, in addition to breast milk, are required.

Chapter Two
Literature Review

Chapter Two

Literature Review

This chapter examines the literature on the subject at hand in order to assess the contribution of relevant existing literature to the subject at hand as well as any gaps in the current literature. The review will be conducted in accordance with the study's objectives.

2.1. An Feeding: Overview

It refers to the feeding of babies and small children under the age of a year. The World Health Organization recommends that neonates be breastfed exclusively until they reach the age of six months, after which they should continue to be breastfed and solid foods should be introduced gradually (Kramer & Kakuma, 2012).

This means that, except from vitamin D, no other foods or beverages are normally provided. Infant formula is a suitable substitute for breast milk in developed countries, however nursing is still encouraged (Spiro & Buttriss, 2014).

Feeding was the sole means to feed infants in primitive times, and there was no appropriate substitute for human milk for a long time. Philosophers in the year 1 AD were learning the importance of mother's milk over any replacement. Conclusion: Breastfeeding aids in the development of an emotional bond between the mother and the child (Milankov, 2018).

Although the nutritional value is still unknown, it was once thought that by feeding the infant, it not only gained energy but also acquired the characteristics and personality of the person from whom it was fed. It has been recommended that babies be breastfed for as long as possible, and many were even two or three years old when they were born (Weir et al., 2016).

Stunting affects 32 percent of children under the age of five in poor nations, or 186 million children, and wasting affects roughly 10% of children, or 55 million children. It will be impossible to fulfill Millennium Development Goal 1 (eliminate extreme poverty and hunger) and Goal 4 (lower child mortality) by 2015 unless major improvements in child nutrition are implemented (WHO, 2010).

Because a mother's knowledge of complementary feeding practices can affect a child's nutritional status, this study looked at the literature on mothers' knowledge of complementary feeding practices and maternal complementary feeding practices in terms of meal frequency, dietary diversity, and timing of complementation introduction. During supplemental feeding, foods, formulations, and hygiene are all important considerations (Browne, 2012).

2.2.Infant Feeding: An Exclusive Breast Feeding

The process of feeding an infant the mother's milk is known as breastfeeding (National Institutes of Health, 2012). Breast milk can be fed to babies straight from the mother's breast, or it can be expressed or pumped and then fed to the child. The World Health Organization recommends exclusively breastfeeding for the first six months of life (Capobianchi et al., 2015).

Breastfeeding should begin during the first hour of life, referred to as the "golden hour," and continue for at least 8-12 hours daily, or as often as the infant chooses (Wei, 2013).

Feedings can last up to 45 minutes as the infant's milk supply grows and the suck-swallow-breath rhythm is learned. The length of suckling may be decreased when the milk supply grows and the infant's sucking efficiency improves. It's possible that older kids aren't getting as much food (ABMPC, 2014).

When breastfeeding isn't an option, moms must express or express breast milk by hand for a variety of reasons, including emptying the breast to avoid milk duct obstruction and infection, preserving the milk supply, and resolving engorgement so that the newborn can be fed milk later (Berens et al., 2016).

2.2.1.Concept of Exclusive Breastfeeding

Breast milk is the only diet that properly conforms to a newborn's physiology (WHO, 2017), and it is regarded the finest food for an infant since it contains all nutrients in the proper amounts. The proper temperature, simple to digest and absorb, and simple to generate and distribute (Bode et al., 2020).

Exclusive breastfeeding, according to the American Academy of Pediatrics, is described as an infant's consumption of human milk without any supplements (no water, juice, non-human milk, or meals), excluding vitamins, minerals, and medication. EBF for the first six months of life is estimated to lower infant mortality by 13% (Okwy-Nweke et al., 2014).

According to the Associated Press, not breastfeeding or breastfeeding insufficiently increases the risk of a variety of acute and chronic illnesses, including lower respiratory tract infections, ear infections, bacteremia, bacterial meningitis, food poisoning, urinary tract infection, and necrotizing enterocolitis. Breast milk has been shown to protect against sudden infant death syndrome, insulin-dependent diabetes, Crohn's disease, and ulcerative colitis in a number of trials (Smith & Becker, 2016).

2.2.2.Benefits of Exclusive Breast Feeding

Exclusive breastfeeding for the first six months of life has been demonstrated in studies to reduce diarrheal illnesses and acute respiratory sickness. Newborns who were given meals other than breastmilk at six months of birth were three times more likely to be underweight than babies

who were solely breastfed for six months, according to studies in Kenya (Couto et al., 2020).

Malnutrition has a wide range of repercussions, and the causes that cause it are complex. Stunting and wasting are also better indicators of child nutrition, according to several research (Butler et al., 2021).

Babies who had eaten other foods six months prior were more likely to be wasted in the Kenyan study. Wasting is a metric for chronic malnutrition that evaluates the acute incidence of malnutrition and stunted growth (Chapagain, 2012).

2.2.2.Process of Exclusive Breast Feeding

1.Commencement

Breastfeeding should begin within the first hour following birth, according to experts. Breastfeeding and continuous skin-to-skin contact can begin as soon as the baby is born, and should last at least an hour (Martinez-Brockman et al., 2017).

The period of mother-infant interaction known as kangaroo care, or 'golden hour,' during the immediate postpartum period promotes in mother-baby bonding for both mother and young child, and is supposed to boost the infant's spontaneous breastfeeding activity (Dukuzumuremyi et al., 2020).

Within one hour of birth, newborns that are placed on their mother's skin have a natural inclination to latch on to the breast and nurse. Breastfeeding success during this "golden hour" enhances chances of breastfeeding success later on (Motee & Jeewon, 2014).

2.Breast crawl

Young children, according to UNICEF-cited studies, go through a natural process that leads to their first breast-feeding. The newborn relaxes and makes modest movements of the arms, shoulders, and head shortly after birth. When young babies are placed on the mother's tummy and

moved slowly near the breast, the breast begins to crawl and suckle (Girish et al., 2013).

It is common for young babies to latch on to the breast when resting after a feeding. This is sometimes misinterpreted as a lack of appetite. All toddlers continue this process if there are no interruptions. Rushing the procedure, such as lifting and bringing the newborn to the breast, or interrupting it, such as removing young infants from their weight, might make subsequent feeding more difficult. Weighing, measuring, bathing, needle stick, and eye protection should all be done after the first meal (Heidarzadeh et al., 2016).

3.Preterm or Low-tone Infants

Preterm newborns (before 37 weeks), very premature babies (37 weeks - 38 weeks and 6 days), and babies born with muscle weakness, such as those with Down syndrome or neurological disorders, such as paralysis. Breastfeeding might be difficult to begin shortly after birth (Smith, 2017).

These neonates are frequently given expressed breast milk or other supplemental feeds via tubes, supplemental nursing systems, bottles, spoons, or cups until they are able to suck breast milk. Human milk, whether from the mother or a donor, is essential for preterm newborns' brain development, and the NICU feeding routine protects them against the deadly gastrointestinal infections that cause necrotizing enterocolitis (Hylton-McGuire, 2018).

4.Timing

In the first two to four weeks, newborns should be fed 8-12 times every 24 hours, and hunger signals should be expressed every one to three hours. The stomach capacity of newborns is extremely limited. The stomach of a one-day-old baby is about the size of a raspberry. It's the size of a berry on the third day, and the size of a pingpong ball on the seventh (Motee & Jeewon, 2014).

The amount of breast milk produced in this primary milk is adjusted to fit the infant's demands; colostrum is concentrated yet generated in small amounts, gradually rising in size to meet the increasing volume of an infant's stomach capacity (Ward et al., 2017). Many babies eat for 10 to 15 minutes at each breast, although the feeding can continue up to 45 minutes depending on the baby's alertness and aptitude (Ekström et al., 2012).

The distinction between feeding and non-nutritive sucking is critical for parents to understand. With 1-2 sucks per consumption, nutritious sucking follows a gradual and consistent routine. Non-dietary sucking is a type of sucking that involves little or no swallowing. This swallowing behavior is most commonly observed during the start and/or conclusion of a meal. This pattern encourages milk to flow out at the start of the feeding, but it may be an indication that the infant is sleepy or "bored" with a reduced rate of milk at the end of the meal (Merewood et al., 2019).

5.Duration and exclusivity

The CDC, the "World Health Organization, the National Health Service, the Canadian Pediatric Association, the American Academy of Pediatrics, and the American Academy of Family Physicians are just a few of the organizations that urge exclusive breastfeeding for six months. Unless there are medical contraindications, postpartum" (Van Dellen et al., 2019).

"The infant's consumption of breast milk with no supplementation of any kind (no water, juice, non-human milk, no foods) except vitamins, minerals, and medications " In some circumstances, the addition of human donor breast milk may be recommended: after ingestion Foods that are solid Breast-feeding should begin around the age of six months (Davie et al., 2020).

6.Supplementation

Supplementation is described as the medical use of milk or other liquid products for feeding a baby during the first six months of life, in addition to breast milk. There are only a few signals that an infant requires more food. When it comes to supplements, the first choice is always breast milk, as long as there are no medical contraindications. Pasteurized milk from human donors is the second best option for supplementing. Finally, if breast milk is unavailable or the donor does not have the option of adding breast milk from a human donor, some formulae may be utilized as supplements (DaMota et al., 2012).

This could be the situation with newborns with metabolic illnesses like galactosemia. Supplements should only be used when medically necessary and under the supervision of a medical practitioner, such as a pediatrician or family doctor, as well as after consulting a lactation consultant (Al-Sahab et al., 2010).

Nutritional supplements are prescribed for a variety of causes, including low blood sugar, dehydration, and jaundice in infants. Breastfeeding Contraindications Medical Contraindications to Breastfeeding A decrease in the amount of milk consumed (McCoy & Heggie, 2020).

The American Academy of Pediatrics has carefully defined indications for using donor breast milk (AAP). Due to the scarcity and expensive expense of donor breast milk, the American Academy of Pediatrics (AAP) suggests using milk for newborns weighing less than 1,500 grams (approximately 3 pounds 5 ounces), as it helps to reduce rates of serious intestinal infection, necrotizing enterocolitis, in this population (Kair et al., 2020).

7.Position

To avoid breast pain and to ensure that young children get enough milk, proper posture and a solid latch technique are required (Schafer & Genna, 2015). Toddlers can grip the breast in a number of ways. Every young man should have a favorite web page. To stabilize the young children, place their legs next to the mother's side, with the small children facing the mother(Schafer & Genna, 2015)..

While utilizing the cradle or laying the cross on the body, mother rests young children's heads in the fold of her arm. Carrying a cross is similar to carrying a cradle, except that the mother supports the infant ones' heads with the opposite hand. With her young children by her side, the mother has the option of lying on her back or side (Balaam et al., 2015).

There are specific components to each position that will help facilitate a successful latch, regardless of the position the father, mother, and kid choose. The comfort of the mother is one of the most important factors. During feeding, the mother should be as comfortable as possible, with cushions supporting her back, feet, and arms as needed (Ezeukwu et al., 2020).

In addition, as the latch process begins, the infant's hips, shoulders, and head must be oriented so that its stomach faces its mother, which can be remembered as "from the belly to the mummy." This alignment aids in the proper and effective functioning of swallowing systems (Puapornpong et al., 2017).

2.2.3.Problems with Breastfeeding

1.Inverted nipples

Babies born to moms with inverted nipples can still get a decent erection, albeit it may take a bit more work. When stimulated, the nipple of certain women may easily erect. Other women may require additional nipple detecting equipment, such as nipple shells, tailored syringes, or

breast pumps, as well as changed breastfeeding techniques (Chakrabarti & Basu, 2011).

2.Ankyloglossia

Often known as "tongue knots," ankyloglossia can lead to shallow drooling, impaired milk transport, and other problems with feeding. Tongue ligaments are divided into two types: Anterior tongue ligaments occur when a ring of tissue called the frenulum attaches the tongue to the base of the mouth, preventing the newborn from pushing the breast and nipple to the soft palate and inhibiting vertical tongue movement (Rowan-Legg, 2015).

The posterior tongue tie is a tissue band that is only felt upon inspection and has a milder impact on nursing than the front tongue knot. If it is established that the inability to grasp properly is caused by tongue sticking, the condition can be corrected with a minimally invasive treatment to clip the frenulum (Brzęcka et al., 2019).

3.Engorgement

The swelling and stretching of breast tissue caused by fluid buildup in the surrounding tissues, which supports the milk-producing cells and ducts, is known as congestion. When milk "goes in" and throughout the weaning phase, congestion is most common. Several processes occur as the milk enters. The blood veins that supply the breast enlarge at the end of pregnancy, allowing it to leak into the tissues or interstitial space (Chiu et al., 2010).

Furthermore, major fluid shifts occur after the birth of the infant to empty excess fluid that was previously used to provide the fetus with oxygen and nutrients through the placenta but is no longer required, as well as to provide the breast with additional fluids to begin the process of producing milk. Some of the surplus fluid leaks into the breast tissue as a result of these fluid changes. Finally, milk entrance can cause a sensation

of fullness, which, when paired with the aforementioned fluid buildup in the breast tissue, can result in excruciating pain (Huda et al., 2021).

If a woman stops breastfeeding abruptly, her breasts will most likely engorge. Pumping tiny quantities to relieve discomfort trains the breasts to produce less milk over time. At this time, there is no safe treatment to prevent congestion, but cold compresses and ibuprofen may help with pain and swelling. Pain can be relieved by emptying the breasts. If symptoms linger despite rest, the mother should see a doctor to rule out the potential of duct blockage or infection (Gresh et al., 2019).

4.Nipple pain

Nipple pain, fissures, and open sores should not be overlooked, as they are often symptoms of a shallow latch or other underlying issue that can be addressed and repaired (Buck et al., 2014).

Skin infection or inflammation, vasospasm or the breast parasympathetic of Raynaud's illness, mastitis, blocked ducts, and nipple bullae are also other causes of nipple pain, in addition to superficial latch on. The discomfort from an issue deep in the breast may also emerge as nipple pain due to the neuronal networks in the breast. Because nipple pain is a typical reason for a woman to cease nursing, it's critical to assess women who are experiencing nipple pain (Amir et al., 2015,Kent et al., 2015).

5.Delay in milk

While the milk should naturally "come" within 5 days of delivery, there are a number of reasons for the delay. Maternal diabetes, a traumatic birth, a retained placenta, a prolonged delivery, and a C-section delivery are all risk factors for this delay (Brown & Jordan, 2013). Mothers who have delayed the introduction of milk should see a lactation consultant and a pediatrician to assist their babies acquire weight. They might need to supplement with donated milk or formula (Kent et al., 2021).

6.Low milk supply

When breast milk is permitted to remain in the breast, it grows in response to young children's desire for milk, however when milk is allowed to remain in the breast, it decreases. It's vital to understand the distinction between "reduced milk production" and "reduced milk production" while evaluating a probable drop in milk supply (Riddle & Nommsen-Rivers, 2017).

A significant drop in milk production occurs when moms fear they are not producing enough milk to feed their kids for a variety of reasons. Discomfort, colic, a preference for the bottle over the breast, a long feeding time, a decreased sensation of fullness at the breast, and even a decreased feces frequency for newborns are some of the possible causes. However, it is critical to reassure parents that the infant's acquisition is conclusive evidence of adequate milk consumption in these situations (Riddle & Nommsen-Rivers, 2017).

7.Newborn jaundice

Around 80% of jaundice victims develop the condition within a few days of birth. Jaundice, or yellowing of the skin and eyes, occurs when bilirubin, a binary result of red blood cell breakdown/recycling, builds up in a newborn's circulation quicker than the liver can break it down and eliminate it through urine and feces (Ketsuwan et al., 2017).

By continuing to nurse often, an infant's body can usually get rid of the excess bilirubin by encouraging them to expel more urine and stool (beginning with 8 to 12 times a day). In some cases, however, the infant may require further treatment, such as UV light therapy or additional meals, to keep the condition from progressing (Chu et al., 2019).

2.2.4.Contraindications to Breastfeeding

2.2.4.1.Maternal Contraindications

Medical diseases that prevent breast-feeding are quite uncommon. Nursing is beneficial to all healthy newborns; but, in some infectious diseases and medical situations, extra measures should be used or breastfeeding should be avoided (Sattari et al., 2019).

1.Human immunodeficiency virus

Breastfed youngsters are at risk of contracting (Human immunodeficiency virus). Factors like as the mother's viral load complicate breastfeeding guidance for HIV-positive mothers. In countries where clean water is scarce and infectious illness mortality are high, WHO emphasizes the potential of breastfeeding mothers who undergo antiviral treatment and have undetectable virus loads, citing low transmission rates when the mother is unwell with antiviral treatment (Ngoma et al., 2015).

2.Human T-Lymphotrophic Virus (Types I and II)

Breast milk can pass the human T-lymphotrophic virus (HTLV) from mother to newborn. The risk of transmission through breast milk is increased by the maternal viral load and the length of nursing sessions, which is estimated to be between 3.9 and 27 percent worldwide (Pietrasanta et al., 2014).

3.Tuberculosis

Infants whose moms are frightened of untreated tuberculosis should be segregated from their mothers to prevent the chance of transmission. As a result, these newborns should not be breastfed at this period or until the mother has received adequate treatment and is no longer contagious after two weeks. These babies, on the other hand, can be fed breast milk from their mothers (Loveday et al., 2020).

4.Herpes simplex

Harper's simplex virus (HSV), which causes genital herpes and oral cold sores, is especially dangerous to newborns. The Centers for Disease

Control and Prevention (CDC) recommends that the mothers continue to breastfeed if there are no open/active lesions on the breast or other covered lesions (Lawrence, 2013).

5.COVID-19

The current COVID-19 pandemic, according to WHO and UNICEF, is not a reason to quit breastfeeding. Even if they have confirmed or suspected COVID-19, they urge that women continue to breastfeed during the pandemic because current evidence suggests that COVID-19 is unlikely to be passed through breast milk (Yang et al., 2020).

2.2.4.2.Infantile Contraindications

Galactosemia is a metabolic disorder in which a newborn is unable to digest galactose, a sugar contained in milk and one of the lactose components. Children with galactosemia should not be breastfed because breast milk includes lactose (Ngerncham et al., 2013).

