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Knowledge, Attitudes, and Practices towards Exclusive Breastfeeding and Associated Factors among women from Bethlehem Area

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Knowledge, Attitudes, and Practices towards Exclusive Breastfeeding and Associated Factors among women from Bethlehem Area

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Dedication

To the one who taught me success and patience

To those who miss him in the face of difficulties

The world did not allow him to quench his tenderness

Dear father:

And to those who compete for words to express themselves

Who taught me and suffered hardships to get to where I am

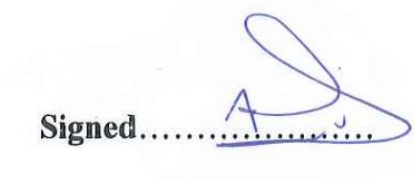
And when worries overwhelm me, I swim in the sea of her tenderness to ease my pain...

My dear mother, may God protect you

Afnan Raid Mohammad Ghrayeb

Declaration

I certify that this thesis submitted for the degree of Master, is the result of my own research, except where otherwise acknowledged, and that this study (or any part of the same) has not been submitted for a higher degree to any other university or institution.



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To my dearest father, you always believed in me and supported me to be the best.

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ABSTRACT

Background: The World Health Organization (WHO) and the United Nations Children's Fund (UNICEF) recommend breastfeeding exclusively (EBF) for the first six months of a baby's life before introducing complementary foods. Numerous infant studies have demonstrated that breastfeeding is the optimal method, that it can reduce the incidence and severity of numerous infectious conditions, and that it is a major public health intervention for reducing infant mortality.

Aim: The aim of the study is to assess knowledge, attitudes, and practices towards exclusive breastfeeding of mothers and identify factors associated with the practices of exclusive breastfeeding.

Methods: Across sectional study design was used to collect the data from the mothers who attended the two Maternal Child Health clinics (MCH) clinics and a major Governmental hospital located at Bethlehem governorate, Palestine. The data was collected using a self-administered questionnaire. The questionnaire assessed the demographics, knowledge, attitudes and practices of exclusive breastfeeding. Factors affecting EBF knowledge, attitude and practice were assessed using the Chi-square test and a p-value of 0.05 as the level of significance.

Results: The response rate was 94%, with 282 participants. The prevalence rate of EBF was 63% (95%CI, 57.2%-68.7%), the score knowledge about EBF was seen in 78% (95%CI, 72.3%-82.4%) of the participants, while score attitude was found in 78.7% (95%CI, 73.4%-83.4%) and score practice was reported in 9.2% (95%CI, 6.1% - 13.2%) of the participant only. The study found that about 98% of mothers had knowledge about the health benefits of breastfeeding for both the mother and child, while 55% reported that infant needs to take boiled

herbs to relieve colic, especially in the first 6 months of life. In addition, 86% of the participants strongly agreed that breast milk should be given directly to newborns within an hour of birth, and 50% disagreed or were neutral with giving water in addition to BF is necessary. Moreover, 87.9% of the participants had previously breastfed their children, and 33.3% stopped breastfeeding due to the child's illness (diarrhea, fever, jaundice).

Mother's current age and their age at marriage were significantly associated with EBF knowledge (p-value= 0.01, 0.008 respectively) and with better EBF attitude (p-value= 0.008, 0.019 respectively). Mother's age of marriage and the husband's level of education were associated with EBF practice (p-value= 0.001, 0.04 respectively), Factors that were significantly associated positively with EBF are the mothers age (p= 0.15) and the mothers age at marriage p= (0.98), the education level of the husband(p=0.46). Multiple factors could explain these results such as the fear from the change in breast shape, employment and the fear from inadequate breast milk for baby development.

Conclusion:

Understanding the factors associated with exclusive breastfeeding and implementing appropriate interventions can help to increase the prevalence of exclusive breastfeeding and improve the health outcomes of infants and mothers. It is important to educate younger mothers and fathers about the benefits of breastfeeding and to address any concerns they may have about its impact EBF.

Keywords: Exclusive breast feeding, practice, knowledge, attitude, mothers', Bethlehem.

عنوان المعرفة والمواقف والممارسات الرضاعة الطبيعية الحصرية والعوامل المرتبطة بها بين النساء من منطقة بيت لحم

المشرف. د. مها النوباني

اسم الطالب: افنان رائد محمد غريب

الملخص:

خلفية: توصي منظمة الصحة العالمية (WHO) ومنظمة الأمم المتحدة للطفولة (UNICEF) بالرضاعة الطبيعية حصريًا (EBF)خلال الأشهر الستة الأولى من حياة الطفل قبل إدخال الأطعمة التكميلية. أظهرت العديد من دراسات الأطفال أن الرضاعة الطبيعية هي الطريقة المثلى، وأنها يمكن أن تقلل من حدوث وشدة العديد من الحالات المعدية، وأنها تدخل رئيسي للصحة العامة للحد من وفيات الرضع.

الهدف: تهدف هذه الدراسة إلى تقييم المعرفة والمواقف والممارسات تجاه الرضاعة الطبيعية الحصرية للأمهات وتحديد العوامل المرتبطة بممارسات الرضاعة الطبيعية الحصرية.

الطريقة: هذه الدراسة المقطعية للأمهات في عيادات مراكز الرعاية الصحيه الأولية في منطقة بيت لحم، فلسطين، عام ٢٠٢٢. تم جمع البيانات باستخدام استبيان ذاتي. قام الاستبيان بتقييم التركيبة السكانية والمعرفة والممارسات الخاصة بالرضاعة الطبيعية الحصرية، فضلاً عن التحديات التي تواجهها النساء خلال الرضاعة الطبيعية الحصرية. ممارسة الرضاعة الطبيعية الحصرية ومتغيرات الخلفية باستخدام اختبار Chi-square وقيمة p 0.05 كمستوى الأهمية.

النتائج: بلغ معدل الاستجابة 94٪، مع 282 مشاركًا .كان معدل انتشار الرضاعة الطبيعية الحصرية 63%(95٪ CI), 57.2 ٪ 68.7- ٪(، وشوهدت معرفة النتيجة حول الرضاعة الطبيعية الحصرية في (95%CI), 57.2%-68.7%) 63% من المشاركين، بينما كان موقف النتيجة هو وجدت في 78.7٪ (95٪ CI)، 73.4٪83.4- ٪ (وتم الإبلاغ عن ممارسة النتيجة في 9.2٪ (95٪ CI)، 6.1٪13.2 - ٪ (من المشاركين فقط .ووجدت الدراسة أن حوالي 98٪ من الأمهات لديهن معرفة بالفوائد الصحية للرضاعة الطبيعية لكل من الأم والطفل، بينما أفاد 55٪ أن الرضيع يحتاج إلى تناول أعشاب مغلية لتخفيف المغص، خاصة في الأشهر الستة الأولى من العمر .بالإضافة إلى ذلك، وافق 86٪ من المشاركين بشدة على ضرورة

إعطاء حليب الثدي للأطفال حديثي الولادة مباشرةً في غضون ساعة من الولادة، و50% رفضوا أو أبدوا الحياد في إعطاء الماء بالإضافة إلى الرضاعة الطبيعية الحصرية .علاوة على ذلك، 87.9٪ من المشاركين سبق لهم إرضاع أطفالهم من الثدي، و33.3٪ توقفوا عن الرضاعة الطبيعية بسبب مرض الطفل (الإسهال، الحمى، اليرقان) .ارتبط العمر الحالي للأم وعمرها عند الزواج بشكل كبير بمعرفة الرضاعة الطبيعية الحصرية (القيمة الاحتمالية = 0.01، 0.008 على التوالي) ومع سلوك الرضاعة الطبيعية الحصرية الأفضل (القيمة الاحتمالية = 0.008، 0.019 على التوالي) .ارتبط سن زواج الأم ومستوى تعليم الزوج بممارسة) الرضاعة الطبيعية الحصرية القيمة0.001 = p ، 0.04 على التوالي (، والعوامل التي ارتبطت بشكل إيجابي مع الرضاعة الطبيعية الحصرية هي سن الأمهات (p = 0.15) وسن الأمهات عند الزواج = p (0.98)، المستوى التعليمي للزوج (ع = 0.46) .يمكن أن تفسر عدة عوامل هذه النتائج مثل الخوف من التغيير في شكل الثدي والتوظيف والخوف من حليب الثدي غير الكافي لنمو الطفل.

خاتمة:

يمكن أن يساعد فهم العوامل المرتبطة بالإرضاع الحصري من الثدي وتنفيذ التدخلات المناسبة على زيادة انتشار الإرضاع الحصري من الثدي وتحسين النتائج الصحية للرضع والأمهات. من المهم تثقيف الأمهات والإباء اليافعين حول فوائد الرضاعة الطبيعية ومعالجة أي مخاوف قد تكون لديهم.

الكلمات المفتاحية:

الرضاعة الطبيعية الحصرية، الممارسة، المعرفة، السلوك، الأمهات، بيت لحم.

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Chapter One

Introduction

1.1 Background

Breastfeeding is the best way to ensure that an infant receives the nutrition necessary for a healthy start in life, and it is also an essential part of the reproductive process with profound effects on the health of mothers. According to the evidence-based analysis, exclusive breastfeeding for the first six months is the optimal method for feeding infants in a population setting (World Health Organization, 2023).Breast milk is the optimal food for infants as it provides all nutrients required for a healthy growth and development in the first six months (World Health Organization, 2022a). Health professionals consider breastfeeding to be the optimal feeding practice for infants. Previous research confirms that breastfeeding has benefits for both babies and mothers, such as providing babies with the necessary nutrition, assisting mothers in losing weight after pregnancy, and stimulating the uterus to return to its pre-pregnancy position (Rupnicki, 2020).

Breastfeeding, also known as nursing, is the act of feeding a baby breast milk directly from the breast or by expressing and bottle-feeding it. Breastfeeding provides calories and nutrients, including macro- and micronutrients (fat, protein, and carbohydrate) (vitamins and minerals)(Ballard & Morrow, 2013). it is one of the strategies to improve nutritional status and growth in children. Breastfeeding is the optimal feeding practice to achieve infant's growth and development (Eidelman et al., 2012).

Exclusive breastfeeding and continued breastfeeding up to 11 months can singularly prevent 13% of all annual deaths occurring in infants worldwide. However, many infants and children

do not receive optimal feeding. For example, only about 44% of infants aged 0–6 months worldwide were exclusively breastfed over the period of 2015-2020 (World Health Organization., 2022).

Failure to exclusively breastfeed is estimated to result in 1.4 million child deaths across the globe, while children not breastfed during the first 2 months have been found to be associated with 6-fold increase in mortality particularly in developing countries (Gejo et al., 2019).

Breast feeding as a practice was recommended by WHO, for optimal feeding (for example exclusive breastfeeding for the first 6 months and continued breastfeeding for up to 2 years, with the introduction of other food. In the State of Palestine, most women view breastfeeding as beneficial. Initially, 96% of them exclusively breastfeed their infants at birth. However, over the six following months, the rate dwindles, with only 40 per cent of exclusively breastfed by the time they reach the age of six months (36% in Gaza and 41% in the West Bank) (UNICEF, 2022a).

Breastfeeding is a key tool in improving the child survival and exclusive breastfeeding for the first 6 month of life can avert up to 13% of under 5 deaths in developing countries (Azuine, 2015). It is recommended for the mother to completely empty the breast on one side before offering the other WHO and UNICEF recommend early initiation of breastfeeding, within the first hour after delivery, and exclusive breastfeeding (EBF) in the first 6 months of infant life. The most recent data from the Multiple Indicators Cluster Survey (MISC) shows that 40.6% of infants are first breastfed from 1 hour of birth in Palestine, and that the 43.3% of infants aged six months and below are EBF (UNICEF, 2019b). Globally, approximately one third (38%) of children are exclusively breastfed them from 0 to 6 month. This is far from the ideal recommendation of exclusive breastfeeding for the six months, and encourage mothers to breastfeeding as the only feeding source (World Health Organization, 2022a).

1.2. Statement of the Problem:

Despite the extensive available information on the benefits of exclusive breastfeeding both for the mother and the infant, almost mothers initiate breastfeeding 85% to 90% of them offer water and other liquids to their babies in the first month (Kornides & Kitsantas, 2013). This increase the infants risk to infection, poor nutrition and diarrhea (Lamberti et al., 2011). In addition, research indicates that early skin-to-skin contact and breastfeeding may have physical and psychological benefits. Other research indicates that breastfeeding may reduce the risk of certain allergic diseases, asthma, obesity, and type 2 diabetes. It may also enhance cognitive development in infants (Feldman-Winter & Goldsmith, 2016). Early introduction of other foods is of public health concern because it exposes infants to increased infection, particularly diarrheal disease. It may lead to poorer infant nutrition and adversely affect growth rate (D'Auria et al., 2020).

The fifty-ninth world health assembly projected that by 2015 the relative contribution to the global prevalence of childhood under nutrition was expected to increase from 16% to 38% for Africa (WHO Regional Office for Africa, 2022). Feeds introduced of infants may have too much fat and carbohydrate leading to obesity, poor muscle development and low resistance to infection, infant's risk of death from infectious disease is high in the absence of breastfeeding (Rupnicki, 2020).

Palestine is on track to meet two nutrition targets for mothers, infants, and young children. There has also been no progress toward meeting the low birth weight target, with 8.4% of infants being born underweight. With 38.9% of infants aged 0 to 5 months exclusively breastfed, some progress has been made toward achieving the exclusive breastfeeding target (Global Nutrition Report, 2023). However, a previous study in a refugee camp in northern Palestine found that 69.7% of infants aged 0-6 months were exclusively breastfed. EBF was

negatively associated with older mothers at marriage (risk ratio [RR], 0.13; 95% confidence interval [CI], 0.06-0.28) and cesarean birth (RR, 0.59; 95% CI, 0.41-0.81) (Ibrahim et al., 2022).

1.3. Justification of the study:

In all countries, breastfeeding is the best type of feeding for infant particularly during the first six months of the child life, because it provides the baby with the essential nutritional requirement. Breast milk contains anti bodies against a large number of common infections, therefore, the pattern and duration of breastfeeding are some of the most important determinants of the child's health status (Lawrence & Lawrence, 2004).

Several reasons were offered explaining the differences in the child's age at weaning. For babies weaned before the age of six months, the main leading factor is mother's insufficient milk or baby's refusal to breast feed. But for children weaned at the age of 6-11 months, the main reasons are the child's refusal and mother's pregnancy. The main reason behind weaning children of the age of 12 months or older is mother's belief that the child has reached the weaning age (Vail et al., 2015).

Infants are given formula, sugar water or even herbal tea, instead of the beneficial maternal milk. Some mothers are discouraged by discomfort, physical impediments or difficulties having the baby breastfeed correctly (UNICEF, 2022a).

Understanding the patterns and practices of exclusive breastfeeding in our Palestinian community, as well as avoiding factors affecting EBF practice, knowledge, and attitude, could lead to healthier mothers, infants, families, and society.

1.4. Purpose of the study:

To explore knowledge, attitudes, and practices regarding exclusive breastfeeding among women at the Governmental primary health care centers, and Beit Jala hospital in Bethlehem

Governorate and to identify factors associated with exclusive breastfeeding practices among Bethlehem district women.

1.4.1 Objectives:

1. To determine the knowledge on exclusive breast feeding among women at the Governmental primary health care centers, and Beit Jala hospital in Bethlehem Governorate.
2. To assess the attitudes towards exclusive breastfeeding practices among women at the Governmental primary health care centers, and Beit Jala hospital in Bethlehem Governorate.
3. Identify factors that influence exclusive breastfeeding practices such as age, age at marriage, residence, educational status (participant, husband), and occupational status) and the obstetric history (parity, gravidity, type of delivery, infant birth weight) among women at the Governmental primary health care centers, and Beit Jala hospital in Bethlehem Governorate.
4. To examine the relationship between the knowledge, and attitude of exclusive breastfeeding and background variables among women at the Governmental primary health care centers, and Beit Jala hospital in Bethlehem Governorate.

1.5 Context

1.5.1 Demographic characteristics of the Palestinian population

The estimated global Palestinian population at the end of 2021 was approximately 14 million, with 5,290,925 million residing in the State of Palestine of which 3,154,418 million in the West Bank. The Palestinian population is young; more than a third of Palestinians are under the age of 15 and a quarter are women of reproductive age, between 15 and 49 years of age(Palestinian

Ministry of Health, 2021). The total fertility rate during (2017– 2019) has declined to reach 3.8 births (State of Palestine Palestinian Central Bureau of Statistics, 2021a). In 2021, 138,436 live births were reported in Palestine, with a crude birth rate of 28.1 births per 1,000 population (Palestinian Ministry of Health, 2021).

The Bethlehem Governorate's mid-year population in 2022 is 239740, and it is expected to increase to 244704 in mid-2023 (State of Palestine Palestinian Central Bureau of Statistics, 2021b). Every day, an average of 18 new live births are delivered in Bethlehem, with approximately 7000 live births each year (Palestinian Ministry of Health, 2021).

Bethlehem has the fifth highest infant and under-five mortality rate among all Palestinian governorates. There are 22 primary health care centers operated by the Palestinian Ministry of Health (PMOH) and two UNRWA clinics in Bethlehem. These clinics offer general practice services, preventive services such as vaccinations, and mother-child care services, among others (Palestinian Ministry of Health, 2021).

1.5.2 The realities of Bethlehem healthcare

The study was carried out in Bethlehem health centers. Bethlehem is a Palestinian city in the West Bank of Palestine, about 10 kilometers south of Jerusalem, with a population of around 30,000 people. The researcher focused on hospitals and PHC in Bethlehem, including Beit-Jala governmental hospitals and PHC Directorate centers located in Beit-Jala city, Beit-Sahour city, and Bethlehem city. The mothers attending these centers with infants aged 6 to 18 months were the target population.