2.3.Young Children Feeding (Complementary Feeding)

Any easy-to-consume soft food other than breast milk or infant formula designed specifically for young children between the ages of four, six months, and two years is referred to as complementary feeding. The kitchen comes in a number of flavors and varieties that can be purchased ready-made from manufacturers or prepared as mashed or loosened table meals for the family to enjoy (Dewey, 2013).

In 2011, the World Health Organization, UNICEF, and other national health agencies recommended that a child wait until he or she is six months old before eating. However, young children's developmental growth may vary substantially from this advice. Food can be offered to toddlers when they are ready to eat. The ability to sit unsupported, lose the tongue, and exhibit an active interest in the food that others eat are all signs of readiness (WHO, 2015).

2.3.1.Nutritional needs and the amount of food

Breast milk or infant formula is required for newborns. Carbohydrates account for about 40% of the dietary energy in various dairy products, the majority of which is lactose, a simple sugar. According to the 2008 Infant and Young Child Nutrition Study, the complete diet of toddlers and early children, the primary consumers of young infant food, meets or significantly surpasses the needed amount of macronutrients (Steven et al., 2012Butte et al., 2010).

Although their fat intake is often lower than advised, toddlers and preschoolers consume very little dietary fiber and a lot of saturated fat. The levels of micronutrients were frequently within the recommended range. According to a study conducted in the United States, a tiny percentage of older children require more iron and zinc, which can be obtained through iron-fortified diets for young children. Synthetic folate, preformed vitamin A, zinc, and sodium levels in toddlers and preschoolers are all over the acceptable upper limit (salt) (Butte et al., 2010).

Begin with tiny doses and increase as the youngster becomes older. The World Health Organization recommends: Children aged 6 to 8 months should eat 2 to 3 meals per day, while children aged 9 to 23 months should eat 3 to 4 meals per day, with 1 or 2 extra snacks as needed (Arikpo et al., 2018).

2.3.2.Preparation and feeding

Toddler foods are either a soft paste, liquid, or readily digestible food since toddlers lack the well-developed muscles and teeth that allow them to chew properly. When a baby's hunger is no longer satisfied by feeding or formula, he or she will usually switch to toddler food. To move to solid foods, young children do not need teeth (Arikpo et al., 2018).

Teeth, on the other hand, normally start erupting at this age. Many foods, such as undercooked vegetables, grapes, and foods containing bones, can cause choking. On a liquid diet for toddlers, young children learn to eat

mashed vegetables and fruits, often blended with rice cereal and formula or breast milk. Then, because small, soft bits or lumps are easier for young toddlers to chew on, little, soft pieces or lumps can be put (Abeshu et al., 2016).

Food can be mashed or chewed carefully ahead of time, or cut into manageable pieces for their young children, as young children with teeth have the ability to break down pieces of food but lack the back molars for grinding, so food can be mashed or chewed carefully ahead of time, or broken into manageable pieces for their little ones. Toddlers may begin to feed themselves around 6 months of age (picking up pieces of food with their hands, using a full fist, or subsequently a pincer fist with the assistance of parents (Sharma et al., 2019).

2.3.3.Types of food supplement

For the first year, breast milk or infant formula is the primary source of calories and nutrients. If choking concerns are avoided, toddlers can begin eating traditional family foods straight away. This is referred to as child-led weaning. Breast milk takes on the flavor of the things the mother eats, so these meals are particularly good options (Dubé, 2010).

1.Cereals

In the United States, about half of all 1-year-olds are fed baby cereal on a daily basis. Toddlers may have consumed only a single small mouthful of infant cereal or a snack that included baby cereal combined with other meals. Other grain-based diets are uncommon at this age. Only half of children under the age of two eat baby cereal, yet 90% of children under the age of two consume some form of cereal. For older children, rice, bread, biscuits, spaghetti, or cereal are consumed (Siega-Riz et al., 2010).

2.Fruits

Approximately 20% of toddlers aged four to five months consume some sort of fruit on any given day, mainly in the form of prepared baby

food. This can be a small chunk of the fruit or a meal that is partially created by the fruit, just like the other sorts. Two-thirds of toddlers between the ages of six and nine months eat the fruit, as do 75 to 85 percent of toddlers and toddlers beyond the age of nine months. Between the ages of six and nine months, half of all toddlers eat prepared baby food, whereas kids 12 months and older eat largely non-nutritive fruits like fresh bananas or canned fruits. Apples and bananas are two fruits that are enjoyed by young children of all ages. Fruit juice, particularly apple and grape juice, is typically served after the fruit has been eaten, and over half of older children and toddlers consume 100% fruit juice in some manner (Siega-Riz et al., 2010).

3.Vegetables

With a quarter of infants between the ages of four and five months consuming some type of vegetable at least once a day, carrots, pumpkin, sweet potatoes, and winter squash are the most popular yellow or orange vegetables in infant food. By the age of one year, approximately 60% of toddlers and 70% of toddlers and toddlers are eating vegetables, with baby food vegetables being replaced by instant vegetables at nine months. In babies' and early children's diets, raw vegetables are rarely consumed. By the time they turn one year old, around one-third of young children are regularly eating potatoes. (Deming, D. et al., 2010).

4.Meat

Few babies as young as four and five months old in the United States consume meat or any other type of protein (except milk). Toddlers above the age of 12 months eat meat in the form of a little amount of meat mixed with vegetables or grains in baby food. Meat or another protein source, such as eggs, cheese, yogurt, lentils, or nuts, is offered to about three-quarters of nine- to twelve-month-old babies. More than 90% of toddlers between the ages of 12 and 18 months, and virtually all neonates

older than that, consume protein at least once a day. Almost three-quarters of these young children ingest meat that is not provided by their parents. At any age, prepared baby food meats (on their own) are uncommon (Siega-Riz et al., 2010).

6.Sweet and salty foods

Young children are used to consuming a variety of foods, both sweet and savory. In comparison to a prior survey done in 2002, the number of babies under the age of nine months who got any sweetened foods, snacks, or drinks was nearly halved. When children are nine to twelve months old, less than half of them are given sweetened foods like crackers, ice cream, or fruit-flavored drinks. Ready-to-eat baby food snacks are unusual at any age, though roughly 12% of toddlers aged nine to twelve months are given them (Condon, E et al., 2010).

2.4.factors affecting of food supplemental

Demographic and socioeconomic aspects of the mother, such as age, occupation, and educational level, as well as the child's age and sex, may influence and change the child's knowledge and attitudes about nutrition, according to the conceptual framework. Inadequate understanding, unfavorable attitudes, minimum meal frequency, introduction of solid, semi-solid, and soft meals, timely introduction of complementary foods, nutritional diversity in supplemental feeding, minimum permissible diet, vitamin A, and iron-rich food consumption are all important. It's possible that it'll alter your diet. The most crucial predictor of a child's nutritional condition is his or her feeding habits (Kimwele, 2014).

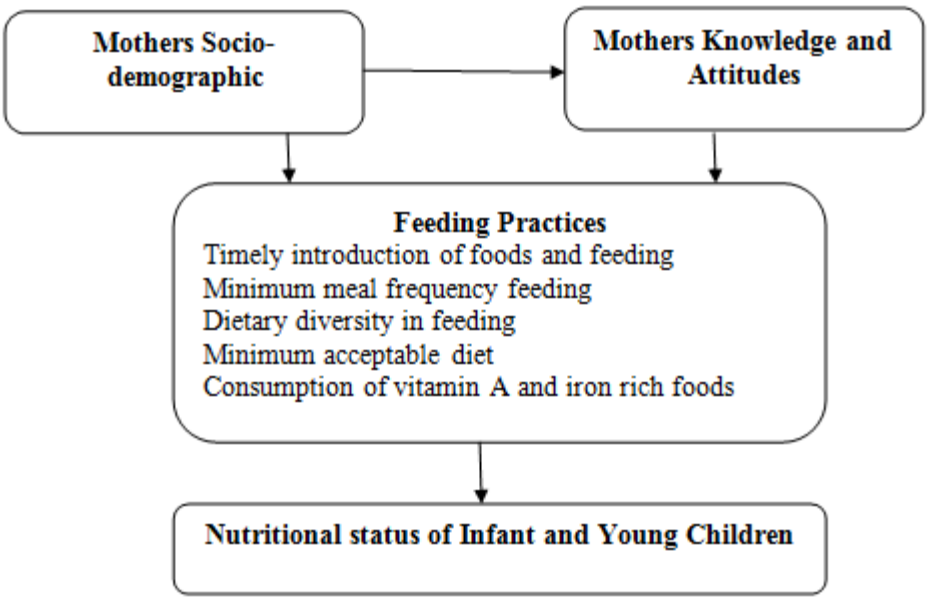

Figure 2-1:A theoretical framework for mothers' knowledge and attitudes towards baby and young child nutrition (Gyasi, 2008).

2.5.Mothers Knowledge and Attitudes towards Feeding

Knowledge and attitudes Mothers are the primary caregivers for their children. Their understanding of basic dietary and health guidelines has a significant impact on the care they deliver. The duration of exclusive breastfeeding, the age and kind of solid foods to introduce into the child's diet, the frequency of feeding the child, the diet during illness, and the mother's judgments of her child's mother's nutritional health are all instances of nutritional knowledge. Practical nutritional knowledge is critical for a child's nutritional outcomes (Gichana, 2013).

A number of studies have been conducted to evaluate if mothers are aware of the benefits of exclusive breastfeeding. According to certain research, 96 percent of moms understand the need of exclusive breastfeeding for six months and 90.6 percent understand the benefits of colostrum for the baby. Despite having the necessary knowledge, only 68.6% put it into practice. In certain research, low rates of exclusive breastfeeding have been linked to a lack of valid understanding that breast

milk alone is sufficient for the first six months. If breastfeeding is not done exclusively, it might lead to malnutrition (Maundu, 2011).

2.5.1.Mothers Knowledge towards Exclusive Breastfeeding

In a study of mothers' knowledge of exclusive breastfeeding, found that all women recognized they had to nurse their children but lacked sufficient knowledge about how to do it properly. Only 15% of moms understand what exclusive breastfeeding is, and only 10% realize that nursing should begin within two and a half hours of birth, according to their research. The study discovered that moms' breastfeeding expertise was lacking, and that there was a significant gap between what was being done and what needed to be done(Chaudhary et al(2011).

Furthermore, according to a study conducted in Nigeria, 31 percent of moms had appropriate understanding about exclusive breastfeeding, with 53 percent beginning breastfeeding shortly after delivery. Only 31% of women exclusively breastfeed their children. Although breastfeeding is universal in this community, understanding of exclusive breastfeeding is still poor, and it has been suggested that in order to attain Millennium Development Goal, efforts aimed at raising knowledge of exclusive breastfeeding should be initiated (Oche et al, 2011).

2.5.2.Mothers Knowledge towards Complementary Feeding

Breastfeeding without additional foods or liquids for the first six months of life is recommended by the World Health Organization and the American Academy of Pediatrics (also known as exclusive breastfeeding). The mother is supposed to begin giving complementary foods to the infant around six months of age (WHO, 2015).

According to a study conducted in the United Kingdom by Chambers et al. (2016), 7 out of 10 moms began weaning their babies at the age of 5 months. However, according to an Australian research, only three out of ten moms breastfeed for up to six months (Lindsay et al., 2018).

Breast milk is only nutritious until the age of six months, according to a study of Chinese immigrant women in the United States of America (Solomons & Vossenaar, 2013).

According to a survey done in a civil hospital in Karachi, 52.9 percent of mothers were aware that supplemental meals should be given to their children at least three times a day, whereas 37 percent of respondents thought twice daily was sufficient (Shazia et al, 2014).

According to a survey of South Asian breastfeeding mothers, the majority of women were aware that three meals a day were sufficient for the baby. The findings suggested that the moms lacked appropriate awareness about the prevalence of cystic fibrosis (Chaudhary et al, 2011).

2.5.3.Mothers Attitudes towards Exclusive Breastfeeding

Breast milk would not sufficient for six months, and women who were solely breastfed would experience social or physical issues, according to mothers in severely food-poor households. They also believed that women needed enough food to nurse exclusively for six months and that they would be unable to follow an exclusive breastfeeding advisor's advice(WebbGirard et al., 2012).

A negative attitude toward exclusive breastfeeding in Zambia is linked to a belief that there isn't enough milk, a fear of dying or becoming too ill to breastfeed, and a belief that the milk is substandard. Even though they have a lot of control over women, children, and infant feeding decisions, parents and grandmothers are typically uninformed about exclusive breastfeeding and always have a negative attitude toward it (Fjeld et al., 2008).

Nursing is physically painful and uncomfortable for some moms, especially young and first-time mothers, and this notion is linked to not breastfeeding. Some moms, particularly first-time mothers, are scared to commence nursing because they believe it is unpleasant and

uncomfortable, according to research on early exclusive breastfeeding and mothers' views toward breastfeeding (Wojcicki, 2017).

2.5.4.Mothers Attitudes towards Complementary Feeding

According to a study of British breastfeeding moms, the majority of them believed that the kid should only be fed foods high in nutrients. However, in the same study, French breastfeeding moms stated that during supplemental feeding, enjoyment and the development of taste were more important (Chambers et al., 2016).

According to a study conducted in China, most moms regard feeding as responsive when their child's illness and when the child's appetite is often weak (Nousiainen, 2014). More than half of mothers in an Indonesian study by Stewart et al. (2013) believed that additional attention needed be devoted to the child during supplemental feeding in order to obtain benefits. However, according to a study conducted in India, moms believe that giving their newborns bananas and yoghurt during the rainy and winter seasons can trigger colds and coughs (Kabura, 2013).

Observed in a study of newborn feeding decisions among breastfeeding women in Kwa-Zulu Natal that nursing moms believe that the elderly in the family decide on foods for children under the age of five. Only the elderly were thought to have experience introducing supplementary foods to young children.(Jama et al (2018).

2.5.5.Association between Mothers Knowledge and Attitudes

The knowledge and attitudes of a mother about her child's nutrition have a direct impact on her practices. According to Adugna (2014), the status of a mother's education is linked to delayed breastfeeding initiation in an Ethiopian study. Tuan and colleagues (2014) found that birth circumstances had a substantial impact on breastfeeding initiation.

According to Adugna (2014), mothers' knowledge of the length of exclusive breastfeeding for six months played a major role in boosting

early breastfeeding beginning among Ethiopian moms. According to Kornides and Kitsantas (2013), there is a link between prenatal women' knowledge of the benefits of nursing and future breastfeeding initiation and continuation in the United States.

In Vietnam, Tuan et al (2014) found that breastfeeding support from a health professional had no effect on early breastfeeding and the prevalence of EBF. In Nairobi, Kenya, researchers Muchina and Waithaka (2010) discovered a link between postpartum breastfeeding initiation time and stunting.

Most nutrition indicators were found to fall short of WHO standards and goals due to a lack of information and bad attitudes. In some cultures, offering other fluids to babies on their first day of life before starting breastfeeding is still usual. According to the literature study, early breastfeeding knowledge and practice are lacking since there is little interest in early breastfeeding initiation, despite the fact that prompt commencement of breastfeeding is recommended in international child nutrition guidelines (BOOR, 2017).

2.6.Infant and Young Child Feeding Recommendations

Adequate nutrition during infancy and early childhood, especially during the first two years of life, is crucial to a child's full human potential. The "Guidelines for the Complementary Feeding of the Breastfed Child" were created to help newborns and young children get the best nutrition possible.

The length of exclusive breastfeeding and the age at which supplemental foods are introduced, breastfeeding is maintained, feeding that is responsive, complementary food preparation and storage that is safe, the amount of supplemental meals that is required vitamin and mineral supplements or fortified foods for the infant and mothers and Feeding during and after illness (Tiwari et al., 2016)

Exclusive breastfeeding for the first six months of a baby's life is recommended by the World Health Organization (WHO), followed by the introduction of complementary foods together with breast milk until the baby is two years old. Breastfeeding is the process of exclusively feeding an infant breast milk, and it is recommended as the best technique of newborn feeding in terms of disease and mortality prevention (WHO, 2010).

According to a recent Lancet study on breastfeeding, exclusive, complete breastfeeding for 6 months to 2 years can avoid 823,000 annual deaths in children under the age of five. Exclusive breastfeeding can save lives in low- and middle-income nations and has numerous health benefits for infants (Arabi et al., 2012).

Different techniques to promote healthy child feeding practices exist, and the set of outcomes associated with these practices has an impact on the kid's and caregiver's well-being. Early introduction of meals other than breast milk (before the recommended age of six months) increases the baby's overall nutritional absorption, but it also raises the risk of infectious disease and has negative effects on nutrient bioavailability and development patterns (Black et al., 2013).

Because the baby's nutrient requirements at this age surpass what can be met by breast milk alone, it is recommended that supplemental foods be introduced after 6 months. Mixed feeding (feeding additional meals in addition to breast milk) before the required age of six months can increase vulnerability to illnesses, causing delayed growth. Breastfeeding has been demonstrated to reduce mortality in infants and toddlers (Ahmed et al., 2012).

Despite the benefits of breastfeeding, only 36% of newborns are exclusively breastfed (EBF) for the first six months of life around the world. Despite the fact that breastfeeding is more common and lasts longer

in low and middle income nations, barely half of moms in high-income countries use their EBF for six months (Shetty, 2014).

2.7.Responsive Feeding Behaviors in the Context of IYCF

Proper nutrition is a vital element of complementary feeding, according to the World Health Organization's Global Strategy for Infant and Young Child Feeding. This includes feeding according to the child's appetite and satiety cues, as well as encouraging the child to self-feed an appropriate amount of food in proportion to his or her age (Pérez-Escamilla et al., 2019)

. Undernutrition results from insufficient intake, which can be caused by a number of factors, including newborn and young child feeding patterns and other care practices, as well as the support and resources required to provide this care (Hromi-Fiedler et al., 2020).

Caregivers and children interact during meals, and this is referred to as caregiver and child interactions, or feeding behaviors. The parenting literature separates parenting approaches into four groups based on their level of reactivity and structure, and many feeding practices arise from there (Pérez-Escamilla et al., 2021).

There are three components to complementary feeding practices:

1. Tailoring the feeding strategy to the child's psychomotor abilities;
2. Responsive nutrition.
3. Reduce distractions, stick to a consistent feeding schedule, and monitor feeding to create an ideal feeding environment (Hromi-Fiedler et al., 2020).