Mother and child health in Palestine is a topic that has been widely discussed in the literature, especially in light of the ongoing political conflict in the region. The situation is particularly concerning in Bethlehem, which is located in the West Bank and has experienced significant challenges related to healthcare access and quality.

Several studies have focused on maternal and child health outcomes in Palestine, with a particular emphasis on the impact of the Israeli occupation on health outcomes. A study conducted by UNICEF in 2018 found that the maternal mortality rate in Palestine had increased significantly over the past decade, with a particularly high rate of maternal mortality in Gaza (UNICEF, 2019a). The study also found that there were significant disparities in maternal and child health outcomes between different regions within Palestine.

Several factors contribute to maternal and child health outcomes in Palestine, including access to healthcare services, poverty, and political instability (Leone et al., 2019). In Bethlehem, these factors are further exacerbated by the ongoing conflict with Israel, which has led to restrictions on movement and access to healthcare services. Despite these challenges, there have been efforts to improve maternal and child health outcomes in Bethlehem through various interventions.

One such intervention is the Holy Family Maternity Hospital (HFH), which has implemented a maternal and child health program aimed at improving health outcomes for pregnant women and their children. The program includes prenatal care, childbirth services, and postnatal care for both the mother and the child. HFH has also established a mobile clinic unit to provide antenatal care for outreach communities in Bethlehem (Holy Family Hospital Bethlehem, 2022)

Other organizations have also implemented programs aimed at improving maternal and child health outcomes in Bethlehem. The United Nations Population Fund (UNFPA) has supported the establishment of a midwifery program at Bethlehem University, which aims to train midwives to provide quality maternal and newborn care in the region (UNFPA Palestine, 2023).

The Palestinian Ministry of Health has also implemented various programs and policies aimed at improving maternal and child health outcomes, including a national strategy for reproductive, maternal, newborn, child, and adolescent health (Palestinian Ministry of Health, 2021).

Despite these efforts, challenges remain in improving maternal and child health outcomes in Palestine and Bethlehem. Ongoing conflict and political instability continue to restrict access to healthcare services and exacerbate poverty, which in turn affects health outcomes for mothers and children. Addressing these challenges will require ongoing efforts and collaborations between various stakeholders, including governments, NGOs, and international organizations. Another study focused specifically on the impact of the Israeli occupation on maternal and child health in Bethlehem. The study found that the occupation had significant negative impacts on health outcomes, including limited access to healthcare services, poor quality of care, and high rates of poverty and unemployment. The study recommended a range of interventions to address these challenges, including increased investment in healthcare infrastructure, improving access to healthcare services, and addressing the root causes of poverty and unemployment (Farraj et al., 2009). Finally, maternal and child health outcomes in Palestine, and in Bethlehem in particular, are deeply impacted by the ongoing political conflict and economic challenges facing the region. To improve outcomes, a range of interventions are needed, including improving access to healthcare services, addressing social and economic factors that contribute to poor health outcomes, and addressing the root causes of poverty and unemployment.

1.5.3 The realities of EBF

Despite numerous strong recommendations regarding EBF, the current global state of EBF does not appear to be very promising. Only 40% of infants between the ages of 0 and 6 months old are breastfed exclusively, per the most recent data from the World Bank data (The World Bank, 2020). Introducing pre-lacteal feeds such as water, honey, jaggery, or sugar water and food supplementation before 6 months all pose challenges to exclusive breastfeeding (Pérez-Escamilla et al., 2022).

Numerous factors, such as family pressures, mother's literacy level, sociocultural traditions, maternal age, marital status, family income, social class, family size, place of delivery, and time of first breastfeeding, affect mothers' knowledge of and attitudes toward exclusive breastfeeding (Bala et al., 2020).

Very little information is available on what factors influence lactating mothers to breastfeed exclusively in Palestine. This makes investigation of these elements crucial. In light of this, the current study set out to investigate postnatal mothers' breastfeeding knowledge, attitudes, and practices.

1.6. Operational definitions

Exclusive breast feeding (EBF):

EBF was defined as breast feeding for at least six months without providing any additional feeding formula or water. It was assessed by close ended question.

Practices:

Behaviors are the observable actions of an individual in response to a stimulus(Monde, 2015). Fourteen Yes, No statements assessed practice. The statements with the unfavorable practice scored "0" for a positive response. At the same time, statements with the favorable practice scored "1" for a positive response. Therefore, the total practice score ranged from 0 to 14. An "overall practice percent score" was calculated by multiplying the total practice score for each participant by 100 and dividing by 14.

Knowledge

Twenty-three statements assessed knowledge using "yes" and "no" for questions. For each knowledge statement, correct assigned a score of "1," and an incorrect a score of "0." The total knowledge score was computed by adding the scores for questions from one to twenty-three

(range from 0 to 23). Then, an "overall knowledge percent score" was calculated by multiplying the total knowledge score for each participant by 100 and diving by 23.

Attitude

Attitude is an intermediate variable between the situation and the response to this situation. It helps explain that among the possible practices for a subject submitted to a stimulus, that subject adopts one practice and not another (Monde, 2015). The attitude was assessed by fifteen statements using Likert scale responses. Responses ranged from strongly agree to disagree each statement scores from 3 to 1. A "agree" response was assigned a score of "3" if the attitude is positive "neutral" a score of "2", and "disagree" response was assigned a score of "1". A total attitude score was obtained by adding the scores for the fifteen statements ranging from 15 to 45. Then, an "overall attitude percent score" was calculated by multiplying the total attitude score for each participant by 100 and dividing by 45.

1.7. Definitions of terms:

Breastfeeding

Breastfeeding is an unequalled way of providing ideal food for the healthy growth and development of infants; it is also an integral part of the reproductive process with important implications for the health of mothers. Review of evidence has shown that, on a population basis, exclusive breastfeeding for 6 months is the optimal way of feeding infants. Thereafter infants should receive complementary foods with continued breastfeeding up to 2 years of age or beyond (World Health Organization, 2022a).

Exclusive Breastfeeding (EBF)

Means the infant receive only breastmilk, NO other liquid or solid are given, not even water with the exception of oral rehydration solution or drops of vitamins, minerals (Center of Disease Control and Prevention, 2022).

Colostrum

Colostrum, a nutrient-rich fluid produced immediately after birth by female mammals, contains immune, growth, and tissue repair factors. It is a complex biological fluid that aids in the development of the newborn's immunity. It contains significant amounts of complement components that act as natural anti-microbial agents to stimulate the immune development of infants (Uruakpa et al., 2002).

Knowledge

Knowledge is a set of understandings, knowledge of "science." Knowledge of a health behavior considered to be beneficial, however, does not automatically mean that this behavior will be followed (Monde, 2015).

Attitude

an individual's positive or negative evaluation of a concept, object or behavior. (Janzen and Fishbein,1980).

Practices

Practices or behaviors are the observable actions of an individual in response to a stimulus. This is something that deals with the concrete, with actions (Monde, 2015).

1.8. Research questions:

1. What is the level of knowledge regarding breastfeeding among women at the Governmental primary health care centers, and Beit Jala hospital in Bethlehem Governorate.
2. What is level of attitude regarding breastfeeding among women at the Governmental primary health care centers, and Beit Jala hospital in Bethlehem Governorate.
3. What is level of practices regarding breastfeeding among women at the Governmental primary health care centers, and Beit Jala hospital in Bethlehem Governorate.

4. Is there a significant difference in knowledge regarding breastfeeding according to socio demographic variables?
5. Is there a significant difference in attitude regarding breastfeeding according to socio demographic variables?
6. Is there a significant difference in practices regarding breastfeeding according to background variables?

1.9. Feasibility of the study

Personal, academic, and professional considerations inspired the researcher's decision to conduct the study. In terms of ethical considerations, neither patients nor healthcare professionals will experience any negative consequences as a result of this study or its findings. No health care facility's epidemiological status, geographical location, or environment has impeded the completion of this study.

1.10 Summary

This study was designed to assess mothers' knowledge, attitudes, and practices regarding exclusive breastfeeding, as well as to identify factors associated with exclusive breastfeeding practices among Bethlehem district women. As there have been no studies related to EBF in Bethlehem district with a focus on the barriers to this practice, this study is unique. Moreover, the epidemiological status that affects child health and development is a particular focus of the Palestinian Ministry of Health, which seeks to improve health status by promoting healthy early childhood development.

Chapter 2

Literature review

2.1. Introduction

Breastfeeding and human milk are the gold standards in infant feeding and nutrition. Because of the numerous medical and neurodevelopmental benefits associated with breastfeeding, infant nutrition should be viewed as a public health issue rather than a matter of personal preference. The American Academy of Pediatrics reaffirms its recommendation of exclusive breastfeeding for approximately 6 months, followed by continued breastfeeding as complementary foods are introduced, with continued breastfeeding for 1 year or longer if both mother and infant desire it. You may be unable to breastfeed due to a rare medical condition (Eidelman et al., 2012). Attempts to increase breastfeeding rates in most countries pose a significant challenge to global public health. Breastfeeding rates are declining worldwide, particularly in developing and transitional countries where misinformation, unsafe traditional practices, and growing female workforces pose significant challenges to optimal infant breastfeeding (UNICEF, 2021).

2.2. Breastfeeding worldwide

To breastfeed is to provide a baby or young child with breast milk through the process of lactation. Babies have a built-in mechanism to help them sucking and swallowing milk. From birth to around six months of age, the World Health Organization (WHO) recommends that mothers breastfeed their infants exclusively, without the addition of any liquids or solid foods, including water or infant formula. Babies can start receiving complementary solid foods after six months of age, alongside continued breastfeeding (World Health Organization, 2022a). According to the WHO and UNICEF in the Global Strategy for Infant and Young Child

Feeding, breastfeeding should continue for at least two years, after which mothers should introduce complementary foods, such as other milks, gradually until breastfeeding is no longer necessary (World Health Organization, 2003).

2.3. Initiation of breastfeeding

Breastfeeding a newborn infant from the mother as soon as possible after birth is known as early initiation of breastfeeding. Nursing a baby as soon as possible after birth increases milk supply and oxytocin production. As recommended by the United Nations International Children's Emergency Fund (UNICEF), colostrum should be given to newborns within the first hour of life (Kramer & Kakuma, 2004).

Furthermore, the WHO recommend breastfeeding should begin within the first hour after birth (I. K. Sharma & Byrne, 2016). There is a substantial variation in the proportion of mothers who initiate breastfeeding their infants at a young age across geographic locations and socioeconomic status. Mother's education (Takahashi et al., 2017), residence (Khanal et al., 2015), household income, place of birth, mother's occupation (Berde & Yalcin, 2016), cultural beliefs and/or traditional feeding practices (I. K. Sharma & Byrne, 2016), counselling services provided during antenatal and postnatal visits (A. Sharma et al., 2016), and parity (Berde & Yalcin, 2016) are frequently associated with the timely initiation of breastfeeding.

2.4. Exclusive Breastfeeding (EBF)

The American Academy of Pediatrics (AAP) recommends breastfeeding exclusively for the first six months. The AAP claims that the majority of infants do not require the introduction of infant formula or other sources of nutrition and that breastfeeding should be continued for another six months along with nourishing complementary foods. Additionally, the AAP advises that maternity hospitals or facilities implement maternity care procedures that enhance breastfeeding initiation, exclusivity, and duration. The AAP also, emphasize that breastfeeding

has advantages for mothers especially for up to two years after the first year, if not longer. It also demonstrates that policies that support breastfeeding, such as universal paid maternity leave, the right of a woman to breastfeed in public, insurance coverage for lactation support and breast pumps, on-site child care, universal workplace break time with a clean, private place for expressing milk, the right to feed expressed milk, and the right to breastfeed in child care centers and lactation rooms in schools, are essential to assisting families in maintaining breastfeeding (Meek et al., 2022). Rates of breastfeeding, especially exclusive breastfeeding, are still far below what is required to meet World Health Organization's public health and nutrition recommendations (UNICEF, 2021). The latter objective is to exclusively breastfeed at least half of all six-month-old infants worldwide by 2025 (World Health Organization, 2014). According to WHO South-East Asia Region, 43% of infants were exclusively breastfed for the first six months of life, but only 25% of European infants born between 2006 and 2012 met this standard (Bagci Bosi et al., 2016).

A recent review focused on examining the East Mediterranean Region (EMR)-reported eating habits of newborns, infants, and young children. Estimates place the prevalence of solid, semisolid, or soft food introduction, continued breastfeeding, mixed milk feeding, ever breastfeeding, bottle feeding, and introduction of solid, semisolid, or soft foods, respectively, at 84.3%, 30.9%, 42.9%, 41.5%, and 69.3%. Some EMR nations, including Iran, Iraq, Libya, and Palestine, have seen a decline in the proportion of infants who are exclusively breastfed in recent years. In addition, information about the early introduction of infant formula was received from Lebanon, Egypt, Kuwait, and Saudi Arabia. In addition, Lebanon, Pakistan, Saudi Arabia, and the United Arab Emirates provided food to infants between the ages of four and six months (Ibrahim et al., 2022).

In 1991, the WHO and UNICEF launched the Baby-Friendly Hospital Initiative (BFHI) in an effort to increase global breastfeeding rates (Macenroe, 2010). This initiative consists of ten steps to successful breastfeeding with the goal of providing a health care environment where breastfeeding is the norm for infants. To be designated as a "baby-friendly" hospital, maternity care facilities must complete all ten steps. The BFHI includes steps such as "training all health care staff in skills necessary to implement the baby friendly policy; assisting mothers in initiating breastfeeding within 30 minutes of delivery; giving newborn infants no food or drink other than breastmilk, unless medically indicated; practicing rooming-in by allowing mothers and infants to remain together 24 hours a day;" and so on (WHO/UNICEF, 2009).

2.5. Breastfeeding in Palestine

According Annual report of Palestine (2020), the breastfeeding rate in Palestine is high, 96 per cent of them exclusively breastfeed their infants at birth. However, over the six following months, the rate dwindles, with only 40 per cent of exclusively breastfed by the time they reach the age of six months (36% in Gaza and 41% in the West Bank). This study provides information about the breastfeeding mothers' knowledge and breastfeeding attitudes and practices in Bethlehem area, there are no previous studies about this topic within Palestine in Bethlehem area, and the study describe the knowledge, attitudes, and practices towards breastfeeding and factors associated with exclusive breastfeeding among mothers in Bethlehem area (Palestinian Ministry of Health, 2021).

The total number of pregnant women’s visits to primary care centers was 97,360, and the number of pregnant women registered in the Ministry of Health centers for the same year was 287,547, and the average number of pregnant women’s visits to centers was 4 visits during pregnancy, The number of live births registered in the hospitals of the Ministry of Health in the West Bank was 343 (Palestinian Ministry of Health, 2021).

Conflict, sanctions, and societal decline over many years have had a devastating impact on the Palestinian health care system (United Nations Office for the Coordination of Humanitarian Affairs - occupied Palestinian territory, 2019). There is a severe shortage of both personnel and basic resources in the healthcare system, with regular power outages and shortages of lifesaving medications and medical equipment. It is not safe for human consumption in excess of 90% of the time. Many people, including children and pregnant and lactating women, are suffering from anxiety and depression as a result of psychological trauma and poverty (WHO, 2008).

A recent study from Gaza strip used a mixed method design- both quantitative and qualitative techniques targeted women with children younger than 2 years old aiming at assessing how does the protracted crisis in Gaza affect the breastfeeding practices of the most vulnerable population; and the role that midwives can play in improving breastfeeding practices. Results showed that 63% of mothers start their infants on breast milk within the first hour of life, and 42% say they gave their babies something other than breast milk within the first three days. 50% of mothers dealt with breast milk insufficiency by increasing their fluid intake, and forty percent of mothers used infant formula. During labour, delivery, and subsequent postnatal care visits, only 18% of women reported receiving information about breastfeeding from health professionals. During the focus group discussions, many mothers admitted that they supplemented or completely replaced breast milk with milk and that there are still myths and misunderstandings about breastfeeding (Iellamo et al., 2021).

2.6. Benefits from breast feeding

Numerous studies have demonstrated that breastfeeding has maternal and economic advantages in addition to the psychological, dietary, and immunological advantages for the infant.

2.6.1 Health benefits for the infant

Studies have shown that infants who receive EBF for up to six months' experience greater gains in both weight and length. After monitoring 17 infants for 12 months, researchers measured their stats at 1, 2, 3, 6, 9, and 12 months. At both one and three months of age, babies in the experimental group gained more weight and length than those in the control group. Researchers found that exclusive breast feeding "speeds up growth in the first few months, both in terms of weight and length" (Kramer et al., 2002). A separate study found that the fat, lactose, protein, and energy content of breastmilk positively correlated with infant growth rate in the first six months of life (Cheema et al., 2021). Breastfed infants' slower gastric filling and faster gastric emptying times may help explain their rapid growth (Perrella et al., 2015).

Babies who were breastfed for six months instead of four showed significant developmental gains in crawling and walking ability (Dewey et al., 2001). Many studies have shown that breastfed infants have higher intelligence (Horta et al., 2015).