Respondent feeding may increase children's dietary diversity and subsequent growth in low-income areas when food availability is uncertain and children live in a less stimulating environment. However, responsive feeding in the LIC is a little-studied topic, and the feeding patterns found in

the literature from investigations of feeding habits in HIC settings mostly appeared in children who were overweight or obese (Lucas, 2021).

The second year of life is a significant period for eating-related developmental changes, such as self-feeding, greater nutritional diversity, and the shift to family meals and meal routines. A caregiver's misreading of their children's cues during meals during this time can lead to stressful eating reactions, which can lead to a rejection of the responsive feeding behaviors important for building healthy eating habits and encouraging growth (Chowdhury, 2017).

Unresponsive feeding was linked to a number of behaviors, including late baby self-feeding and maternal under-reaction. Babies have gained psychomotor abilities to initiate some self-feeding behaviors by the time they reach 9 months of age. Despite this, a recent study found that Bangladeshi youths delayed self-feeding by more than 24 months (Osendarp & Roche, 2016)

2.8.Interventions to Reduce Under-nutrition

As previously stated, WHO recommendations for complementary feeding of a breastfed kid emphasize the significance of adequate breastfeeding time and length, as well as complementary feeding practices and the use of responsive feeding behaviors throughout. The following part will go through some of the successful interventions in the fight against malnutrition.

2.8.1.Breastfeeding Promotion

Breastfeeding promotion programs have long been employed in low- and middle-income nations as one of the most cost-effective means of decreasing morbidity infant death. These programs promote early breastfeeding beginning (and avoidance of prenatal breastfeeding), exclusive breastfeeding for the first six months, and sustained breastfeeding

with complementary foods until the child is 24 months old (Oxlade et al., 2015).

Because many mothers around the world, especially moms in countries attempting to meet the Millennium Development Goals, do not practice healthy exclusive breastfeeding techniques, these programs encourage breastfeeding exclusively (Mututho et al., 2017).

2.8.2.Complementary Feeding Programs

Several studies have investigated the impact of complementary nutritional education, complementary nutritional supplements (CFS), or a combination of the two on growth (Frongillo et al., 2020).

According to a recent systematic review summarized by(Bhutta) et al. (2013).

Similar benefits have been found for such interventions through dietary diversification, education, and supplementation in both food-secure and food-insecure populations, though slightly larger effects appear in the food-insecure population. Participants who received both food and education gained 250 g and 0.4 cm more than the control group in an 8-month intervention in India, while those who received only education gained only 90 g with no difference in linear growth (Sanghvi et al., 2017).

2.9.Previous Studies

Berisha et al. (2017).

"Knowledge, attitudes and practices of mothers in kosova about complementary feeding for infant and children 6-24 months".

Objectives: At the national level, this cross-sectional study investigated knowledge, attitudes, and behaviours related to supplemental feeding among mothers with children aged 6 to 24 months.

Methods: A total of 492 women with infants aged 6-24 months from all regions of Kosovo were interviewed, with a 95% confidence level,

5% acceptable margin, 50% estimated prevalence of knowledge, and an impact of 1.3.

Results: Overall, 88.4% of respondents had a solid understanding of supplemental feeding, however only 38.4% of moms had appropriate practices for when to start supplemental feeding. It discovered a link between maternal supplemental feeding expertise and educational level.

Yeganeh et al. (2018)

"Assessment of the knowledge and attitude of infants' mothers from Bushehr (Iran) on food security using anthropometric indicators in 2016: a cross-sectional study".

Objectives: The current study, which took place in 2016, used anthropometric markers to analyze the knowledge and attitudes of mothers of newborns from Bushehr (Iran) concerning food security.

Methods: In Bushehr, Iran, 400 mothers of children aged 1-2 years participated in this meta-analytical cross-sectional study. Data was collected using a 20-item knowledge questionnaire (0.95–0.7 reliability), a 26-item attitude questionnaire, and a 16-item Radimer/Cornell questionnaire. The World Health Organization's Z-Score was used to calculate the children's anthropometric scores, which included height for age, weight for age, and weight for height.

Results: There was a positive and significant association between knowledge and behavior ($r = 0.26$), as well as knowledge and household food security ($r = 0.11$), in the supplementary feeding research. Overweight or obese youngsters made up about a quarter of the participants in the study. Inadequate understanding of the mother, height versus age and weight for height, as well as the mother's negative attitude and the weight versus height index, were all determined to be extremely relevant.

Wilchez et al. (2019)

"Knowledge, attitudes and food practices in caregivers and nutritional status in infants from Ventaquemada, Boyacá, Colombia".

Objectives: To see if there is a link between the nutritional status of children under the age of two and their carers' knowledge, attitudes, and behaviors about nutritional status, especially dietary diversity, according to food groups.

Methods: An observational, analytical, cross-sectional study was undertaken in a sample of 170 newborns, with the goal of detecting nutritional status according to World Health Organization guidelines using anthropometric characteristics. The level of knowledge, attitudes, and practices was also examined. carers in a rural context; for this, questions from the United Nations' Food and Agriculture Organization were customized for the rural community of Ventaquimada, Colombia.

Results: There were no significant variations in malnutrition rates; most caregivers have an excellent understanding of newborn feeding, but they don't use it since they know they're doing it correctly.

Shrestha et al. (2020)

"Knowledge, Attitude and Practices among Mothers of Children 6 to 24 months of Age Regarding Complementary Feeding".

Objectives: The goal of this study was to analyze the knowledge, attitudes, and practices of mothers of infants aged 6 to 24 months on supplemental feeding.

Methods: After receiving ethical approval from the Institutional Review Committee, this Knowledge, Attitudes, and Practice Study was conducted among 250 mothers at Kathmandu Medical College and Teaching Hospital from June to November 2019. A convenient sampling method was used. A systematic questionnaire was used to interview mothers of children aged 6 to 24 months to determine their knowledge, attitudes, and practices about supplemental feeding.

Results: A total of 250 women were asked to participate in the study. 151 (60.4%) mothers were aware that nursing should begin soon after birth, and 179 (71.6%) mothers were aware that breastfeeding should be exclusively for six months. Although 161 (64.4%) of the moms were aware of the optimal age to begin supplemental feeding, only 139 (55.6%) of the mothers actually did so. 87 (34.8 percent) moms started supplemental feeding right away, whereas 24 (9.6 percent) mothers waited more than 6 months.

Assefa et al. (2021)

"Assessment of knowledge, attitude and practice of mothers/caregivers on infant and young child feeding in Assosa Woreda, Assosa Zone, Benshangul Gumuz Region, Western Ethiopia: a cross-sectional study".

Objectives: The knowledge, attitudes, and practices of mothers and caregivers about infant and young child feeding were examined in this study.

Methods: Of 486 mothers/caregivers from Asosa districts in the Binshangul Gumuz area of western Ethiopia were studied in a cross-sectional study. The information was gathered via a semi-structured questionnaire by the interviewer. The independent variables of good knowledge, good practice, and positive attitude of mothers/caregivers toward child nutrition were identified using multivariate logistic regression analyses.

Results: A 456 (93.8 percent) of the 486 women in the study had strong knowledge, 432 (88.9%) had a positive attitude, and 380 (78.2%) had good practice recommendations for infant and young child feeding habits. Furthermore, maternal age, mother's educational status, place of birth, father's educational status, father's involvement and support, prior knowledge of infant and young child feeding, discussion with their spouse

on infant and young child feeding, and prenatal infant care follow-up were all found to be significantly related to the mother's knowledge of infant and young child feeding recommendations.

Chapter Three Methodology

Chapter Three

Methodology

Scientific research technique is a collection of scientific standards, criteria, and controls that are followed when conducting research. As a result, scientific research methodology is a key aspect of how successful scientific research is built and organized. One of the most important controls of scientific research is that it be organized and accurate, so that everyone who reads it and looks at its lines benefits from it. As a result, we should discuss the various scientific research methods that a researcher can employ during the course of conducting a well-structured scientific research. The study design, as well as all other scientific steps taken by the researcher from the beginning to the end of the investigation, will be described in this chapter.

3.1.The Design of study

The descriptive and analytical study design technique entails questioning individuals of the study population with the sole purpose of describing the examined phenomena in terms of its nature and degree of presence. Interrogating study participants regarding food awareness and personal hygiene behaviors is used in the descriptive approach.. Because the study's problem is current, and its investigation will be conducted through direct interrogation, and because the goal of this study is to stop at the description limit of the study variables (Knowledge and Attitudes), the appropriate approach is descriptive and analytical study designs, which are based on the study of the phenomenon and the description of its characteristics and size, as well as the collection and interpretation of data

The descriptive study design is done through the limit includes the following:

1. The study's objective boundaries were set at two variables: knowledge and attitudes.

2. The study was limited to primary health care centers in terms of spatial boundaries.
3. Time limits: The research took place from the data 19 October 2021 to 2 May 2022.
4. The study was conducted on mothers of children under the age of five.

3.2.Administrative Arrangements

Before collecting the study data, the following official clearances were sought from appropriate authorities:

1.Approval of ethical committee (Appendix A1)

2.Approval from the University of Babylon/ College of Nursing Council for the study (Appendix A2).

3.Official permissions were also obtained from the Babylon Health Directorate (Training and Development Division) in order to formally access the Primary Health Care Sectors (Appendix A3).

4.Official permission have been obtained from Primary Health Care Sectors which include:

A.Hilla First for Primary Health Care Sectors.

B.Hilla Second for Primary Health Care Sectors.

3.3.Setting of the Study

The study was carried out in Hilla City/Babylon Governmental , at two Primary Health Care Sectors. These sectors are include (Hilla First and Second). These sectors as a gateway to providing customers with health services and the first cycle that examines, diagnoses, etc.. In addition to focusing on the importance of achieving and following the schedule of vaccines, family planning and early detection of breast cancer, and clinics

for elderly people with chronic diseases, the mother and child care systems were the highest percentage of these facilities.

Table3-1.Distribution of Hilla First and Second Health Sector Primary Health Care Centers

Hilla First for PHCs	Hilla Second for PHCs
Imam Hussein	**Babylon Training Center**
Toffel	AL-Furqan
Main AL-Kefel	AL-Kalsa
Halef AL-Koran	Murjan
AL-Kudis	AL-Wardya
AL-Shhed Islam	**AL-Zahra**
AL-Reggela	Babil Training
AL-Imam AL-Namothgey	Senjaar
AL-Asatetha AL-Namothgey	AL-Nahda
AL-Kefel AL-Namothgey	AL-Hadi
AL-Muhandysin	**AL-Hadi**
Youssoufia	Anana
Ibraham AL-Khalel	AL-Dolab
AL-Rarangea	AL-Jumjma
Zaid Bin Ali	AL-Bu Musaad
AL-Sajad	**AL-Kadia**
Karim AL-Radi	AL-Qader
Ali AL-Samri	AL-Aatej
Abdullah Bin Zaid	AL-Sadaa
Doufaal	Kwykhat
Meliwia	**AL-Baqer**
	Said Musa
Total =20	***Total=22***

3.4.Sample of the Study

1.The probability (systematic) sample was selected to carry out the study which consists of (10) primary health care centers is selected for purpose of study.

2.From each primary health care centers, 30 mothers is selected by non probability (purposive). These sample is distributed throughout two sectors as shown in table (3-2).

Table3-2.Distribution in Hilla First and Second of the research sample

Primary Health Care Sectors	Primary Health Care Center	No. of Health care providers selected
Hilla First Primary Health Care Sector	Imam Hussein	30
	AL-Shhed Islam	30
	AL-Muhandysin	30
	AL-Sajad	30
	Meliwia	30
Hilla Second Primary Health Care Sector	Babylon Training Center	30
	AL-Zahra	30
	AL-Hadi	30
	AL-Kadia	30
	AL-Baqer	30
Total= 2 PHCs	Total= 10 PHCCs	Total=300 Mothers

The mothers who attended primary health care centers is selected according to the following criteria include:

3.4.1.Inclisions criteria:

1. Mothers with under five years children free from any congenital disease
2. Mothers who agree to included in study sample

3.4.2.Exclusion Criteria:

1. Mothers who selected to pilot study.

2. Mothers who disagree to take part or refused to participate in present study.

3.5.Study Instrument

The questionnaire is one of the means to help collect data that contribute to achieving the results expected by the study, so the researcher designed this questionnaire, based on extensive review of related studies and available literatures, the study is consisting of the following parts (Appendix B)

Part I: This section composed of socio-demographic information which include: mothers age, educational level , mothers occupation, residents, economic status, number of children and sources of information.

Part II: This section deals with mothers knowledge adopted and developed by Kimwele (2014) who investigated the mothers knowledge towards feeding of children and infants and composed of 20-items.

Part II: This section deals with mothers attitudes adopted and developed by Wanyenze (2018) who investigated the mothers attitudes towards feeding of children and infants and composed of 26-items.

The researcher adhered to the rules of writing the questionnaire due to the importance of the type of information that the researcher is keen to be sufficient and comprehensive for all aspects of the problem and can be relied upon and trusted. To vague and complex answers. The type of questions was of the closed type, which required answering with reference to what was appropriate.

3.7.Validity of the Questionnaire

The questionnaire's validity refers to its ability to measure what it was created to evaluate, while honesty refers to the questionnaire's inclusion of all aspects that must be included in the analysis on one side,

and the clarity of its contents on the other. On the other hand, terminology must be understood by everyone who uses it.

To ensure the questionnaire's validity, it was submitted to 11 specialists in diverse departments of nursing (Appendix C). Experts were invited to provide their thoughts and ideas on each study questionnaire item in terms of linguistic relevance, relationship to the dimensions of the study variables allocated to it, and applicability to the study community's setting.

The experts responses indicated that minor changes should be done to some items and it's were made according to their suggestions , then the final draft was completed to be ready for conducting the study.

3.8.Pilot Study

This preliminarily study was conducted to determine the stability and credibility of the study tool, clarity and its efficiency which confirmed, and standard time required to collect data for each subject which can estimated during the interview procedures and to difficulties identification that may encounter.

The pilot study aimed to achieve the following objectives.

1. Adequacy of research tools development and testing.
2. Evaluation of the instrument's viability.
3. Identifying any logistical issues that may arise as a result of the proposed methods.
4. Assessment of proposed data analysis approaches for the detection of potential issues.
5. The researcher's time estimate during data collecting.

Results of pilot study

1. The questionnaire is reliable.
2. The time required for answering the questionnaire ranged from (15-20) minutes.

3. The instrument items were clarify and understood the phenomenon underlying of the study (Table 3-1).

Before the questionnaire reached its final form, it went through the following stages:

1. Determining the data that will be collected through the questionnaire according to the study questions.
2. Determining the method and format of the questionnaire.
3. Determining the type of criterion that determines the type of answer in the questionnaire.
4. Presenting the questionnaire to the supervising to express his opinion and observations in developing the questionnaire and modifying it based on his observations.
5. Presenting the questionnaire to a number of panel of experts to express their opinion and observations in developing the questionnaire and modifying it based on what they submitted.
6. Conducting a reliability test on it by distributing the questionnaire to a sample of 30 Mothers.
7. Writing the questionnaire in its final form, then printing, reviewing and distributing it.

Reliability of the Questionnaire:

The reliability of the study instruments means making sure that the answer will be almost the same, if it is repeatedly applied to the same people, at different times. The researcher applied it to a random exploratory sample of 30 mothers as composed 10% of original sample. Where the members of this sample were later excluded from the original sample on which the final study was conducted. Reliability coefficient using the test coefficient of Alpha Cronbach as shown below

Table3-3:Reliability of the Studied Questionnaire (*n=30*)

Knowledge 20-items	**0.87**
Attitudes 26-items	**0.79**

3.9.Ethical Considerations

Ethical obligations are one of the most important things that the researcher must follow and abide it when doing the study. Before the starting of collect the data from the community that has been identified for the study, the researcher should clarify the main purpose and desired goal of conducting this study for the sample to be including in the study, as well as adhere to the strict confidentiality of the data taken from the study sample and pledge to use it for scientific purposes related to the study only.

Before the starting of gathering the data from the sample who are participating in the study, the researcher given a brief explanation about the scientific background of the research and the purpose of conducting. Mothers were verbally informed about the study aims and were asked to participate and this participation were voluntary. After they agreed to participate in the study, anonymous questionnaire was handed to them to maintain a complete confidentiality for the participants.

3.10.Methods of Data Collection

The data was carried out from (7) 2022 February to (5) April 2022 . The questionnaire has been interviewed with study participants. After obtaining the approval of the Babylon Health Directorate and verifying the validity and reliability of the questionnaire. The researcher interviewee the participants (Mothers), explained the instructions, answered their questions regarding the form, urged them to participate and thanked them for the cooperation. The interview techniques was used on individual bases, and each interview (15-20) minutes after taking the important steps that must be included in the study design.

3.11.Methods of Statistics Data Analysis

In order to statistically analyze the data collected from the study sample to arrive at the results, the researcher used the *SPSS ver-20* and Microsoft Excel (2010) program to analyze this data and deal with it statistically, to find the relationships between the variables, and obtain the final results of the research based on a set of statistical tests.

3.11.1.Descriptive approach

Descriptive statistics includes a set of mathematical and statistical methods that are adopted to describe the main features of a data quantitatively by using tables and charts. Descriptive statistics always aim to present and describe the data which is required to be processed, organized, summarized and categorized, as well as presenting them in a simple and clear manner that makes it easier for the recipient to recognize and understand its content. The analysis performed through use:

A. Statistical tables "Frequencies and percent" which are:

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

B. Mean of scores "*M*±".

The average score can be calculated by using the following:

$$M.S = \frac{\sum \text{ri} = 1\text{Fi x Si}}{\sum \text{ri} = 1\text{Fi}}\ x100$$

For Knowledge Scores

The overall responses according to total mean of score which follow:

M=20-26 refers to Poor knowledge.

M=27-33 refers to Moderate Knowledge.

M=34-40 refers to Good Knowledge.

For Attitudes Scores

The overall responses according to total mean of score which follow:

M=26-43 refers to Negative Attitudes .

M=44-60 refers to Neutral Attitudes.

M=61-78 refers to Positive Attitudes.

C.Standard Deviation test ±*SD.*

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

D.It uses a correlational coefficient "Cronbach alpha" used in estimating the internal consistency of the study tool, which can be calculated by using the following:

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

3.11.2.Inferential approach

1. **Independent Sample t-test**

The sample that is unrelated The t-test compares the means of two independent groups to check if there is statistical evidence that the associated population means differ significantly.