Diarrhea is a leading cause of infant mortality. Contaminated weaning food, improper feeding practices, a lack of clean water, poor hand washing, limited sanitary waste disposal, poor housing conditions, and a lack of access to adequate and affordable health care are all factors that contribute to the escalation of diarrheal disease in children under the age of five (Workie et al., 2018). Breastfeeding is linked to a significant reduction in diarrhea-related morbidity and mortality (Lamberti et al., 2011). Although EBF is known to provide the best diarrhea protection, partial breastfeeding provides intermediate protection when compared to no breastfeeding. Other infectious diseases, like respiratory tract infections, are the main reason why children and infants need to be hospitalized and suffer from morbidity. In epidemiological studies, the protective effects of breastfeeding against a variety of infections and diseases have been well-documented (Tromp et al., 2017).

Another major cause of child mortality, pneumonia kills 740 180 children in 2019 and accounts for 14% of all deaths in children under the age of five (World Health Organization, 2022b). According to several studies, effective breastfeeding practices, such as exclusive breastfeeding for the first six months of life and continued breastfeeding until the child is 24 months old, are essential in lowering the prevalence of pneumonia in newborns and young children (Lamberti et al., 2013). There has been little research and evidence on the impact of breastfeeding on the occurrence and severity of urinary tract infections in children. However, exclusive breastfeeding protects newborns against common diseases and reduces the frequency and severity of infectious episodes not only in developing countries, but also in communities with adequate vaccination coverage and healthcare standards (Ladomenou et al., 2010).

Much has been written about the links between breastfeeding and infant health, and despite some cautions, this body of work has helped to establish breastfeeding as the "gold standard" against which other feeds should be judged. Due to ethical concerns, it is not possible to conduct randomized trials comparing breastfeeding and formula feeding, so most evidence is observational. The Promotion Of Breastfeeding Intervention Trial (PROBIT) in Belarus is the only large-scale experimental trial conducted in a developed country, where hospitals were randomly assigned to either promote breastfeeding or provide standard care (Kramer et al., 2001). Thus, the trial's intervention and control groups both include infants born at hospitals where breastfeeding rates are higher than the national average, demonstrating the benefits of increasing breastfeeding rates. This experimental design provides the best available evidence of causal relationships between breastfeeding and health outcomes, as associations between breastfeeding behaviors and infant health outcomes are complicated by socioeconomic and psychosocial factors. Additionally, illness rates were low among PROBIT participants, reducing the investigators' ability to detect a benefit of breastfeeding, and breastfeeding was

nearly universal in both the intervention and control arms. However, there were noticeable differences between the groups, and a causal relationship can be inferred for these outcomes given the biological evidence that supports these effects and suggests mechanisms (discussed elsewhere in this volume; editor to provide location). While PROBIT's evidence is strong, it is bolstered by a plethora of systematic reviews and meta-analyses, all of which support breastfeeding for optimal infant health despite being vulnerable to the same confounding factors. Studies showed evidence that EBF prevents otitis media (Ip et al., 2007), Sudden Infant Death Syndrome (SAIDS)(Hauck et al., 2011), eczema and childhood obesity (Harder et al., 2005).

2.6.2. Health benefits for the mother

There is a large and growing body of literature describing the positive effects of EBF on the mother's health. Benefits on lactation amenorrhea, breast and ovarian cancer, type 2 diabetes, and osteoporosis were found in reviews. We also reference previous studies on the topics of diabetes, weight maintenance, and postpartum depression. With the exception of studies on locational amenorrhea, most come from High income countries.

There is widespread agreement that EBF plays a significant role in the time between births. In 2003, it was predicted that without BF, there would be 50% more births in countries like Uganda and Burkina Faso, where continued EBF is common (Becker et al., 2003). That longer durations of amenorrhea are linked to longer durations of breastfeeding, and in particular, exclusive or predominant BF. Repeated-measures analyses of efficacy for EBF support also show this effect (Kramer & Kakuma, 2012). Several lines of evidence point to a negative correlation between BF and breast cancer. Breastfeeding lowers the risk of breast cancer primarily through two mechanisms: differentiation of breast tissue and a reduction in the lifetime number of ovulatory cycles; however, previous reviews of the association between breastfeeding and breast cancer

have not consistently found that breastfeeding lowers the risk of breast cancer. A systematic review found that more than half of the studies included provided significant protection against breast cancer. Furthermore, half of the studies discovered a lower risk of breast cancer with prolonged lactation (Yang & Jacobsen, 2008).

About half of the studies that were included in our meta-analysis were part of the largest individual-level analysis on this topic, which included about 50,000 cancer cases from 47 studies. The risk of developing invasive breast cancer decreased by 4.3% (95% CI 2.9;6.8%) for every increment of 10% in a person's lifetime EBF. Adjustments were made for parity and other confounders; women who did not give birth were not included in the analysis. There was no discernible difference in outcomes between menopausal and no menopausal participants. Other meta-analysis indicates a greater magnitude of protection, but when only the 14 studies were considered, the reduction when comparing longer versus shorter EBF durations was equal to 7% (95% CI 3%;11%). Based on a pooled analysis of 41 studies on EBF and ovarian cancer, a longer BF is associated with a 30% lower risk (95% CI, 25–36%). The results could be skewed by parity confounding, but social class bias is less likely to be at play (Mensah et al., 2017).

Studies that accounted for parity and excluded nulliparous women yielded a pooled reduction of 18% (95% CI 14;42%). After looking at the data on osteoporosis, we concluded that the four studies that addressed the link between EBF and bone mineral density found no such link Review articles on postpartum weight gain, postpartum depression, and type 2 diabetes in mothers are relatively new. The odds ratio for developing diabetes was 0.68 (95% CI, 0.57%, 0.82), according to a meta-analysis of six cohort studies (Aune et al., 2014). An association with overweight would seem likely in light of this finding; however, a meta-analysis of 54 studies examining the impact of BF on postpartum weight gain or loss found no clear evidence for or against the hypothesis (Neville et al., 2014).

The link between nursing and obesity over the long term is poorly understood. An analysis of 740,000 British women with long-term follow-up published after the latter review found that the average BMI was 1% lower for every 6 months the woman had breastfed (Bobrow et al., 2013). Clear associations were found between EBF and reduced maternal depression in a qualitative review of 48 studies (Dias & Figueiredo, 2015).

2.7. Factors influencing breastfeeding

A variety of factors contribute to premature breastfeeding termination. The factors that parents consider when deciding how and when to feed their infants have been the subject of numerous studies. Breastfeeding rates are positively correlated with a number of sociodemographic variables, including maternal age, marital status, education, race, socioeconomic status, culture, parity, number of children in the home, and social support (Tan, 2011). Obstacles to successful breastfeeding include the following: mothers' employment, a lack of adequate support from health professionals in maternity hospitals and clinics, a lack of adequate prenatal and postnatal breastfeeding education, mothers' negative attitudes toward breastfeeding, and a lack of support from expectant fathers (Morin, 2012).

Maternal characteristics

A number of studies have shown that women who breastfeed are from higher socioeconomic classes, well-educated, married, older, and are not employed outside the home (Dennis, 2002b).

Maternal age

Women who are older (>25 years) are more likely to initiate and continue breastfeeding compared to younger women. Seventy-one percent of mothers in the study breastfed their babies exclusively for the first six months. Exclusive breastfeeding for 6 months is more

common among mothers aged 25–29 and 30+ compared to younger mothers (OR 1.93, 95% CI 1.25–2.99; OR 1.91, 95% CI 1.91–3.08)(Manyeh et al., 2020).

A feeling of embarrassment and regard for breastfeeding as a private behavior, inadequate breastfeeding skills, physically unpleasant and painful early experiences they were unprepared to manage, and an inadequate health care response to real problems all played a role in the mothers' decisions to stop breastfeeding. Adolescent girls who had positive attitudes toward and more knowledge about breastfeeding were more likely to consider breastfeeding (Smith et al., 2012).

Socioeconomic status

It is well documented that, women who are of high-income status and are college-educated tend to have the highest breastfeeding rate, while young mothers from low socioeconomic backgrounds with low educational levels have the lowest breastfeeding rate. However, in developing countries, breastfeeding is inversely related to socioeconomic status (Dennis, 2002a). Data collected from 1,001 low-income pregnant women were used to study the relationship between breastfeeding intention and maternal demographics, previous breastfeeding experience, and social support. Respondents were predominantly African-American (80.2%) or Hispanic (14.2%), and of these women only 50.6% planned to breastfeed. More women with previous breastfeeding experience (n=205, 77.1%) intended to breastfeed compared to women who had no breastfeeding experience (n=652, 41.9%)(Humphreys et al., 1998). Additionally, there was a significant correlation between EBF practice and maternal income; the percentage of mothers who exclusively breastfed their children fell among high-income mothers (Shifraw et al., 2015).

Smoking status

Daily cigarette consumption has a dose-response relationship with shorter duration of breastfeeding (Amir & Donath, 2002). Compared to their nonsmoking counterparts, smokers have a lower likelihood of initiating breastfeeding and a shorter duration of breastfeeding. However, one mechanism for reduced breastfeeding may be the psychological and social factors of younger age and lower education. Infant reactivity was also found to reduce the likelihood of starting and maintaining breastfeeding (Godleski et al., 2020).