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

$(\Sigma A)^2$: 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

2. Analysis of Variance

For equality of means, is used (chance test when the mean parameter varies).

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

P-value (≤0.05)

3. Spearman's Correlation Coefficient

This test is used for qualitative variables

$$P = 1 - \frac{6 \sum d2\,i}{n\,(n2 - 1)}$$

4. Simple Liner Regressions

To investigate the effect of Knowledge on Attitudes for Mothers of infant and young children.

Shortcuts for measuring important compared to the level, are used as follows:

1.NS:>0.05Non statistically significant differences

2.S:<0.05Significantly-differences.

Chapter Four Results of the Study

Chapter Four

Results of the Study

The finding of data analysis systematically in figures and tables , which are corresponded with the objectives of the study as follows:

Table 4-1:Descriptive Statistic of Socio-Demographic Variables (N =300)

	Classification	Freq.	%
Age/years (*M± SD= 29.81±7.40*)	<20 years old	45	15.0
	20-24 years old	54	18.0
	25-29 years old	63	21.0
	30-34 years old	47	15.7
	35-39 years old	43	14.3
	40 and older	48	16.0
Education	Illiterate	155	51.7
	Read & Write	30	10.0
	Elementary School	48	16.0
	Secondary School	24	8.0
	Institute and above	43	14.3
Occupation	Employ	86	28.7
	Students	33	11.0
	Housewife	181	60.3
Monthly income	Sufficient	54	18.0
	Moderate	103	34.3
	Insufficient	143	47.7
Number of children	1 child's	133	44.3
	2-3 child's	120	40.0
	>3 child's	47	15.7
Residents	Rural	144	48.0
	Urban	156	52.0
Information sources	Health Institutions	109	36.3
	Family	40	13.3
	Social media	26	8.7
	Relitives	125	41.7

Finding show participants age, the mean age is 29, the age 25-29 years old were recorded the highest percentage (*n=63*; 21%), followed by those who are age 20-24 years old (*n=54*; 18%), followed by those who are aged 40 years and older (*n=48*; 16%).

In regard with education level, half of studied sample was illiterate (*n=155*; 51.7%), followed by those who are elementary school graduated (*n=48*; 16%), followed by those who are institute and above graduated (*n=43*; 14.2%), followed by those who are read and write (*n=30*; 10%) and those who are secondary school (*n=24*; 8%).

Occupation related findings, it is obvious from the findings that the housewife were higher (*n=181*; 60.3%), followed by those who are employment (*n=86*; 28.7%), and those who are students (*n=33*; 11%).

Economic status related findings, the mothers expressed the insufficient economic (*n=143*; 47.7%), followed by those who are moderate economic (*n=103*; 34.3%) and those who are sufficient (*n=54*; 18%).

Concerning number of children, most of mothers exhibited one child's (*n=133*; 44.3%), followed by those who are 2-3 child's (*n=120*; 40%) and those who are >3 child's (*n=47*; 15.7%).

In terms of residents, studied sample residents in urban areas (*n=156*; 52%) as compared with those who are rural residents (*n=144*; 48%).

In regards with sources of information, the relatives are the most commune sources of information (*n=125*; 41.7%), followed by those who are health institutions (*n=109*; 36.3%), followed by those who are family (*n=40*; 13.3%) and those who are use social media (*n=26*; 8.7%).

Table 4-2-1.Mothers Knowledge related Feeding of Infants and Young Children

List	Knowledge Items	Rating	No.	%	*MS± SD*	*Ass.*
1	Infants should be exclusively breastfed for the first 6 months of life	No	154	51.3	*1.48±0.500*	*Fair*
		Yes	146	48.7		
2	Breastfeeding should be continued up to 2 years and beyond	No	156	52.0	*1.48±0.500*	*Fair*
		Yes	144	48.0		
3	Adding ghee or oil(blue band) to Childs porridge is advisable	No	198	66.0	*1.34±0.474*	*Fair*
		Yes	102	34.0		
4	A 6 months child should be fed on pureed or sieved foods	No	189	63.0	*1.37±0.483*	*Fair*
		Yes	111	37.0		
5	Mother or a caregiver should feed a child based on hunger cues	No	233	77.7	*1.22±0.417*	*Fail*
		Yes	67	22.3		
6	A breastfed child who is 12 months old should be fed solid foods two times per day	No	245	81.7	*1.18±0.387*	*Fail*
		Yes	55	18.3		
7	Mothers/caregivers should wash hands before preparing children food	No	251	83.7	*1.16±0.370*	*Fail*
		Yes	49	16.3		
8	Sick and recovering children should be fed porridge or diluted fruit juices only	No	147	49.0	*1.51±0.500*	*Fair*
		Yes	153	51.0		
9	Feeding bottles are the best option for feeding children who have refused to breastfeed	No	238	79.3	*1.20±0.405*	*Fail*
		Yes	62	20.7		
10	Water used to prepare food and drinks for a child should be boiled or treated	No	222	74.0	*1.26±0.439*	*Fail*
		Yes	78	26.0		
11	A mother or a caregiver should assist a child to eat until 2 years	No	201	67.0	*1.33±0.470*	*Fail*
		Yes	99	33.0		
12	1-2 table spoonfuls of a food is adequate for a one meal of a 1 year child	No	267	89.0	*1.11±0.313*	*Fail*
		Yes	33	11.0		
13	Children should eat from the family pot from 1 year onwards.	No	195	65.0	*1.35±0.477*	*Fair*
		Yes	105	35.0		
14	Fruits and vegetables like carrots, mangoes, pawpaw and green leafy vegetables are suitable complementary foods	No	207	69.0	*1.31±0.463*	*Fail*
		Yes	93	31.0		
15	A child should be breastfed on demand	No	200	66.7	*1.33±0.472*	*Fail*
		Yes	100	33.3		
16	A mother should be the primary feeder of the child	No	234	78.0	*1.22±0.414*	*Fail*
		Yes	66	22.0		
17	It's not advisable to give a child who is breastfeeding other protein foods such as poultry, eggs, fish even after 6 months since breast milk is adequate in proteins	No	213	71.0	*1.29±0.454*	*Fail*
		Yes	87	29.0		
18	Complementary foods should be introduced at 6 months	No	199	66.3	*1.33±0.473*	*Fail*
		Yes	101	33.7		
19	A Childs main meal should be a mixture of many food items from grains/cereals, meats/eggs/poultry, fish, legumes, roots/tubers, fruits/vegetables, fats/oils	No	202	67.3	*1.32±0.469*	*Fail*
		Yes	98	32.7		
20	Flour mixes of ndengu, millet, sorghum, maize, beans and omena are ideal for complementary feeding because they are nutritious	No	252	84.0	*1.16±0.367*	*Fail*
		Yes	48	16.0		

"(MS) Mean of Scores, (SD) Standard deviation, Level of Assessment (Fail ≤1.33, Fair=1.34-1.67, Pass ≥1.68)"

In terms of statistical mean and standard deviation, this table demonstrated that the mothers expressed a fail responses regards knowledge related to feeding of infants and young children at all items of the scale as indicated by low mean scores except, the items number (1, 2, 3, 4, 8 and 13) the responses were fair as indicated by moderate mean scores.

Table 4-2-2:Overall Mothers Knowledge towards Feeding of Infants and Young Children

Mothers Knowledge	Freq.	%	*M ± SD*
Poor (*M=20-26*)	151	50.3	*25.99±5.19*
Moderate (*M=27-33*)	129	43.0	
Good (*M=34-40*)	20	6.7	
Total	300	100.0	

M: Mean for total score, SD=Standard Deviation for total score

Findings demonstrated that the (50.3%) of mothers expressed a poor level of knowledge related to feeding of infant and young children as described by low average *25.99* (*±5.19*).

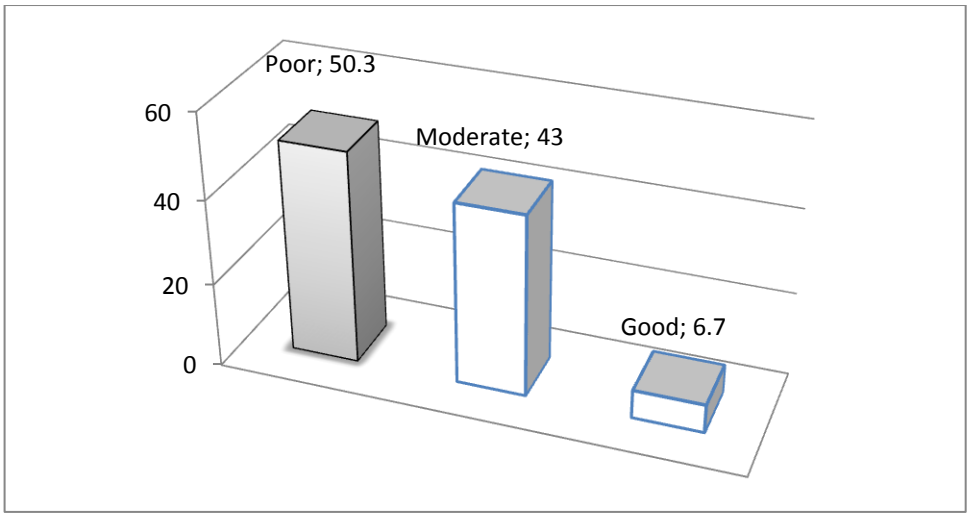

Figure4-1:Mothers Knowledge related to Feeding of Infant and Young Children

Table4-3-1.Mothers Attitudes towards Feeding of Infants and Young Children

List	Attitudes Items	Rating	No.	%	*M S± SD*	*Ass.*
1	It is not possible for a baby to survive on breastfeeding for six months.	Disagree	61	20.3	*2.13±0.723*	*Neutral*
		Neutral	138	46.0		
		Agree	101	33.7		
2	It is important to give the baby some water, honey and other solid foods during the first six months after birth.	Disagree	54	18.0	*2.47±0.781*	*Positive*
		Neutral	49	16.3		
		Agree	197	65.7		
3	Malnutrition is caused by witchcraft and evil eye	Disagree	103	34.3	*1.79±0.658*	*Neutral*
		Neutral	157	52.3		
		Agree	40	13.3		
4	Some foods are too heavy for the children to digest e.g. eggs.	Disagree	47	15.7	*2.52±0.751*	*Positive*
		Neutral	49	16.3		
		Agree	204	68.0		
5	Feeding should be stopped during illness.	Disagree	47	15.7	*2.50±0.751*	*Positive*
		Neutral	56	18.7		
		Agree	197	65.7		
6	Complementary food is vital for child development.	Disagree	67	22.3	*2.37±0.826*	*Positive*
		Neutral	54	18.0		
		Agree	179	59.7		
7	Children should eat from the family pot from 6 months onwards.	Disagree	132	44.0	*1.59±0.555*	*Negative*
		Neutral	158	52.7		
		Agree	10	3.3		
8	A child should eat fruits & vegetables more than 3 times a weak	Disagree	115	38.3	*1.69±0.610*	*Neutral*
		Neutral	161	53.7		
		Agree	24	8.0		
9	Feeding bottles are the best option for feeding children who have refused to breastfeed	Disagree	53	17.7	*2.47±0.777*	*Positive*
		Neutral	53	17.7		
		Agree	194	64.7		
10	Serving only starchy foods prevents malnutrition	Disagree	55	18.3	*2.15±0.705*	*Neutral*
		Neutral	144	48.0		
		Agree	101	33.7		
11	Serving indigenous fruits/vegetables can keep children healthy	Disagree	55	18.3	*2.47±0.786*	*Positive*
		Neutral	49	16.3		
		Agree	196	65.3		
12	Malnutrition can be caused by disease like diarrhea and malaria	Disagree	104	34.7	*1.78±0.652*	*Neutral*
		Neutral	158	52.7		
		Agree	38	12.7		
13	Feels confident in preparing food for child	Disagree	53	17.7	*2.48±0.777*	*Positive*
		Neutral	48	16.0		
		Agree	199	66.3		
14	Perceives that giving different types of food is beneficial to child	Disagree	51	17.0	*2.46±0.768*	*Positive*
		Neutral	58	19.3		
		Agree	191	63.7		
15	Has difficulty giving different types of food to child	Disagree	69	23.0	*2.35±0.831*	*Positive*
		Neutral	55	18.3		
		Agree	176	58.7		
16	Perceives that feeding child several times each day is beneficial	Disagree	133	44.3	*1.58±0.550*	*Negative*
		Neutral	158	52.7		
		Agree	9	3.0		
17	Has difficulty feeding child several times a day	Disagree	100	33.3	*1.74±0.583*	*Neutral*
		Neutral	178	59.3		
		Agree	22	7.3		

18	Perceives that its beneficial to continue breastfeeding beyond 6 months	Disagree	68	22.7	*2.43±0.837*	*Positive*
		Neutral	35	11.7		
		Agree	197	65.7		
19	Has difficulty continuing to breastfeeding beyond 6 months	Disagree	39	13.0	*2.19±0.647*	*Neutral*
		Neutral	163	54.3		
		Agree	98	32.7		
20	Breastfeeding increases mother-infant bonding	Disagree	34	11.3	*2.54±0.690*	*Positive*
		Neutral	69	23.0		
		Agree	197	65.7		
21	I think colostrum should be discarded because it is very greasy	Disagree	83	27.7	*1.85±0.618*	*Neutral*
		Neutral	179	59.7		
		Agree	38	12.7		
22	I do not feel that sterilization protects the child from diarrhea	Disagree	29	9.7	*2.56±0.663*	*Positive*
		Neutral	72	24.0		
		Agree	199	66.3		
23	I don't think ear infection in infants is caused by the wrong feeding position	Disagree	25	8.3	*2.56±0.643*	*Positive*
		Neutral	80	26.7		
		Agree	195	65.0		
24	I think solid food should be introduced to a baby after 9 months of age	Disagree	68	22.7	*2.37±0.829*	*Positive*
		Neutral	53	17.7		
		Agree	179	59.7		
25	I feel that commercial foods are safer than foods prepared at home	Disagree	130	43.3	*1.62±0.586*	*Negative*
		Neutral	154	51.3		
		Agree	16	5.3		
26	Respecting the favorite foods of infants and young children is not essential to successful nutrition	Disagree	136	45.3	*1.62±0.628*	*Negative*
		Neutral	140	46.7		
		Agree	24	8.0		

"(MS) Mean of Scores, (SD) Standard deviation, Level of Assessment (Disagree≤1.66, Neutral=1.67-2.33, Agree ≥2.34)"

In terms of statistical mean and standard deviation, this table demonstrated that the mothers expressed a neutral to positive attitudes regards feeding of infants and young children as indicated by moderate to higher mean scores except, the items number (16, 25 and 26) the responses were negative attitudes as indicated by low mean scores.

Table 4-2-2:Overall Mothers Attitudes towards Feeding of Infants and Young Children

Mothers Attitudes	Freq.	%	*M ± SD*
Negative (*M=26-43*)	44	14.7	*56.36±13.12*
Neutral (*M=44-60*)	136	45.3	
Positive (*M=61-78*)	120	40.0	
Total	300	100.0	

M: Mean for total score, SD=Standard Deviation for total score

Findings demonstrated that the (45.3%) of mothers expressed a neutral attitudes towards feeding of infants and young children as described by moderate average *56.36* (*±13.12*).

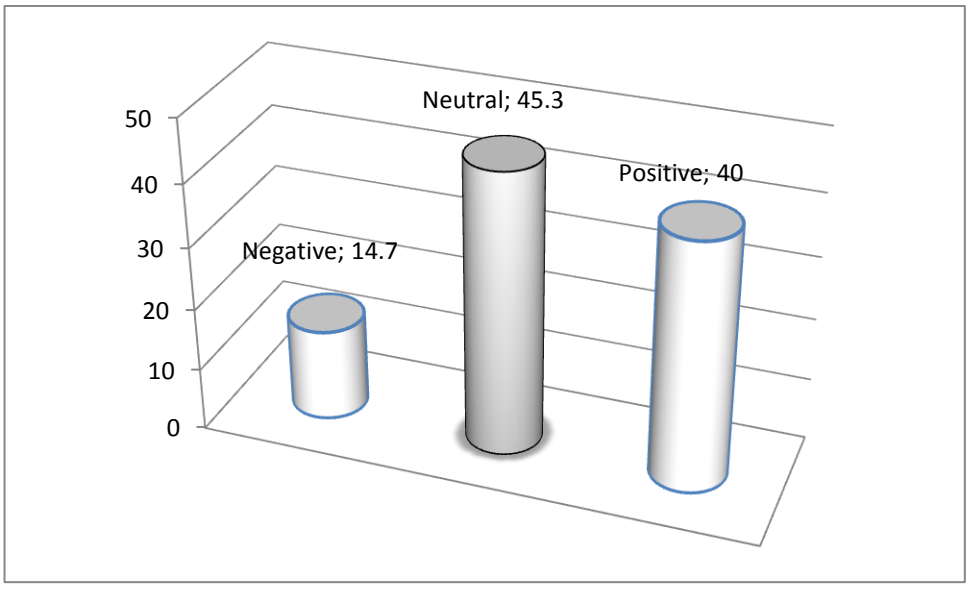

Figure4-2:Mothers Attitudes related to Feeding of Infant and Young Children

4.4.Significant Differences in Mothers Knowledge and Attitudes with regard their Socio-demographic Variables

Table 4-4-1:Statistical Differences in Mothers Knowledge and Attitudes with regards their Age (*n=300*)

Age Variables	Source of variance	Sum of Squares	d.f	Mean Square	F	*p≤ 0.05*
Mothers Knowledge	Between Groups	3.062	5	.612	10.540	.000
	Within Groups	17.081	294	.058		
	Total	20.142	299			
Mothers Attitudes	Between Groups	4.861	5	.972	.009	.122
	Within Groups	71.304	294	.243		
	Total	76.165	299			

d.f: Degree of freedom, F: F-statistic

.

Findings demonstrated that there were significant differences in mothers knowledge (p<0.05); and no significant differences attitudes with regard their age groups *(p>0.05*).

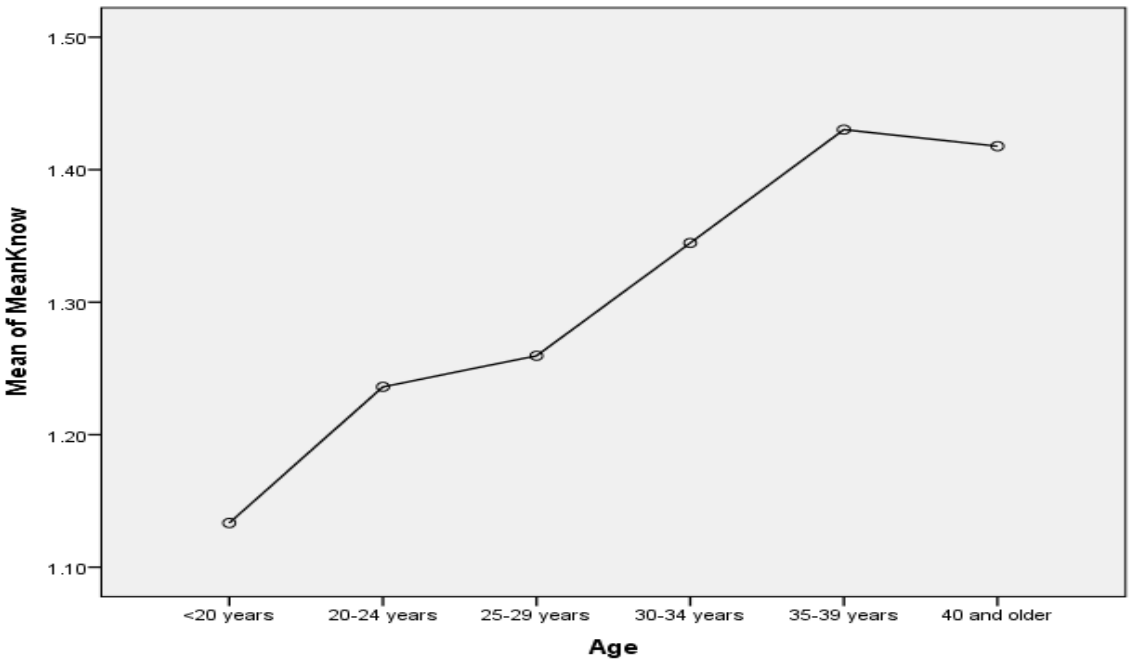

Figure 4-3:Distribution of Mothers Knowledge according Age

Table 4-4-2:Statistical Differences in Mothers Knowledge and Attitudes with regards their Education Level (*n=300*)

Education Level	Source of variance	Sum of Squares	d.f	Mean Square	F	*p≤ 0.05*
Mothers Knowledge	Between Groups	4.637	4	1.159	22.057	.000
	Within Groups	15.505	295	.053		
	Total	20.142	299			
Mothers Attitudes	Between Groups	.897	4	.224	.879	.477
	Within Groups	75.268	295	.255		
	Total	76.165	299			

d.f: Degree of freedom, F: F-statistic.

Findings demonstrated that there were significant differences in mothers knowledge (p<0.05); and no significant differences attitudes with regard their education level *(p>0.05*).

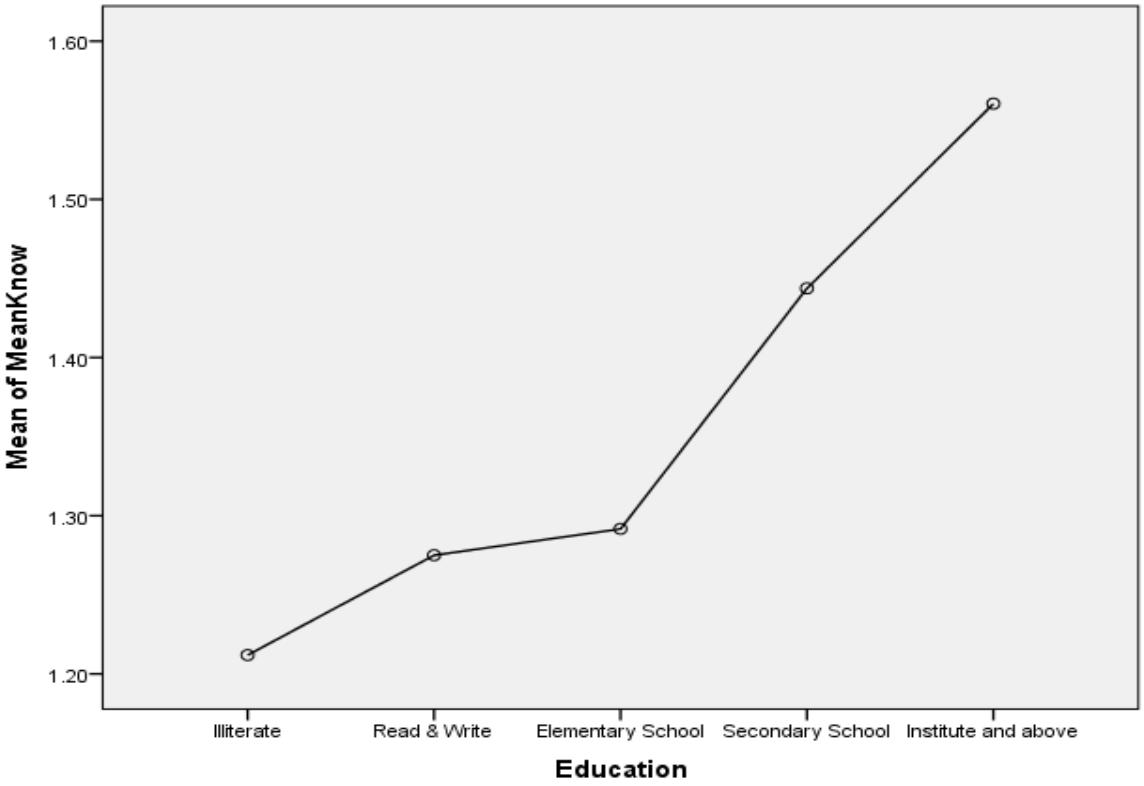

Figure 4-4:Distribution of Mothers Knowledge according Education Level

Table 4-4-3:Statistical Differences in Mothers Knowledge and Attitudes with regards their Occupation (*n=300*)

Occupation	Source of variance	Sum of Squares	d.f	Mean Square	F	*p≤ 0.05*
Mothers Knowledge	Between Groups	.005	2	.003	.038	.963
	Within Groups	20.137	297	.068		
	Total	20.142	299			
Mothers Attitudes	Between Groups	.982	2	.491	1.939	.146
	Within Groups	75.183	297	.253		
	Total	76.165	299			

d.f: Degree of freedom, F: F-statistic.

Findings demonstrated that there were no significant differences in mothers knowledge and attitudes with regard their occupation *(p>0.05*).

Table 4-4-4:Statistical Differences in Mothers Knowledge and Attitudes with regards their Economic Status (*n=300*)

Economic Status	Source of variance	Sum of Squares	d.f	Mean Square	F	*p≤ 0.05*
Mothers Knowledge	Between Groups	.161	2	.081	1.199	.303
	Within Groups	19.981	297	.067		
	Total	20.142	299			
Mothers Attitudes	Between Groups	.760	2	.380	1.497	.226
	Within Groups	75.405	297	.254		
	Total	76.165	299			

d.f: Degree of freedom, F: F-statistic.

Findings demonstrated that there were no significant differences in mothers knowledge and attitudes with regard their economic status *(p>0.05*).

Table 4-4-6:Statistical Differences in Mothers Knowledge and Attitudes with regards their Number of Children (*n=300*)

No. Children	Source of variance	Sum of Squares	d.f	Mean Square	F	*p≤ 0.05*
Mothers Knowledge	Between Groups	1.788	2	.894	14.463	.000
	Within Groups	18.355	297	.062		
	Total	20.142	299			
Mothers Attitudes	Between Groups	.333	2	.167	.652	.522
	Within Groups	75.832	297	.255		
	Total	76.165	299			

d.f: Degree of freedom, F: F-statistic.

Findings demonstrated that there were significant differences in mothers knowledge ($p<0.05$); and no significant differences attitudes with regard their number of children *($p>0.05$*).

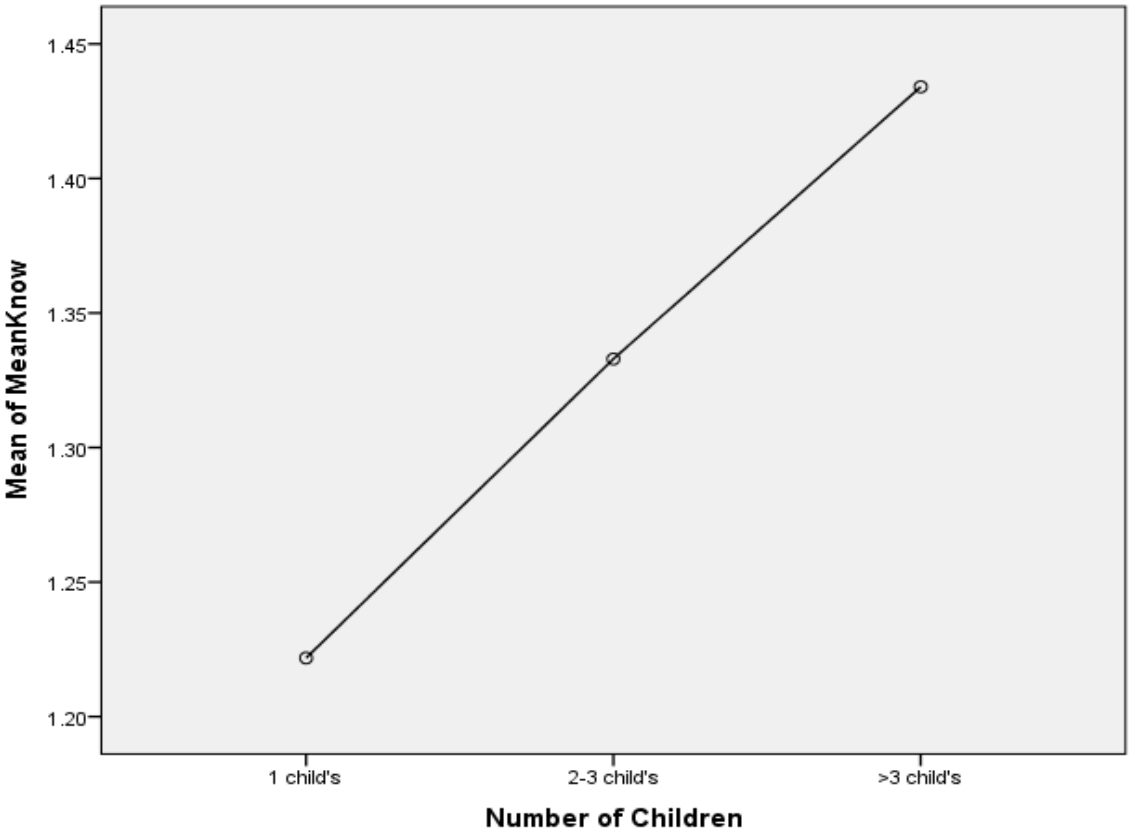

Figure 4-5:Distribution of Mothers Knowledge according Number of Children

Table 4-4-7:Statistical Differences in Mothers Knowledge and Attitudes with regards their Residents (*n=300*)

Variables	Residents	Mean	SD	t-value	d.f	*p≤ 0.05*
Mothers Knowledge	Rural	1.2559	.25581	2.828	298	*.005*
	Urban	1.3397	.25726			
Mothers Attitudes	Rural	2.1060	.58657	2.052	298	*.041*
	Urban	2.2251	.40879			

SD: Standard deviation, t: t-test, d.f: Degree of freedom, p: Probability value.

Findings demonstrated that there were significant differences in mothers knowledge and attitudes with regard their residents *(p<0.05*).

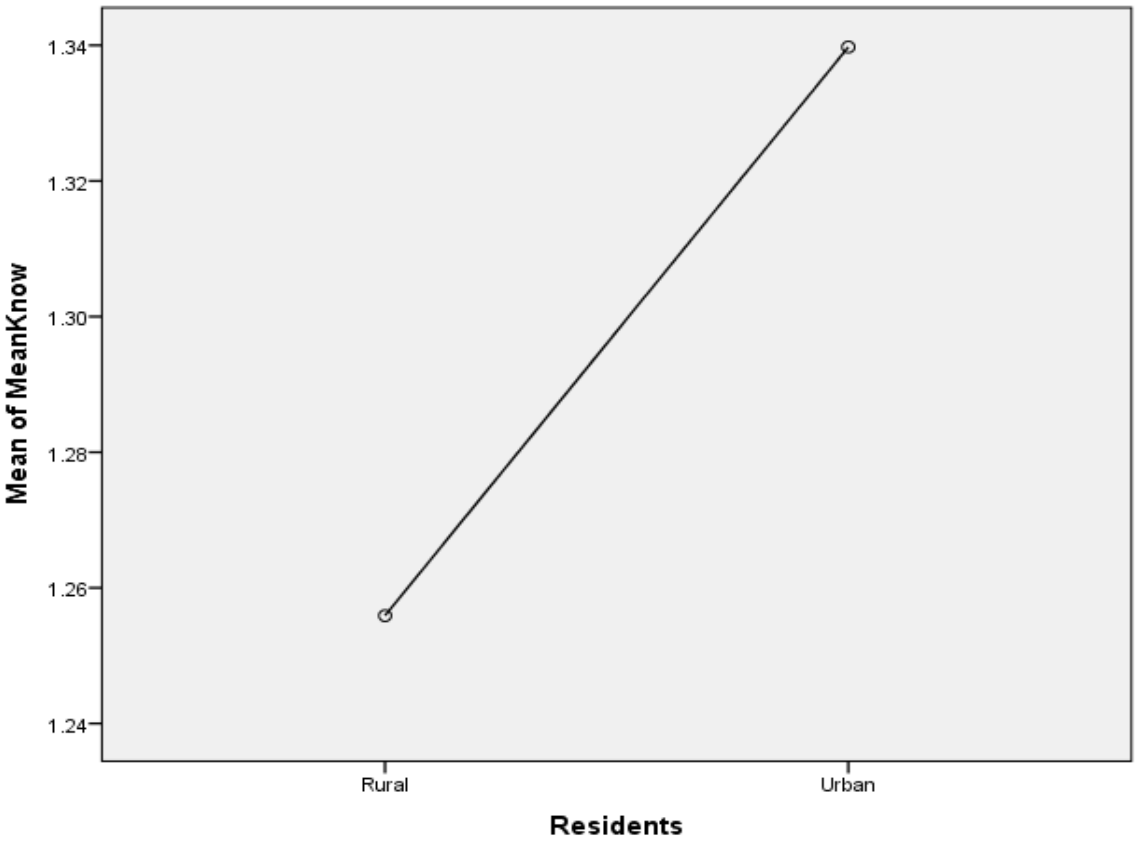

Figure 4-6:Distribution of Mothers Knowledge according Residents

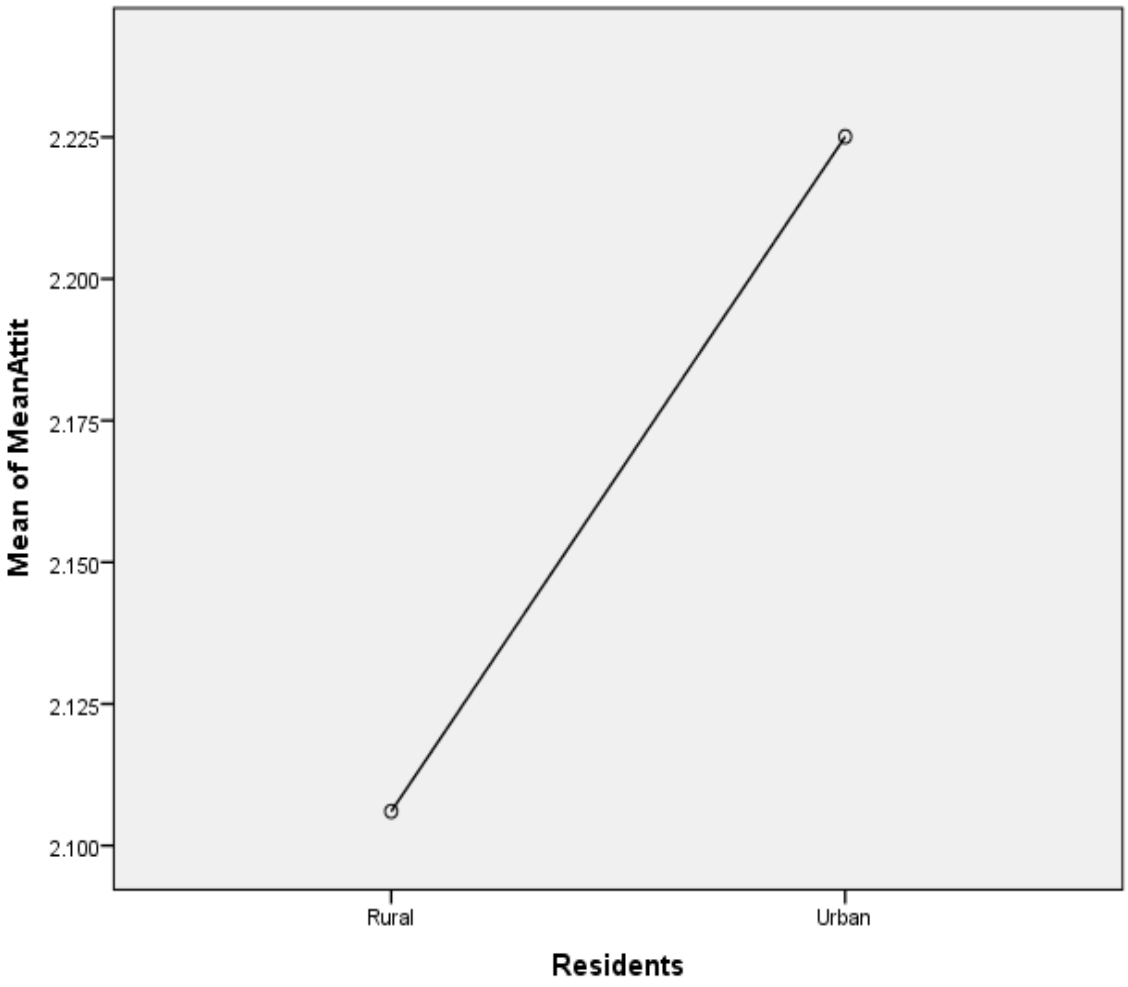

Figure 4-6:Distribution of Mothers Attitudes according Residents

Table 4-4-8:Statistical Differences in Mothers Knowledge and Attitudes with regards their Sources of Information (*n=300*)

Sources of information	Source of variance	Sum of Squares	d.f	Mean Square	F	*p≤ 0.05*
Mothers Knowledge	Between Groups	.743	3	.248	3.780	.011
	Within Groups	19.399	296	.066		
	Total	20.142	299			
Mothers Attitudes	Between Groups	.726	3	.242	.949	.417
	Within Groups	75.440	296	.255		
	Total	76.165	299			

d.f: Degree of freedom, F: F-statistic.