Maternal employment

Many studies have shown that one of the barriers to breastfeeding is work status, with Increased urbanization and industrialization, more and more women have joined the workforce. An estimated 50% of women employed in the workplace are of reproductive age and return to work within one year of their infants' births (Wyatt, 2002).

2.8. Knowledge, attitude practice related to EBF

Numerous studies have measured women's knowledge of EBF. In Ethiopia, 93.6% of women were familiar with EBF, and 91.8% of mothers were aware of the importance of exclusive breast feeding (EBF) (Dukuzumuremyi et al., 2020), and 88.0% of respondents in a study conducted in Nigeria had heard of EBF (Mbada et al., 2013). Only about one-third of mothers (34.7%) mentioned the recommended duration of EBF, which was lower than a study conducted in Debre Birhan, Ethiopia, where 83.4% of mothers were aware of the recommended duration (Asfaw et al., 2015). On other studies however, despite the fact that the majority of respondents had a solid understanding of EBF, only about one-third of mothers mentioned the recommended duration of EBF (Tadele et al., 2016). Important factors limiting EBF prevalence in Saudi Arabia include a lack of knowledge about when to introduce complementary foods (30.7%) and

the recommended duration of exclusive breastfeeding (28.9%), as well as a very low rate of attending breastfeeding-related classes during pregnancy (Al-Binali, 2012).

Knowledge of EBF varies considerably between rural and urban populations. 84.7% of urban respondents had accurate knowledge, compared to 68.5% of rural respondents. This was a result of the higher concentration of midwives and physicians in urban areas (Balogun et al., 2017). Other studies have found that female teachers in the southwest of Saudi Arabia have a high level of knowledge (89.3%)(Al-Binali, 2012), however it this is lower among women in the city of Dhaka, Bangladesh (77%)(Afrose et al., 2012).

The majority of Ethiopian women preferred to exclusively breastfeed their children, according to a study on their attitudes toward EBF. Among the mothers who stated that they preferred to exclusively breastfeed their children, 73.0% (n = 205) believed that EBF is superior to artificial feeds. The majority of mothers (59.3%) agreed that up to 6 months of age, only EBF is sufficient. A significant percentage of mothers, 60.2% (n = 189), agreed that colostrum shouldn't be wasted. About half of mothers agreed that exclusively breastfed children are healthier than non-exclusively breastfed children and that they did not feel comfortable giving extra foods besides the breast (Tadele et al., 2016).

The main reasons for the very low rate of exclusive breastfeeding among working females were insufficient breast milk and adverse work-related issues. A very low rate of attendance at breastfeeding classes during pregnancy, as well as an alarming finding of a high percentage of babies receiving readymade liquid formula while still in the hospital (Al-Binali, 2012).

In a study of peri-urban district of Ghana (Mensah et al., 2017); one of the most important factors in whether or not mothers actually did their best to breastfeed exclusively was the quality of the breastfeeding information they had access to. The majority of mothers (97.1%) learned about the benefits of exclusive breastfeeding from their local health care providers, followed

by the media (1.8%). Additionally, the vast majority of mothers (74.2%), compared to the small minority (0.5%), believed it was appropriate to initiate exclusive breastfeeding within 30 minutes of birth. Also, artificial feeding for babies whose mothers' breast milk production was perceived to be inadequate was supported by the majority of the respondents (83.4%) whilst a few (1.8%) stated that they would report to their doctors or nurses for advice. In addition, 41.6% of mothers reported that their infants no longer thrived on breast milk alone by the age of 5-6 months, while 4.2% reported that this stage occurred at the age of 6 months or later.

It's important to note that the vast majority of mothers (82.6%) believed that some medical conditions could prevent the practice of exclusive breastfeeding, while only 17.4% disagreed. Mastitis (cited by 59.8% of respondents), breast cancer (cited by 24.8%), engorged breast (9.2% of respondents), and a cracked nipple (cited by 6.0%) were all cited as medical conditions that could prevent EBF. The dissimilarity was detectable by statistical means (p 0.0001). Most respondents (82.7%) thought the first yellowish milk was crucial in protecting the child against diseases, and 17.2% said it contains adequate food nutrients for healthy growth and development, so nearly all respondents (92.1%) agreed that breast milk was what should be given to babies after a safe delivery. Only 17.3% said that the first milk was not worth keeping because it was dirty and yellowed (Mensah et al., 2017).

Chapter Three

Methodology

3.1. Introduction

This chapter outlines the research methodology used. It starts by explaining the research design and methods used which include the study population and its eligibility criteria, sample size, sampling technique used, recruitment process, the method of data collection used, data analysis methods, validity and reliability of the research instrument and ethical considerations.

3.2. Study setting and target population

The study used a self-reported questionnaire that was distributed to mothers in primary health care centers in the Palestinian Ministry of health (PMOH), and hospitals Beit Jala in Bethlehem area. The study's target population was mothers who brought their infants aged between 6-18 months to the PHC clinics and Beit Jala Governmental hospital in Bethlehem for well or sick baby visits.

3.3 Study design

The study utilized a cross sectional study design using self-reported questionnaire that was distributed to mothers in primary health care centers in the Palestinian Ministry of health (PMOH) in Bethlehem area.

3.4. Sample process and calculation

A convenient sampling method was used to approach participants. The sample size was calculated using Richard Geiger equation with 95% confidence level, and a 0.05 absolute

precision. The sample size was calculated to be 300 mothers. The Bethlehem governmental PHC health directorate was contacted to determine the number of women delivered in the previous year for sample size calculation. Given that the total population is approximately 1100 women and the expected frequency is 27%, the total sample size of 300 was distributed between the hospital and centers based on patient load.

3.5. Inclusion criteria:

The inclusion criteria for participation were being a mother of infant aged 6-18 months attending the specified setting who were eligible and welling to participate in the study were recruited.

3.6. Exclusion criteria:

Mothers who declined to participate in the study were excluded, as were mothers of infants' younger than six months old.

3.7. Data collection procedure

Participants were approached while they waited for their children's vaccinations in the waiting room of the targeted PHC facilities.

The researcher had the Ethical Approval from the Al-Quds university Institutional Review Board IRB committee and the Research Facilitation Letter from the Ministry of Health **(Appendix 1)**. The researcher visited Bethlehem Health Directorate and Beit Jala hospital to meet the responsible parties, who graciously disseminated the approval to facilitate the data collection process. The rate of response was 94%.

The researcher approached them and explained the purpose of the study, assuring them that the data would be kept confidential. Self-administered questionnaires were used for data collection from participants who consented to participate. After collecting all questionnaires, they were checked to ensure that they were completely filled out, then coded, entered into the computer, and statistically analyzed using version 23 of the statistical package for social science (SPSS). After completing the data entry process, all data were validated to ensure precise data entry.

3.8. Study instrument

The study utilized a self-administered questionnaire include four section:

3.8.1. Section one: Back ground characteristics

This section assessed the sociodemographic data of the participant (age, age at marriage, residence, educational status (participant, husband), and occupational status) and the obstetric history (parity, gravidity, type of delivery, infant birth weight, gestational age, number of antenatal visits, the use of contraception) in thirteen questions.

3.8.2 Section two: Breastfeeding Knowledge

Knowledge is a set of understandings, knowledge of "science." Knowledge of a health behavior considered to be beneficial, however, does not automatically mean that this behavior will be followed (Monde, 2015).

The degree of knowledge was assessed in using 23 Yes/No questions and three multiple choice question assessing the knowledge towards breastfeeding initiation, practice, importance of breast feeding for the mother and the baby, use of complimentary food and one question assess the source of information about breastfeeding. Three statements assessed additional knowledge using multiple-choice questions are: At what age should a child be offered food or drink? where the options were three months or less, four months, five months, six months, seven months or

older, and I don't know for the final option. What should the newborn receive immediately after birth? Breast milk, cow's milk, water, water with sugar, and milk formulas are the available options. The optimal time to initiate breastfeeding is during the first hour of life, after the first hour of life, and within the first twenty-four hours of life.

The final statement evaluated the source of breastfeeding knowledge, whether it came from a health professional (doctor, nurse, or midwife), friends or family, the internet, or social media.

3.8.3 Section three: breastfeeding attitude

This section assessed attitudes towards breastfeeding and EBF using fifteen Likert scale statements. There are three options on the scale: agree, neutral, and disagree.

3.8.4 Section four: the Practice of EBF

Practices or behaviors are the observable actions of an individual in response to a stimulus. This is something that deals with the concrete, with actions (Monde, 2015).