Findings demonstrated that there were significant differences in mothers knowledge (p<0.05); and no significant differences attitudes with regard their number of children *(p>0.05*).

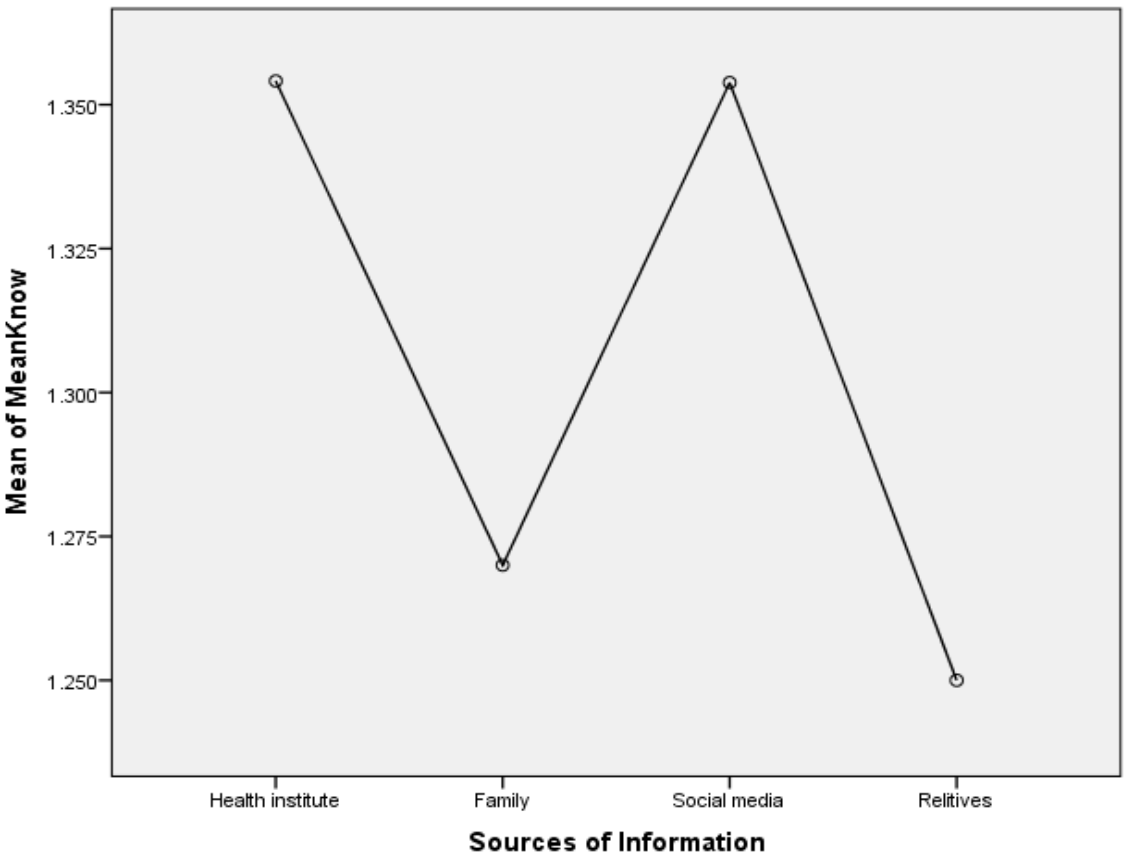

Figure 4-6:Distribution of Mothers Knowledge according Sources of Information

Table 4-5.Association between Mothers Knowledge with regards their Attitudes towards Feeding of Infants and Young Children (*n=300*)

	Mothers knowledge		
Mothers Attitudes	*Spearman's rho*	*.118*	Positive Sig.
	Sig. (2-tailed)	*.041*	
	N	*300*	

Findings exhibit there were significant correlation (positive) between mothers knowledge and their attitudes (*r=0.118; p=0.041*).

Table 4-6:Simple Liner Regression between Mothers Knowledge and their Attitudes (*n=300*)

Knowledge *Vs.* Attitudes	Unstandardized Coefficients		Standardized Coefficients	t	*Sig.*
	B	Std. Error	Beta		
	.160	.065	.142	2.471	.014

Simple linear regression test confirmed that the significant effect of mothers knowledge on their attitudes (*p=0.014*).

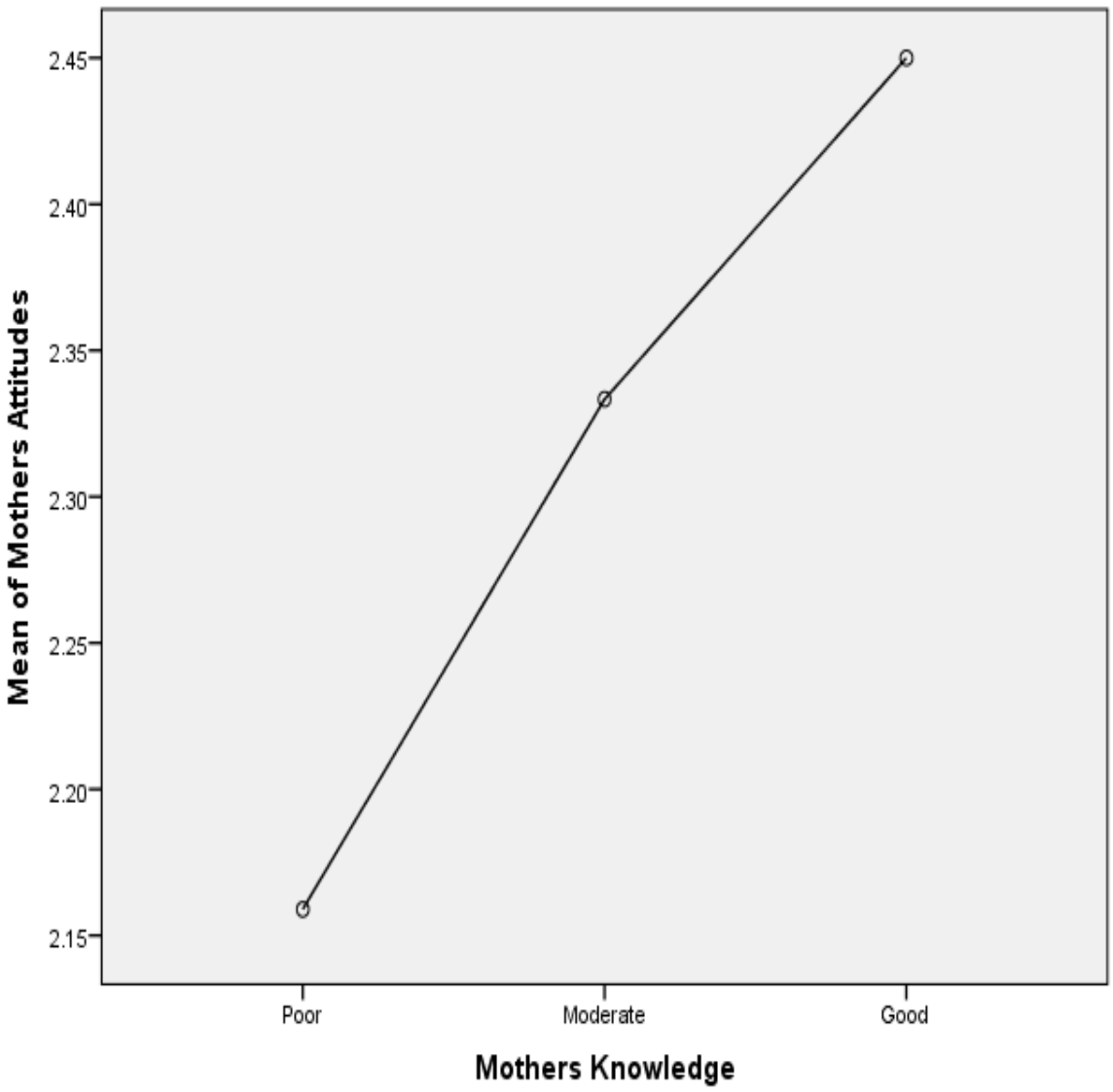

Figure 4-7:Distribution of Mothers Knowledge and their Attitudes

Chapter Five Discussion of the Study Results

Chapter Five

Discussion of the Study Results

Improving infant and young child feeding in children under five of age is therefore critical to improved nutrition, health, development of children and, ultimately and impact child survival. Therefore, thus aimed to assess mothers knowledge and attitudes based on those regards. This chapter extensively introduces the outcomes of the research in tables and these refer to the objectives of this report, which are as follows:

5.1.Socio-Demographic Characteristics of the Study Sample

In deals with participants age, the mean age is 29 (±7), the age 25-29 years old were recorded the highest percentage 63 (21%) due to the age or reproduction. This findings come in line with Berihu et al. (2013), out of the 541 responding mothers about 212 (32.9%) were on the age of 25-29 years.

In regard with education level, half of studied sample was illiterate 155 (51.7%) because approximately half of studied sample were rural residents and limited in education. Occupation related findings, it is obvious from the findings that the housewife were higher 181 (60.3%), as being the occupation depends on education level. Economic status related findings, the mothers expressed the insufficient economic 143 (47.7%) because the economic associated with occupation. The occupation is significantly associated with education level (Most of the studied sample is illiterate, so most of them are housewives). The occupation significantly associated with economic status (Most of the mothers are housewives, so they did not have enough monthly income). This results as confirmed by Envuladu et al. (2013) and their results are in line with our findings.

Concerning number of children, most of mothers exhibited one child's 133 (44.3%) as being a young mothers. In agreement with those

findings, Bala et al., (2020) most of studied sample were had one child's due to young mothers.

In terms of resident, studied sample residents in urban areas156 (52%) as compared with those who are rural residents144 (48%). As being the primary health care centers included in the study were mostly located in urban areas. This is supported by findings from Eastern Ethiopia, the most of participants from urban residents (Guled et al., 2016).

In regards with sources of information, the relatives are the most commune sources of information 125 (41.7%) and those related to culture and those findings agreement with Rakotomanana et al. (2020), who demonstrated in their findings the family were most common sources of information related feeding among mothers and considered insufficient.

5.2.Mothers Knowledge towards Feeding of Infants and Young Children

Malnutrition is one of the leading causes of under-five mortality, with a rate of 54%, and exclusive breastfeeding is the only intervention currently approved to reverse the situation. This requires a qualified mother (Mbina et al., 2021). In current study findings (50.3%) of mothers expressed a poor level of knowledge related to feeding of infant and young children as described by low mean scores *25.99* (*±5.19*). The poor level come due to many influencing factors such as lack of social media awareness deals with nutrition and feeding, studied mothers was mostly informal educated, young mothers may contribute to low level of education and housing areas play a importance role.

In agreement with current findings, study conducted in Erbil City, emphasized that the studied mothers had unsatisfactory knowledge about feeding the infant and young children properly, and investigators decided to construct an educational health program to be implemented by nurses in Primary Health Care Centers in Erbil city for improving mothers

knowledge, attitudes and practices of infant and young child feeding (Shaker et al., 2012).

Bimpong et al. (2020), reported that the Mothers knowledge levels regarding infant and young child feeding recommendations had notable deficiencies although they generally had a positive attitude towards child feeding recommendations. Nutrition education should emphasize on improving mothers' nutrition knowledge regarding infant and young child feeding recommendations and supporting mothers to overcome barriers to feed their children with adequate diets.

To address child malnutrition, it is critical to educate families about proper IYCF practices. This study suggests that mothers be properly educated about IYCF recommendations at health care facilities during their visits, as well as the promotion of appropriate IYCF through various media (Mekonnen et al., 2021).

The poor knowledge in current study sample might be due to several reasons; mother occupies herself only with raising her child, lack of sufficient awareness in the media in improving children health, majority of studied sample were from young who are unable to read and write. Health centers need to conduct more awareness sessions on managing children's feeding, which may contribute to reducing the burden of malnutrition. This response confirmed that the mothers need to be empowering knowledge by attending education sessions deals with management of nutrition and feeding aspects of infants and young children (Tasnim et al., 2018).

Point view of researcher is all mothers at some point make a decision about whether to breastfeed their children or formula milk. Marital status, education, age, culture and trust were determined as variables that affect this decision and thus affect the lack of knowledge regarding the effects and usefulness of breastfeeding, and it was summarized in finding a relationship between knowledge and social factors.

5.3.Mothers Attitudes towards Feeding of Infants and Young Children

Findings demonstrated that the (45.3%) of mothers expressed a neutral attitudes towards feeding of infants and young children as described by moderate mean scores *56.36* (*±13.12*) due to poor knowledge (the knowledge is significant with attitudes).

In line with this findings, Abiyu and Belachew (2020), mothers' attitude towards complementary feeding, overall 51.0% of the mothers in this study had a favorable attitude towards complementary feeding which was consistent with the study done in India (50.0%) (Karnawat et al., 2015), but higher than the finding in Yemen (13.0%) (Dallak et al., 2016).

The overall level of mothers' knowledge and attitude on optimal complementary feeding was not appreciable. Hence, behavior change interventions on optimal complementary feeding focusing on age-specific meal frequency and diversification; feeding during and after illness and the negative impact of bottle feeding should be strengthened in the community (Abiyu & Belachew, 2020).

Point of view is the neutral attitude feeling of breastfeeding are often both emotional and physical. Many women report a state of relaxation and calm, which helps them bond with their children. On the other hand, women indicate that staying away from breastfeeding does not affect the normal growth of the child (researcher).

5.4.Socio-Demographic Variables Associated with Mothers Knowledge towards Feeding of Infant and Young Children

There were only mothers age, education level, number of children, residents and sources of information as a factors associated with their knowledge which are discussion as the following:

5.4.1.Mothers Knowledge and Age

From the current findings, the mothers knowledge towards feeding of infants and young children are significant differences regarding age groups (*p=0.000*) (table 4-4-1). The age of studied sample considered influencing factors of knowledge about feeding of infant and young children, the age group (≥40 years) were records high mean scores of knowledge, unlike the small age (<20 years) were records lowest mean scores (Fig. 4-3). Which means that the higher mothers age significantly associated with improved their knowledge towards feeding of infant and young children, while the youngest mothers is significantly associated with poor knowledge of feeding of infant and young children.

This findings come in agreement with findings from Oromia region, Ethiopia, demonstrated findings that there were significant association between mothers knowledge and their age groups, young mothers expressed a less knowledge than those who are older (Mekonnen et al., 2021). That is, the mother's experience of feeding is related to their age (the older the age, the greater the knowledge). This was confirmed by Vitta et al. (2016), who are found a positive correlation between mothers' knowledge about feeding of children and the progression of mothers' ages.

5.4.2.Mothers Knowledge and Education Level

Findings demonstrated that there were significant differences in mothers knowledge with regard education level (*p=0.000*) (table 4-4-2). From the findings, the highest mean scores of knowledge were increased with those who are institute and above graduated. While, there were lowest

mean scores of knowledge were associated with those who are illiterate (unable to read and write) (Fig. 4-4). So, the educational level is an influential and important factor in knowledge, and the difference between an educated mother and an uneducated mother is great.

The study included the majority of those who unable read and write (51.7%) that the reason for the poor of knowledge in our study (table 4-1-2). This findings is supported by previous studies include findings from Nepal, demonstrated that the illiterate mothers significantly associated with poor knowledge of feeding infant and young children (Adhikari et al., 2021). Onah et al. (2014), confirmed that the mothers knowledge is significantly positive associated with their education (higher education significantly improved their knowledge about feeding and neutrino of infant and children). The illiterate and primary school graduated mothers significantly associated with poor knowledge in terms of infant and young children feeding (Mohammed et al., 2014; Msiska et al., 2018; Zahid et al., 2020).

5.4.3.Mothers Knowledge and Number of Children

Findings demonstrated that there were significant differences in mothers knowledge (*p=0.000*) (table 4-4-6). These differences confirmed that the higher the number of children, the better the mothers' knowledge of the nutrition of their young children, as the mother with one child recorded the lowest average knowledge, while the mother with more than 3 child recorded the highest average knowledge (Fig. 4-5).

This findings come consisting with Berihu et al. (2013), indicated the mothers have moderate to low knowledge of infant and young child feeding. Knowledge increases in parallel with the educational level and the number of children. It is recommended that knowledge be better promoted through the involvement of the media and the healthcare profession.

5.4.4.Mothers Knowledge and Residents

Mothers residents considered an influencing factors of knowledge towards feeding of infant and young children (*M ± SD=1.33±0.257*) than those who are rural residents (*M ± SD=1.25±0.255*), and there were significant differences between them (*t=2.282; p=0.005*). These results have been confirmed by Paudel et al. (2017), who find that the urban residents significantly improved knowledge about feeding of infant and young children.

5.4.5.Mothers Knowledge and its Sources of Information

The relatives are the most commune sources of information 125 (41.7) as expressed by mothers (table 4-1-8). There were significant differences in mothers knowledge with regards their sources of information (*p=0.011*) (table 4-4-8). The health insinuations (physician and nurses) and social media were significantly increased level of mothers knowledge (Fig. 4-6). This findings come in line with Demilew (2017), who mentioned the sources of knowledge were considered influencing factors of young children feeding. The best sources of information towards feeding of children were primary health care nurses (Dhami et al., 2021).

5.5.Socio-Demographic Variables Associated with Mothers Attitudes towards Feeding of Infant and Young Children

There were only mothers residents, as a factors associated with their attitudes which are discussion as the following:

Studied sample residents in urban areas156 (52%) as compared with those who are rural residents144 (48%) (4-1-6). The residents considered the determinants can affect mothers' attitude towards complementary feeding (Zhang et al., 2015). The urban residents 2.22 (±.408) were mostly better attitudes than those rural residents 2.10 (±0.586), and there were significant differences between them (*t=2.052; p=0.041*).