EBF was assessed through six multiple-choice questions included: How long has your infant been exclusively breastfed? The responses were: less than one month, between three and five months, from six months to one year, or never. How long do you exclusively breastfeed your infant, with the options of less than six months, six months, and between six months and one year? What do you do when you leave home without your baby? provide milk formulas, express breastmilk and refrigerate it for use as needed, I did nothing. Your baby is fed: exclusively breast milk, expressed breast milk, both expressed breast milk and breastfeeding, formula milk only. Duration of exclusive breast feeding: less than one month, one to two months, three to four months, five to six months, and never. Who supports you for EBF were your spouse, a friend, your mother, and your family. The Practice was then assessed by fourteen questions using Yes, No response. (Questionnaire appendix II)

3.9. Validity of study tool

The validity of the questionnaire refers to the degree to which an instrument actually measures what it intends to measure among the intended respondents. to achieve the aim of this study, the tool was built after extensive literature review (Gebeyehu et al., 2023; Karadsheh, 2016; Qleibo, 2007). The tool was tested by 5 experts and specialists two in primary health care and three nutrition. The study was then piloted to ensure feasibility and understanding of the questionnaire. Then the questionnaire was assessed statistically for its internal consistency (reliability). The tool was translated into Arabic and then re-translated into English by experts to ensure validity.

3.9.1 Content Validity

To test the validity of the research instrument and ensure its feasibility, clarity, coherence, and the suitability of its items for dimensions and variables, and to achieve the purpose of this study, the instrument was evaluated by five experts and specialists, two in primary health care and three nutrition's. The experts added many questions to the attitude sections and recommended additions to the background variables. Their comments and opinions were taken into account to eliminate ambiguity, irrelevant, and unclear questions until a consensus was reached with my supervisor after a lengthy discussion to format and formulate the final draft of the questionnaire.

3.9.2 Pilot study

The validity and internal consistency of the tool were determined by piloting it with 20 patients randomly selected from three MOH-PHC centers, the questionnaire took approximately 5-7 minutes to complete, no one reported difficulty filling out the questionnaire, and no statements

were changed. The collected data were subsequently analyzed and eliminated from the research sample.

3.9.3. Reliability of the tool

The questionnaire was subjected to the Cronbach Alpha test to ensure its reliability and internal consistency. Cronbach's alpha coefficient is one of the most prevalent methods for estimating the internal consistency of items on a scale by measuring the correlation between questions on a scale pertaining to a particular concept. The value of the Cronbach Alpha Coefficient, which is based on the correlations between the individual scale items and indicates the degree of consistency between the scale items, was used to determine the questionnaire's reliability and internal consistency. And the outcome will be acceptable for the purposes of this study. The Cronbach Alpha coefficient for the 52 questions ranged from 0.61 to 0.73, with a mean value of 0.66. The higher the coefficient, the more reliable the instrument. The reliability coefficients of the patient's satisfaction level and its domains are displayed in Table (3-1). Overall, Knowledge statements had a Cronbach alpha of 0.68, Attitude statements had a Cronbach alpha of 0.65, and Practice statements had a Cronbach alpha of 0.61.

Table (3.1): Cronbach alpha of the questionnaire domains.

Domain	**Number of statements**	**Cronbach alpha**
Knowledge	23	0.68
Attitude	15	0.65
Practice	14	0.61
Overall	52	0.66

3.10 Statistical methods and data analysis:

The SPSS 23 software was used to perform the statistical analyses. Demographic and clinical characteristics of the participants was described using descriptive statistics (means, standard deviations, and frequency distributions and proportions for continuous variables and frequency distributions and proportions for categorical variables, respectively). Descriptive statistics for each statement of the questionnaire was presented using frequency and percentages for each statement. For practice responses score the statements with negative practice were given "0" score if answered yes and score of "1" if answered no. while statements with positive practice were given "1" score if answered yes and score of "0" if answered no. The 14 statements were used to assess practice level. Therefore, the total practice score ranged from 0 to 14. Then, an "overall practice percent score" was calculated by multiplying the total practice score for each participant by 100 and dividing by 14. For each knowledge question, a correct response was assigned a score of "1," and an incorrect response a score of "0." The total knowledge score was obtained by adding the scores for all knowledge responses (range from 0 to 23). Then, an "overall knowledge percent score" was calculated by multiplying the total knowledge score for each participant by 100 and diving by 23. Scores from 2 to 0 were assigned for attitude statements. An "Agree" response was assigned a score of "2", while "Neutral" assigned a score of "1", and "Disagree" response was assigned a score of "0" and a total attitude score was obtained by adding the scores for the fifteen statements ranging from 0 to 30. Then, an "overall attitude percent score" was calculated by multiplying the total attitude score for each participant by 100 and dividing by 15. Participants who reported five to six months of exclusive breast feeding were considered to have EBF, and this was considered the dependent variable after the variable was recoded into two categories. Based on Bloom's cutoff point, the total score for each outcome was evaluated.

The degree of knowledge was divided into low level (less than 60%), moderate level (60-80%), and high level (80-100%), based on the cumulative scores. Additionally, the results were divided into three categories: positive attitude (80–100%), neutral attitude (60–80%), and negative attitude (less than 60%). The practice level was then divided into three categories: bad level (less than 60%), fair level (between 60 and 80%), and good level (between 80 and 100%) (Huitt, 2011). Analytically, the Chi-squared test, t-test, and logistic regression were used to identify significant relationships between groups in relation to the dependent variable. A $p \leq 0.05$, was considered as the significance levels.

3.11. Ethical Consideration

Ethical approval of research proposal from Al-Quds University Al-Institutional Review Board (IRB) was taken. The study follows the World Medical Association Declaration of Helsinki Ethical Principles for Medical Research. Ministry of Health approval and permission was obtained. A verbal explanation of the objective of the study was given for each participant, as well as the time needed to complete the questionnaire (Appendix II). The clients concerned participated in voluntary basis with the full right to withdraw from the study at any time. The subjects were assured that the information they give was to be treated with confidentiality and anonymity. Each participant was assured that his\her participation or refining would by no means influence the care he\she will receive.

3.12 Conceptual framework

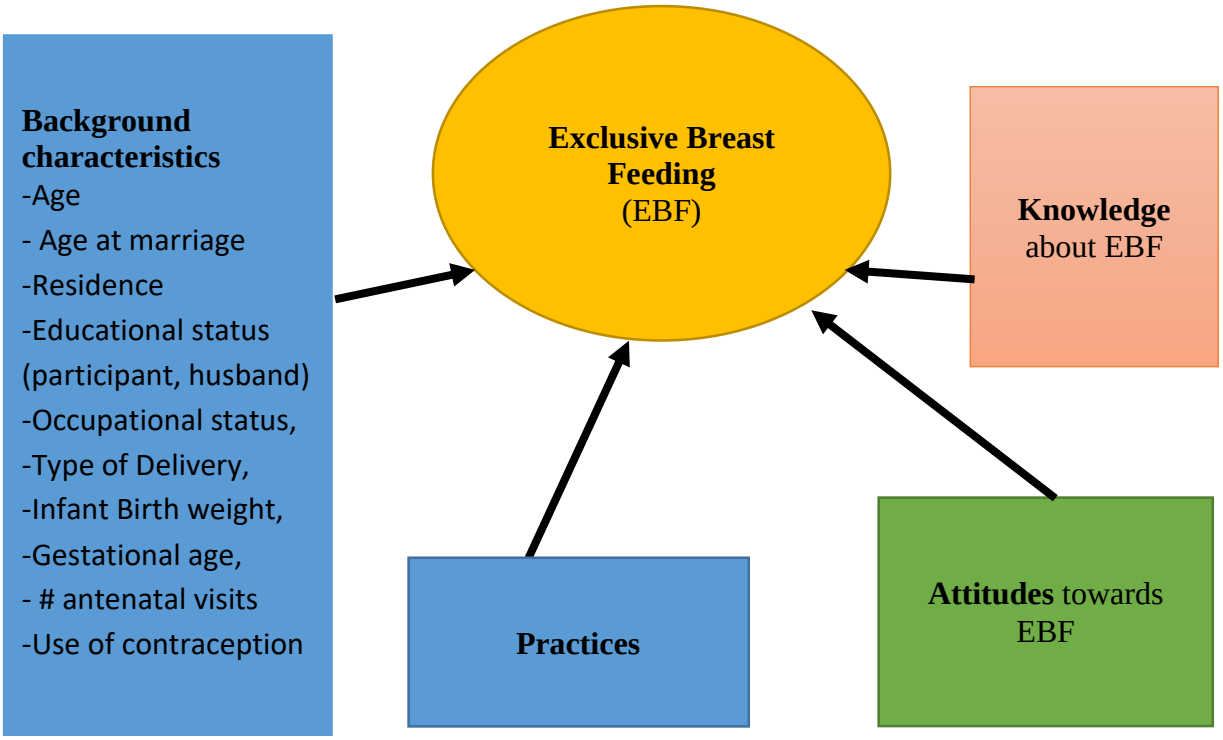

Figure 1: Conceptual framework of the knowledge, attitude, and practices of exclusive breastfeeding among Women at Bethlehem Area.

3.13. Definition of variables

3.13.1. Independent variables:

Background characteristics:

Sociodemographic data of the participant (age, age at marriage, residence, educational status (participant, husband), occupational status) and the obstetric history (previous history of abortion, type of delivery, infant Birth weight, gestational age, number of antenatal visits, the use of contraception) was assessed in thirteen questions from 1 to 13.