That is, the housing factor is considered a factor affecting mothers' attitudes about feeding infants and young children and those confirmed by many studies in agreement with current study, Abiyu and Belachew (2020), who stated that the residents had been influencing factors of children feeding attitudes. International: Ethiopia demographic and health survey in 2012 considered the urban residents were improved mothers attitudes (CSA-Ethiopia, 2012). There were significant association in mothers attitudes between urban and rural residents (Chung et al., 2004).

5.6.Association between Mothers Knowledge with regards their Attitudes towards Feeding of Infants and Young Children

Findings exhibit there were significant correlation (positive) between mothers knowledge and their attitudes (*r=0.118; p=0.041*) (table 4-5). Form this findings, the poor knowledge were associated with negative attitudes due to the mothers knowledge had been influencing their attitudes towards feeding of infant and young children as confirmed by simple liner regression (table 4-6). Good knowledge is matched by higher mean score of attitudes and poor knowledge associated negative attitudes (lower level of mean scores) (Fig. 4-7).

In agreement with those findings, Owais et al. (2019), stated that the positive correlation between mothers knowledge and their attitudes towards feeding of infant, Working to improve the knowledge of mothers Conducting educational programs that improve the health of children and the attitudes of mothers (Idris, 2019).

The mothers knowledge had been significantly influenced their attitudes, due to the level of attitudes were associated with level of knowledge. The educated mother who has knowledge about feeding her children, on the other hand, has positive attitudes, unlike the one who has poor knowledge (Berisha et al., 2017).

In another, it is reported that the breastfeeding attitude was good but knowledge were poor, as only 26.3% of 95% of mothers had adequate knowledge on EBF and only 16.7% EBF until six months. Therefore there is need to put in place strategies that target improving maternal knowledge and practices on EBF (Mbina et al., 2021).

The results showed that mean knowledge of respondents was *25* (*±5*) and mean attitudes was *56* (*±13*). Statistical significance positive correlation was found between mothers knowledge and attitudes (*r=0.118; p=0.041*). The study adds knowledge regarding health education. Further study is needed to explore other factors related to mothers knowledge and attitudes in children to prevent malnutrition and its related factors to reducing hospitals burdens.

Chapter Six Conclusions & Recommendations

Chapter Six

Conclusions and Recommendations

6.1.Conclusion:

In light of the results discussion and their interpretations, our study concludes that:

6.1.1. Knowledge in terms of feedings of infants and young children, mothers expressed a poor level due to influencing factors includes:

- **A.** Mothers age (knowledge significantly higher with introduced age).
- **B.** Mothers education level (knowledge significantly higher with mothers who are institute and above graduated).
- **C.** Number of children (mothers who had more than one child's is significantly better knowledge than those who had one).
- **D.** Residents (the urban housing significant associated with improved feeding knowledge).
- **E.** Sources of information (health institutions as physician and nurses is significantly higher knowledge scores).

6.1.2. Neutral attitudes towards feeding of infant and young children and influenced by mothers residents (urban is significantly better attitudes than those who are rural).

6.1.3. Mothers knowledge significantly associated with their attitudes (poor knowledge lead to negative attitudes).

6.1.4. Conducted an education sessions by local official in primary health care centers which indeed helps to develop mothers knowledge and attitudes in related to feeding of infant and young children.

6.2.Recommendations:

The present study could recommend, based on the above stated conclusion, that:

6.2.1. Educational sessions can be designed and offered to mothers who attending primary health care centers free of charge by specialized owners deals with nutrition and feeding of under five years children.

6.2.2. Encourage mass media to discuss topics related to educate mothers about avoiding malnutrition and maintaining children health.

6.2.3. There is need for nurses and midwives to health educate mothers on the time of introduction of other foods according to child's age.

6.2.4. Evidence based education on contents of breast milk and baby's needs should be emphasized so as to educate the community with adequate knowledge on the advantages of breast milk to the baby compared to cow's milk.

6.2.5. A manual booklet of nutrition instructions in children and how to deals it should be write in simple words and use attractive pictures given to the mothers and family.

6.2.6. More comprehensive research should be carried out on factors associated with early initiation of mixed foods and factors associated with limited knowledge.

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Appendices

University of Babylon
College of Nursing
Research Ethics Committee

جـــامـعة بـــابـــل
كـــلية التمريـض
لجنة اخلاقيات البحث العلمي

Issue No:
Date: / /202

Approval Letter

To,
zainab Hassan Hussein

The Research Ethics committee at the **University of Babylon, College of Nursing** has reviewed and discussed your application to conduct the research study entitled **" Knowledge and attitudes of mothers toward feeding infants and young children."**

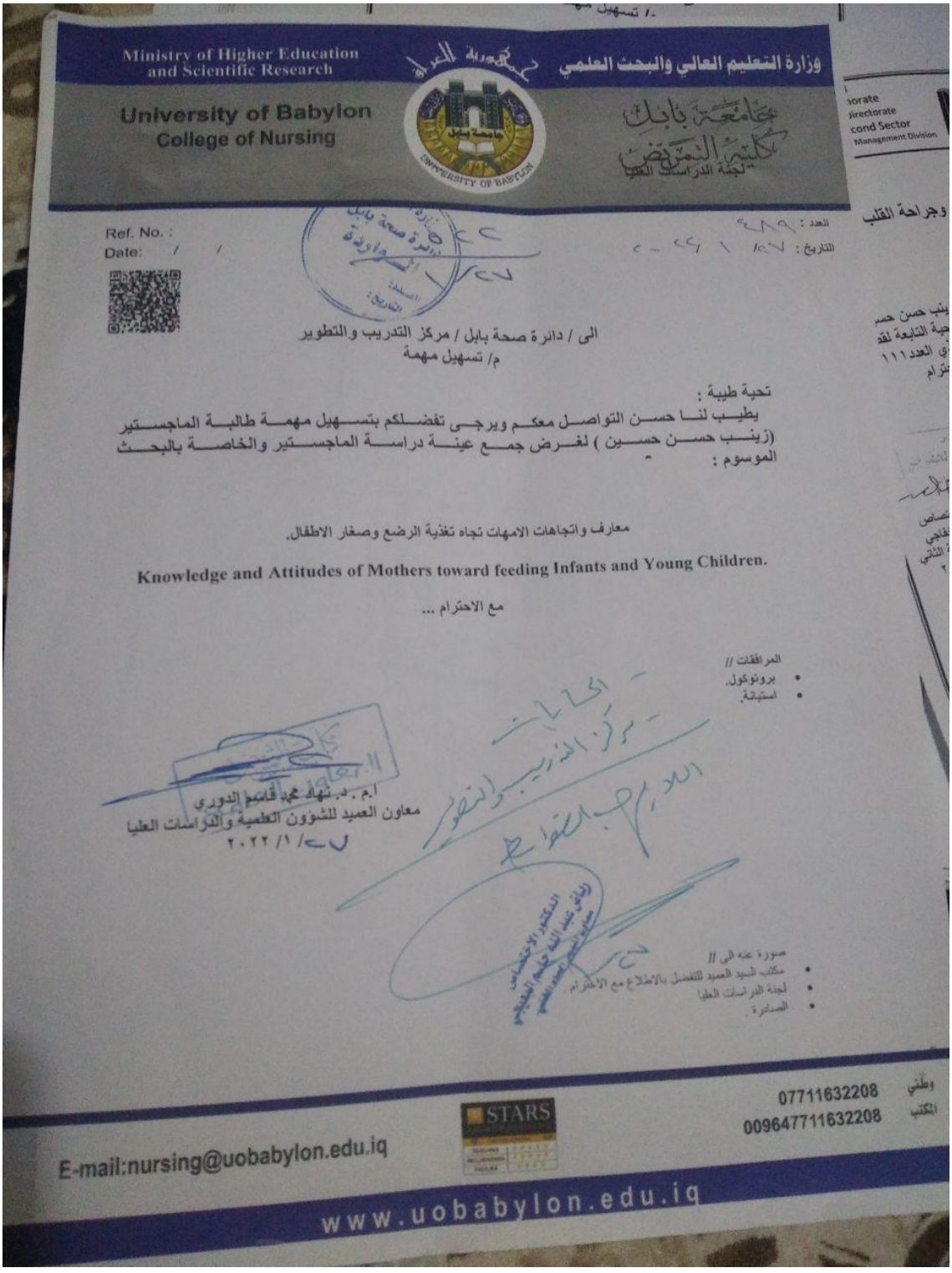
The Following documents have been reviewed and approved:

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

Committee Decision:

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

Prof. Dr. Salma K. Jehad
Chair Committee
College of Nursing
Research Ethical Committee
18 / 01 /2022



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

Ref. No. :
Date: / /

العدد : ٤٧٩
التاريخ : ٧ / ١ / ٢٠٢٢

الى / دائرة صحة بابل / مركز التدريب والتطوير
م/ تسهيل مهمة

تحية طيبة :
يطيب لنا حسن التواصل معكم ويرجى تفضلكم بتسهيل مهمة طالبة الماجستير (زينب حسن حسين) لغرض جمع عينة دراسة الماجستير والخاصة بالبحث الموسوم :

معارف واتجاهات الامهات تجاه تغذية الرضع وصغار الاطفال.

Knowledge and Attitudes of Mothers toward feeding Infants and Young Children.

مع الاحترام ...

المرافقات //
- بروتوكول.
- استبانة.

ا.م . د. نهاد محمد قاسم الدوري
معاون العميد للشؤون العلمية والدراسات العليا
٧ / ١ / ٢٠٢٢

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

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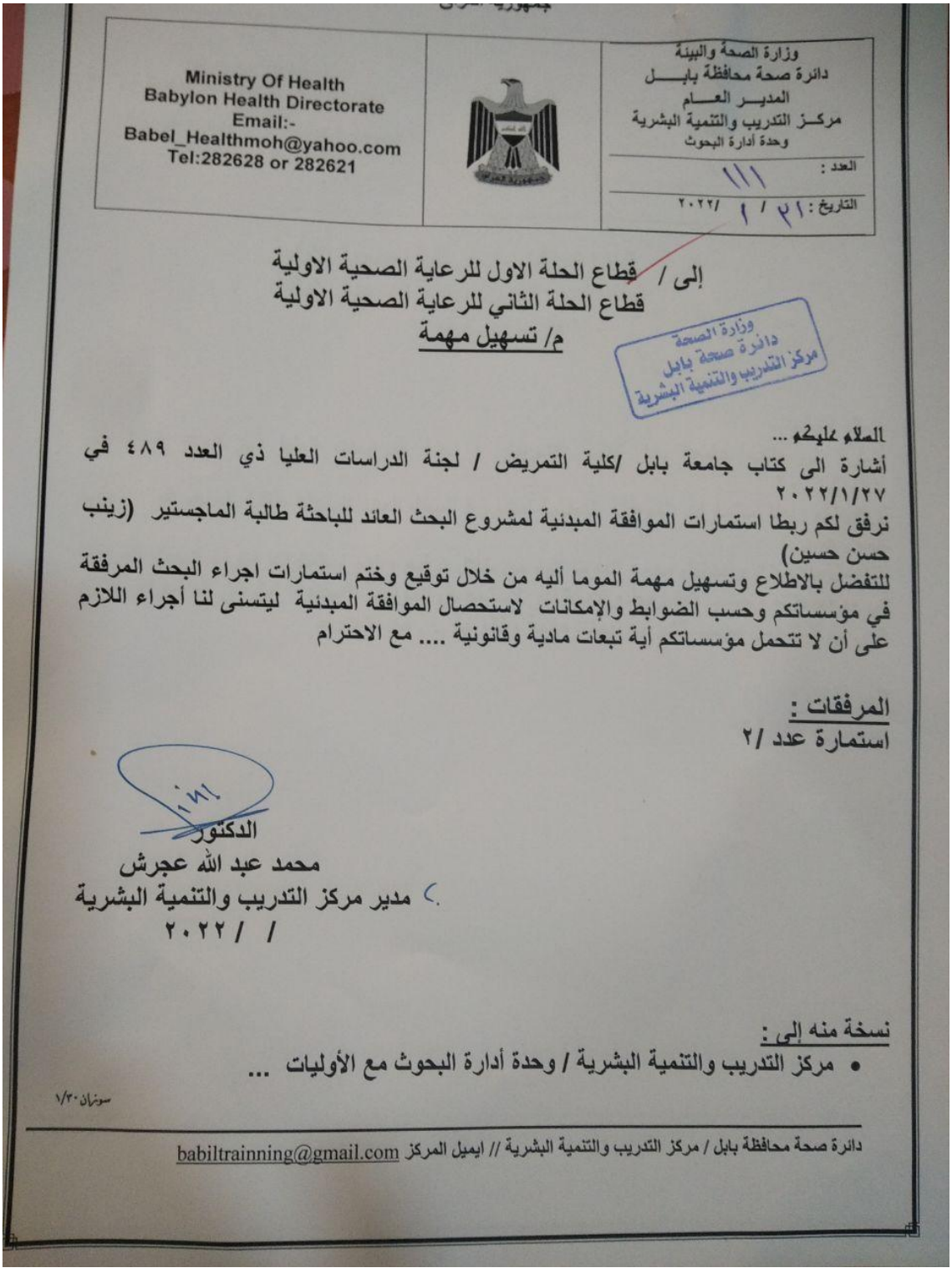


Ministry Of Health
Babylon Health Directorate
Email:-
Babel_Healthmoh@yahoo.com
Tel:282628 or 282621

وزارة الصحة والبيئة
دائرة صحة محافظة بابـــل
المديـــر العـــام
مركـــز التدريب والتنمية البشرية
وحدة أدارة البحوث

العدد : ١١١

التاريخ : ٢١ / ١ /٢٠٢٢

إلى / قطاع الحلة الاول للرعاية الصحية الاولية
قطاع الحلة الثاني للرعاية الصحية الاولية
م/ تسهيل مهمة

وزارة الصحة
دائرة صحة بابل
مركز التدريب والتنمية البشرية

السلام عليكم ...
أشارة الى كتاب جامعة بابل /كلية التمريض / لجنة الدراسات العليا ذي العدد ٤٨٩ في ٢٠٢٢/١/٢٧
نرفق لكم ربطا استمارات الموافقة المبدئية لمشروع البحث العائد للباحثة طالبة الماجستير (زينب حسن حسين)
للتفضل بالاطلاع وتسهيل مهمة الموما أليه من خلال توقيع وختم استمارات اجراء البحث المرفقة في مؤسساتكم وحسب الضوابط والإمكانات لاستحصال الموافقة المبدئية ليتسنى لنا أجراء اللازم على أن لا تتحمل مؤسساتكم أية تبعات مادية وقانونية .... مع الاحترام

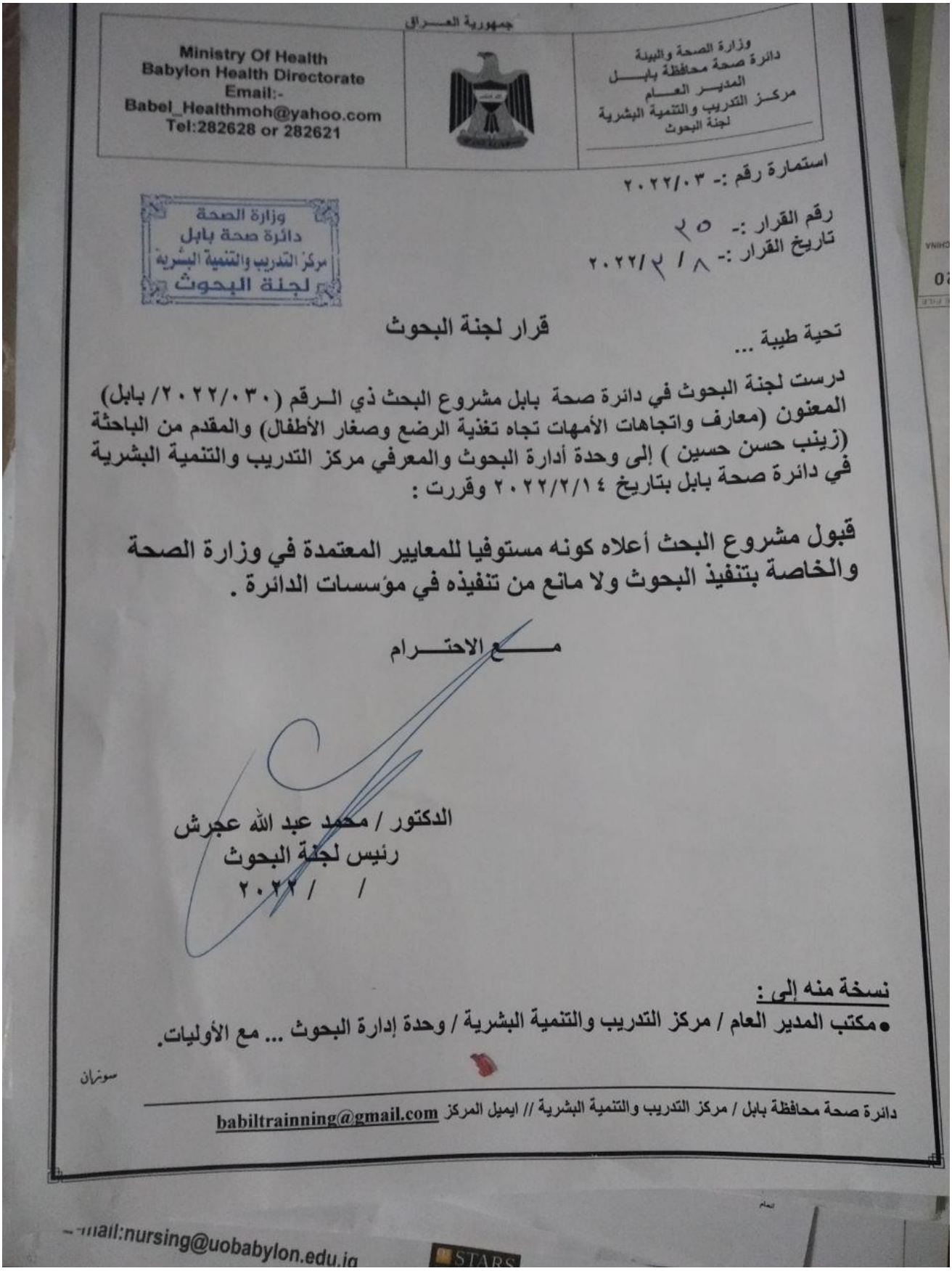
المرفقات :
استمارة عدد /٢

الدكتور
محمد عبد الله عجرش
مدير مركز التدريب والتنمية البشرية
/ / ٢٠٢٢

نسخة منه إلى :
- مركز التدريب والتنمية البشرية / وحدة أدارة البحوث مع الأوليات ...

سونران ١/٢٠

دائرة صحة محافظة بابل / مركز التدريب والتنمية البشرية // ايميل المركز babiltrainning@gmail.com



جمهورية العـــراق

Ministry Of Health
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وزارة الصحة والبيئة
دائرة صحة محافظة بابـــل
المديـــر العـــام
مركـــز التدريب والتنمية البشرية
لجنة البحوث

استمارة رقم :- ٢٠٢٢/٠٣

وزارة الصحة
دائرة صحة بابل
مركز التدريب والتنمية البشرية
لجنة البحوث

رقم القرار :- ٢٥
تاريخ القرار :- ١٨ / ٢ /٢٠٢٢

قرار لجنة البحوث

تحية طيبة ...

درست لجنة البحوث في دائرة صحة بابل مشروع البحث ذي الـرقم (٢٠٢٢/٠٣٠/ بابل) المعنون (معارف واتجاهات الأمهات تجاه تغذية الرضع وصغار الأطفال) والمقدم من الباحثة (زينب حسن حسين) إلى وحدة أدارة البحوث والمعرفي مركز التدريب والتنمية البشرية في دائرة صحة بابل بتاريخ ٢٠٢٢/٢/١٤ وقررت :

قبول مشروع البحث أعلاه كونه مستوفيا للمعايير المعتمدة في وزارة الصحة والخاصة بتنفيذ البحوث ولا مانع من تنفيذه في مؤسسات الدائرة .

مـــــع الاحتـــرام

الدكتور / محمد عبد الله عجرش
رئيس لجنة البحوث
/ / ٢٠٢٢

نسخة منه إلى :
- مكتب المدير العام / مركز التدريب والتنمية البشرية / وحدة إدارة البحوث ... مع الأوليات.

سونران

Ministry of Higher Education and Scientific Research
University of Babylon
College of Education for Human Sciences

جمهورية العراق
وزارة التعليم العالي والبحث العلمي
جامعة بابل
كلية التربية للعلوم الانسانية

Ref. No :
Date: / /

العدد: ٤٥٩٧
التاريخ: ٥/٥/٢٠٢٤

الى/ جامعة بابل/ كلية التمريض

مكتب السيد معاون العميد للشؤون العلمية المحترم

م/ أعادة رسالة

تحية طيبة:

نعيد إليكم رسالة طالبة الدراسات العليا / الماجستير (زينب حسن حسين ولي) بعد تقويمها لغوياً من قبل (أ.م.د.حسين حميد معيوف) من قسم اللغة الانكليزية في كليتنا، وقد ثبت الملاحظات على متن الرسالة يرجى من الباحثة الالتزام بها.

*** مع الاحترام ***

أ.د. اسامة كاظم عمران
معاون العميد للشؤون العلمية
والدراسات العليا

نسخة منه الى //
- الدراسات العليا .
- الصادرة

//مسارة//

البريد الالكتروني bad_edu_humsci@yahoo.com
امتية 07801010633

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Part I: Socio-demographic Information

1. **Mothers Age** ☐
2. **Education level**

   Unable to read and write ☐
   Read and write ☐
   Primary school ☐
   Secondary school ☐
   Institute and above ☐

3. **Mothers Occupation**

   Employee ☐
   Student ☐
   Houswife ☐
   Others ☐

4. **Economic status**

   sufficient ☐ moderate ☐ in suffcient ☐

5. **Number of children** ☐
6. **Resident**

   Urban ☐ Rural ☐

7. **Source of information**

   Health providers ☐
   Family ☐
   Electronic media ☐
   Relatives ☐

Part II: Mothers Knowledge towards Feeding of Infant and Young Childs

List	Items of mother knowledge	Yes	No
1	Infants should be exclusively breastfed for the first 6 months of life		
2	Breastfeeding should be continued up to 2 years and beyond		
3	Adding ghee or oil(blue band) to Childs porridge is advisable		
4	A 6 months child should be fed on pureed or sieved foods		
5	Mother or a caregiver should feed a child based on hunger cues		
6	A breastfed child who is 12 months old should be fed solid foods two times per day		
7	Mothers/caregivers should wash hands before preparing children food		
8	Sick and recovering children should be fed porridge or diluted fruit juices only		
9	Feeding bottles are the best option for feeding children who have refused to breastfeed		
10	Water used to prepare food and drinks for a child should be boiled or treated		
11	A mother or a caregiver should assist a child to eat until 2 years		
12	1-2 table spoonfuls of a food is adequate for a one meal of a 1 year child		
13	Children should eat from the family pot from 1 year onwards.		
14	Fruits and vegetables like carrots, mangoes, pawpaw and green leafy vegetables are suitable complementary foods		
15	A child should be breastfed on demand		
16	A mother should be the primary feeder of the child		
17	It's not advisable to give a child who is breastfeeding other protein foods such as poultry, eggs, fish even after 6 months since breast milk is adequate in proteins		
18	Complementary foods should be introduced at 6 months		
19	A Childs main meal should be a mixture of many food items from grains/cereals, meats/eggs/poultry, fish, legumes, roots/tubers, fruits/vegetables, fats/oils		
20	Flour mixes of ndengu, millet, sorghum, maize, beans and omena are ideal for complementary feeding because they are nutritious		

**Adopted and developed by Kimwele (2014)*

Part III: Mothers Attitudes towards Feeding of Infant and Young Childs

List	Items of mothers attitudes	Agree	Neutral	Disagree
1	It is not possible for a baby to survive on breastfeeding for six months.			
2	It is important to give the baby some water, honey and other solid foods during the first six months after birth.			
3	Malnutrition is caused by witchcraft and evil eye			
4	Some foods are too heavy for the children to digest e.g. eggs.			
5	Feeding should be stopped during illness.			
6	Complementary food is vital for child development.			
7	Children should eat from the family pot from 6 months onwards.			
8	A child should eat fruits & vegetables more than 3 times a weak			
9	Feeding bottles are the best option for feeding children who have refused to breastfeed			
10	Serving only starchy foods prevents malnutrition			
11	Serving indigenous fruits/vegetables can keep children healthy			
12	Malnutrition can be caused by disease like diarrhea and malaria			
13	Feels confident in preparing food for child			
14	Perceives that giving different types of food is beneficial to child			
15	Has difficulty giving different types of food to child			
16	Perceives that feeding child several times each day is beneficial			
17	Has difficulty feeding child several times a day			
18	Perceives that its beneficial to continue breastfeeding beyond 6 months			
19	Has difficulty continuing to breastfeeding beyond 6 months			
20	Breastfeeding increases mother-infant bonding			
21	I think colostrum should be discarded because it is very greasy			
22	I do not feel that sterilization protects the child from diarrhea			
23	I don't think ear infection in infants is caused by the wrong feeding position			
24	I think solid food should be introduced to a baby after 9 months of age			
25	I feel that commercial foods are safer than foods prepared at home			
26	Respecting the favorite foods of infants and young children is not essential to successful nutrition			

**Adopted and developed by Wanyenze (2018).*

معارف واتجاهات الأمهات نحو إطعام الرضع وصغار الأطفال

الجزء الاول: المعلومات الديموغرافية

العمر ☐

المستوى التعليمي للام

غير قادر على القراءة والكتابة ☐ يقرا ويكتب ☐

مدرسة ابتدائية ☐ مدرسة ثانوية ☐

المعهد وما فوق ☐

مهنة إلام

موظفة ☐ طالبة ☐

ربة منزل ☐ أخرى ☐

الدخل الشهري

يكفي ☐ الى حد ما يكفي ☐ لا يكفي ☐

عدد أطفال الأسرة ☐

السكن

مدينة ☐ ريف ☐

مصدر المعرفة حول التغذية

مقدمو الخدمات الصحية ☐ أسرة ☐

الانترنيت ☐ الأقارب ☐

الجزء الثاني: المعارف تجاه تغذية الرضع وصغار الأطفال

ت	الفقرات	نعم	لا
1	يجب إرضاع الرضع حصريًا خلال الأشهر الستة الأولى من عمرهم		
2	يجب أن تستمر الرضاعة الطبيعية لمدة تصل إلى سنتين وما بعدها		
3	يُنصح بإضافة السمن أو الزيت (الشريط الأزرق) إلى عصيدة تشايلدز		
4	يجب إطعام الطفل البالغ 6 أشهر من الأطعمة المهروسة أو المنخل		
5	يجب على الأم أو مقدم الرعاية إطعام الطفل بناءً على إشارات الجوع		
6	يجب إطعام الطفل الذي يرضع رضاعة طبيعية ويبلغ من العمر 12 شهرًا أطعمة صلبة مرتين يوميًا		
7	يجب على الأمهات / مقدمي الرعاية غسل أيديهم قبل تحضير طعام الأطفال		
8	يجب إطعام الأطفال المرضى والمتعافين من العصيدة أو عصائر الفاكهة المخففة فقط		
9	زجاجات الرضاعة هي أفضل خيار لإطعام الأطفال الذين رفضوا الرضاعة الطبيعية		
10	يجب غلي أو معالجة المياه المستخدمة في تحضير الطعام والمشروبات للطفل		
11	يجب على الأم أو مقدم الرعاية مساعدة الطفل على الأكل حتى عمر سنتين		
12	1-2 ملاعق كبيرة من الطعام تكفي لوجبة واحدة لطفل عمره عام		
13	يجب أن يأكل الأطفال من إناء الأسرة من عام واحد فصاعدًا.		
14	الفواكه والخضروات مثل الجزر والمانجو والبابايا والخضروات ذات الأوراق الخضراء هي أطعمة تكميلية مناسبة		
15	يجب إرضاع الطفل عند الطلب		
16	يجب أن تكون الأم هي المغذي الأساسي للطفل		
17	لا يُنصح بإعطاء الطفل الذي يرضع أطعمة بروتينية أخرى مثل الدواجن والبيض والأسماك حتى بعد 6 أشهر لأن حليب الثدي كافٍ بالبروتينات		
18	يجب تقديم الأطعمة التكميلية في عمر 6 أشهر		
19	يجب أن تكون الوجبة الرئيسية للأطفال عبارة عن مزيج من العديد من المواد الغذائية من الحبوب / الحبوب واللحوم / البيض / الدواجن والأسماك والبقوليات والجذور / الدرنات والفواكه / الخضروات والدهون / الزيوت		
20	خليط الدقيق من ندينغو والدخن والذرة الرفيعة والذرة والفاصوليا والأومينا مثالية للتغذية التكميلية لأنها مغذية		

الجزء الثالث: اتجاهات الأمهات نحو تغذية الرضع وصغار الأطفال

ت	الفقرات	موافق	محايد	غير موافق
1	لا يمكن للطفل أن يعيش على الرضاعة الطبيعية لمدة ستة أشهر.			
2	من المهم إعطاء الطفل بعض الماء والعسل والأطعمة الصلبة الأخرى خلال الأشهر الستة الأولى بعد الولادة.			
3	ينتج سوء التغذية عن السحر والعين الشريرة			
4	بعض الأطعمة ثقيلة جدًا بحيث يتعذر على الأطفال هضمها ، على سبيل المثال: بيض.			
5	يجب إيقاف التغذية أثناء المرض.			
6	الغذاء التكميلي أمر حيوي لنمو الطفل.			
7	يجب أن يأكل الأطفال من وعاء الأسرة من 6 أشهر فصاعدًا.			

			يجب أن يأكل الطفل الفاكهة والخضروات أكثر من 3 مرات اسبوعيا	**8**
			زجاجات الرضاعة هي أفضل خيار لإطعام الأطفال الذين رفضوا الرضاعة الطبيعية	**9**
			إن تقديم الأطعمة النشوية فقط يمنع سوء التغذية	**10**
			يمكن أن يساعد تقديم الفاكهة / الخضار الأصلية في الحفاظ على صحة الأطفال	**11**
			يمكن أن يكون سبب سوء التغذية أمراض مثل الإسهال والملاريا	**12**
			اشعر بالثقة في إعداد الطعام للطفل	**13**
			ارى أن إعطاء أنواع مختلفة من الطعام مفيد للطفل	**14**
			لديه صعوبة في إعطاء أنواع مختلفة من الطعام للطفل	**15**
			باعتقادي أن إطعام الطفل عدة مرات كل يوم مفيد	**16**
			لديه صعوبة في إطعام الطفل عدة مرات في اليوم	**17**
			باعتقادي أنه من المفيد الاستمرار في الرضاعة الطبيعية بعد 6 أشهر	**18**
			لديه صعوبة في الاستمرار في الرضاعة الطبيعية بعد 6 أشهر	**19**
			تزيد الرضاعة الطبيعية من الترابط بين الأم والرضيع	**20**
			أعتقد أنه يجب التخلص من اللبأ لأنه دهني جدًا	**21**
			لا اشعر ان التعقيم يقي الطفل من الاسهال	**22**
			لا أعتقد أن التهاب الأذن عند الرضع ناتج عن وضع التغذية الخاطئ	**23**
			أعتقد أنه يجب تقديم الطعام الصلب للطفل بعد 9 أشهر من العمر	**24**
			أشعر أن الأطعمة التجارية أكثر أمانًا من الأطعمة المحضرة في المنزل	**25**
			إن احترام الأطعمة المفضلة للرضع والأطفال الصغار ليس ضروريًا للتغذية الناجحة	**26**

خبراء تحكيم استمارة الاستبانة

ت	اسم الخبير	اللقب العلمي	مكان العمل	الاختصاص
1	د.محمد فاضل خليفة	استاذ	جامعة بغداد \كلية التمريض	تمريض صحة الاسرة والمجتمع
2	د. حسن علوان بيعي	استاذ	جامعة بابل \كلية طب حمورابي	تمريض صحة الاسرة والمجتمع
3	د. سلمى كاظم جهاد	استاذ	جامعة بابل \كلية التمريض	تمريض صحة الاسرة والمجتمع
4	د. فاطمة وناس خضير	استاذ	جامعة الكوفة \كلية التمريض	تمريض صحة الاسرة والمجتمع
5	د.وسام جبار قاسم	استاذ	جامعة بغداد \كلية التمريض	تمريض صحة الاسرة والمجتمع
6	د.نهاد محمد الدوري	استاذ	جامعة بابل \كلية التمريض	تمريض اطفال
7	د. ناجي ياسر سعدون	استاذ	جامعة بابل\ كلية التمريض	تمريض صحة الاسرة والمجتمع
8	د.منصور عبد الله فلاح	استاذ مساعد	جامعة الكوفة \كلية التمريض	تمريض صحة الاسرة والمجتمع
9	د. مرتضى غانم عداي	استاذ مساعد	جامعة الكوفة \كلية التمريض	تمريض صحة الاسرة والمجتمع
10	د. خميس بندرعبيد	استاذ	جامعة كربلاء\كلية التمريض	تمريض أطفال
11	د. وفاء احمد امين	استاذ مساعد	جامعة بابل \كلية التمريض	تمريض صحة الام والوليد

الخلاصة

يعد تحسين تغذية الرضع وصغار الأطفال عند الأطفال دون سن الخامسة أمر بالغ الأهمية . في نهاية المطاف تؤثر على بقاء الطفل على قيد الحياة. لذلك ، تهدف الدراسة إلى تقييم معارف واتجاهات الأمهات تجاه تغذية الرضع والأطفال الصغار؛ وتحديد المتغيرات الاجتماعية الديموغرافية المرتبطة بها.

اجريت دراسة وصفية في محافظة بابل في قطاعين للرعاية الصحية الأولية. وتشمل هذه القطاعات (الحلة الأولى والثانية) من 19 أكتوبر 2021 حتى 2 مايو 2022. وتتكون عينة الدراسة من 300 (أم) باستخدام طريقة أخذ العينات غير الاحتمالية. تم تقديم الاستبيان إلى الخبراء لإثبات صحته ومن ثم يمكن الاعتماد عليه من خلال دراسة تجريبية. بلغ إجمالي عدد العناصر المدرجة في الاستبيان 20 فقرة للمعرفة و 26 فقرة للاتجاهات. تم جمع البيانات باستخدام أسلوب المقابلة الشخصية وتحليلها باستخدام المنهج الوصفي والاستنتاجي لتحليل البيانات الإحصائية.

أشارت نتائج الدراسة إلى أن (50.3٪) من الأمهات أظهرن معرفة ضعيفة و (45.3٪) مواقف محايدة تجاه تغذية الرضع وصغار الأطفال. كانت هناك اختلافات في المعرفة فيما يتعلق بعمر الأم ($p=0.000$) ، والمستوى التعليمي ($p=0.000$)، وعدد الأطفال ($p=0.000$) ، والسكن ($p=0.005$) ومصادر المعلومات ($p=0.011$) ؛ مع وجود فروق ذات دلالة إحصائية في المواقف تجاه الأمهات حسب سكنهم ($p=0.000$) كان هناك ارتباط إيجابي معنوي بين معرفة الأمهات ومواقفهم ($r=0.118$; $p=0.041$).

استنتجت الدراسة إن هنالك علاقة إيجابية ذات دلالة إحصائية بين معارف الأمهات ومواقفهن. تضيف الدراسة المعرفة المتعلقة بالتثقيف الصحي. هناك حاجة إلى مزيد من الدراسة لاستكشاف العوامل الأخرى المتعلقة بمعارف الأمهات ومواقفهن في تغذية الأطفال للوقاية من سوء التغذية والعوامل المرتبطة به لتقليل أعباء المستشفيات.

جمهورية العراق
وزارة التعليم العالي والبحث العلمي
جامعة بابل
كلية التمريض

معارف واتجاهات الأمهات تجاه تغذية الرضع وصغار الأطفال

رسالة مقدمة من قبل

زينب حسن حسين

الى

مجلـــــس كلية التمريض \جامعة بابل

كـجزء من متطلبـات نيل درجة المـاجستير في علـوم التمريـض

بإشراف

أ.د. أمين عجيل ياسر

ايار\2022 ميلادية

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