3.13.2 Dependent variables: The three dimensions in relation to the EBF include:

- Knowledge about EBF covered in in section tow of the questionnaire and the related questions are 1, 2……to 23.
- Attitude towards EBF covered in in section three and the questions are 1, 2...to 15.
- EBF practices are covered in section four of the questionnaire and the related questions are 1,2 …. to 14.

Chapter four

Results

4.1 Introduction

As mentioned previously, the study carried a cross-sectional design. A sample of 282 mothers who visited PHC clinics in Bethlehem to vaccinate their infants between six and eighteen months of age. The data was collected through self- administered questionnaire assessed different domains divided into four sections; practices to EBF, knowledge and attitude towards EBF, sociodemographic data of the participant (age, age at marriage, residence, educational status (participant, husband), occupational status) and the obstetric history (previous history of abortion, type of delivery, infant Birth weight, gestational age, number of antenatal visits, the use of contraception).

4.2. Descriptive analysis

4.2.1 Characteristics of participants

From 282 participants, 38.3% (n=108) aged less than 30 years, 44.3 % (n=125) were between 30 and 39 years of old and 17.4% (n=49) were 40 years or older. For the age of marriage, 37.9% of the participants were married between 17 and 20 years of old (n=107), 36.5% got married between 21 and 23 years of old (n=103) and only 6.4%(n=18) got married after their 26 birthday. Considering the place of residence, 58.9% (n=166), 29.8% (n=84), and 11.3% (n=32) were living in city, village, and camp, respectively. On the other hand, 71.3% (n=201) participants had university education, while 23.0% (n=65) had secondary level of education and

only 5.7% (n=16) had only elementary level. However, 49.3% (n=139) of the husbands had university education, while 38.7% (n=109) had secondary level of education and only 12.1% had only elementary level. 51.8% (n=146) of the participants do work and only 7.4% (n=21) reported being previously married as shown in table (4.1).

Nearly half of participants 56.7% (n=160) were recruited from hospitals and 43.3% (n=122) were recruited from PHC centers. Furthermore, 81.9% (n=231) had three or more antenatal care (ANC) visits through their pregnancy, 7.4% (n=21) had only two ANC visits and 10.6% (n=30) reported visited the ANC only once during their pregnancy. 55.7% (n=157) had no previous history of abortion, 27.0% (n=76) aborted once previously, 12.1% (n=34) aborted twice previously and 5.3% (n=15) had three or more previous abortions. On the other hand, 39.4% (n=111) never used a contraception method, 17.7% (n=50) used traditional methods and 42.9% (n=121) used a medical method, as shown in table (4-1).

Regarding the current baby mode of delivery, 69.1% (n=195) had normal vaginal delivery (NVD) and 30.9% (n=87) had cesarean section (CS). The gestational age of their current baby at delivery was less than 38 weeks in 17.0% (n=48) of them, between 38 and 40 weeks for 75.5% (n=213) and more than 40 weeks in 7.4% (n=21) of the participants, as shown in table (4.1).

Table 4.1: Distribution of the participants according to socio-demographic characteristics (n=282)

Variable	Frequency	Percentage
Age*groups		
20-29 years	108	38.3%
30 -39 years	125	44.3%
40 years or more	49	17.4%
Age of marriage		
17-20 years	107	37.9%
21-23 years	103	36.5%

24-26 years	54	19.1%
More than 26 years	18	6.4%
Place of residence		
City	166	58.9%
Village	84	29.8%
Camp	32	11.3%
Educational level		
Elementary	16	5.7%
Secondary	65	23.0%
University	201	71.3%
Husband educational level		
Elementary	34	12.1%
Secondary	109	38.7%
University	139	49.3%
Previous marriage		
Yes	21	7.4%
No	261	92.6%
Employment		
Yes	146	51.8%
No	136	48.2%
Patient recruited		
Hospital	160	56.7%
PHC center	122	43.3%
GA at delivery		
<38 week	48	17.0%
38-40 weeks	213	75.5%
More than 40 weeks	21	7.4%
Frequency of ANC follow up		
Once only	30	10.6%
Two times only	21	7.4%
Three or more	231	81.9%
History of abortion		
None	157	55.7%
Once only	76	27.0%
Two times only	34	12.1%
Three or more	15	5.3%
Type of delivery		
NVD	195	69.1%
CS	87	30.9%

Infant BWT		
Less than 2.5 Kilograms	28	9.9%
2.5 – 4 kilograms	227	80.5%
More than 4 kilograms	27	9.6%
Use of contraception		
Never	111	39.4%
Traditional	50	17.7%
Medical	121	42.9%

PHC= primary health care, GA= gestational age, ANC= antenatal care, NVD= normal vaginal delivery, CS= cesarean section.

4.2.2 Knowledge about EBF

Overall, the participant's knowledge was excellent. 98.2% of participants reported that breastfeeding was essential for the health of both the mother and child. In addition, the majority of participants had a good understanding of the necessity of exclusive breastfeeding for six months without introducing any type of food or drink, the benefits of colostrum in the first days after childbirth, the relationship between breastfeeding and a reduced risk of breast, uterine, and ovarian cancer, the fact that breastfeeding reduces the risk of malnutrition and obesity in children, and that a breastfed child is less likely to develop chest infections.

In addition, 98.9% (n=279) of the participants are aware that breastfeeding aids in milk production, and 96.1% (n=271) are aware that breast milk is a complete food for infants during the first six months after birth. However, 72.7% (n=205) reported that exclusive breastfeeding helps prevent pregnancy, and 76.6% reported that infants should be fed on demand. On the other hand, 55.7% (n=157) indicated that infant needs to take boiled herbs to relieve colic, especially in the first 6 months of life as shown in table (4.3).

Table 4.3: Frequency and percentage distribution of participants' response to knowledge assessment statements

Knowledge assessment statement	Yes Frequency (%)	No Frequency (%)
1. Breastfeeding is necessary for the health of the mother and the child?	281 (99.6)	1(0.4)
2. Do you know about the importance of breastfeeding for the health of the child?	277 (98.2)	5 (1.8)
3. Are you aware of the necessity of exclusive breastfeeding for a period of six months without introducing any type of food or drink?	269 (95.4)	13 (4.6)
4. Do you think that exclusive breastfeeding helps to increase the weight of the child?	256 (90.8)	26 (9.2)
5. Does breastfeeding increase the number of baby feedings at night?*	224 (79.4)	58 (20.6)
6. Do you know what colostrum is?	272 (96.5)	10 (3.5)
7. Do you know the benefits of colostrum on the first days of childbirth?	274 (97.2)	8 (2.8)
8. As colostrum milk has much benefit, I breastfed my baby early.	273 (96.8)	9 (3.2)
9. Do you think that breastfeeding is related to reducing the incidence of breast, uterine and ovarian cancer?	262 (92.9)	20 (7.1)
10. Did you know that exclusive breastfeeding reduces postpartum bleeding and reduces the risk of diabetes and obesity?	254 (90.1)	28 (9.9)
11. Do you think that exclusive breastfeeding helps reduce postpartum depression?	251 (89.0)	31 (11.0)
12. Breastfeeding reduces the risk of malnutrition and obesity in children?	262 (92.9)	20 (7.1)
13. A child who is breastfed is less likely to develop chest infections compared to those who are formula-fed.	262 (92.9)	20 (7.1)
14. Exclusive breastfeeding protects against diarrhea in infants?	243 (86.2)	39 (13.8)

15. Should a child be breastfed on demand?	216 (76.6)	66 (23.4)
16. Did you know that exclusive breastfeeding contributes to preventing pregnancy?	205 (72.7)	77 (27.3)
17. Do you think that a pregnant woman can breastfeed her baby?	154 (54.6)	128 (45.5)
18. Breast milk is a complete food for children that contains all nutrients during the first 6 months after birth?	271 (96.1)	11 (3.9)
19. A breastfeeding mother's diet helps in the production and production of milk?	270 (95.7)	12 (4.3)
20. Frequent breastfeeding helps to produce milk?	279 (98.9)	3 (1.1)
21. Is breast milk safe, healthy and always available?	267 (94.7)	15 (5.3)
22. The beginning of serving mashed foods to the child is between the fifth and sixth months?	244 (86.5)	38 (13.5)
23. The infant needs to take boiled herbs to relieve colic, especially in the first 6 months of life?*	157 (55.7)	125 (44.3)
*Inversely score.		

Regarding the multiple-choice knowledge statements, the majority of participants are aware that a newborn should receive breast milk immediately after birth, and 73% of them believe that the optimal time to initiate breast feeding is within the first hour of life. More than half of the participants indicated that 7 months or older is the optimal age to offer food or drink to a child, with the majority of their knowledge coming from healthcare professionals (40%) and friends and family (39%), see figure (4-2).

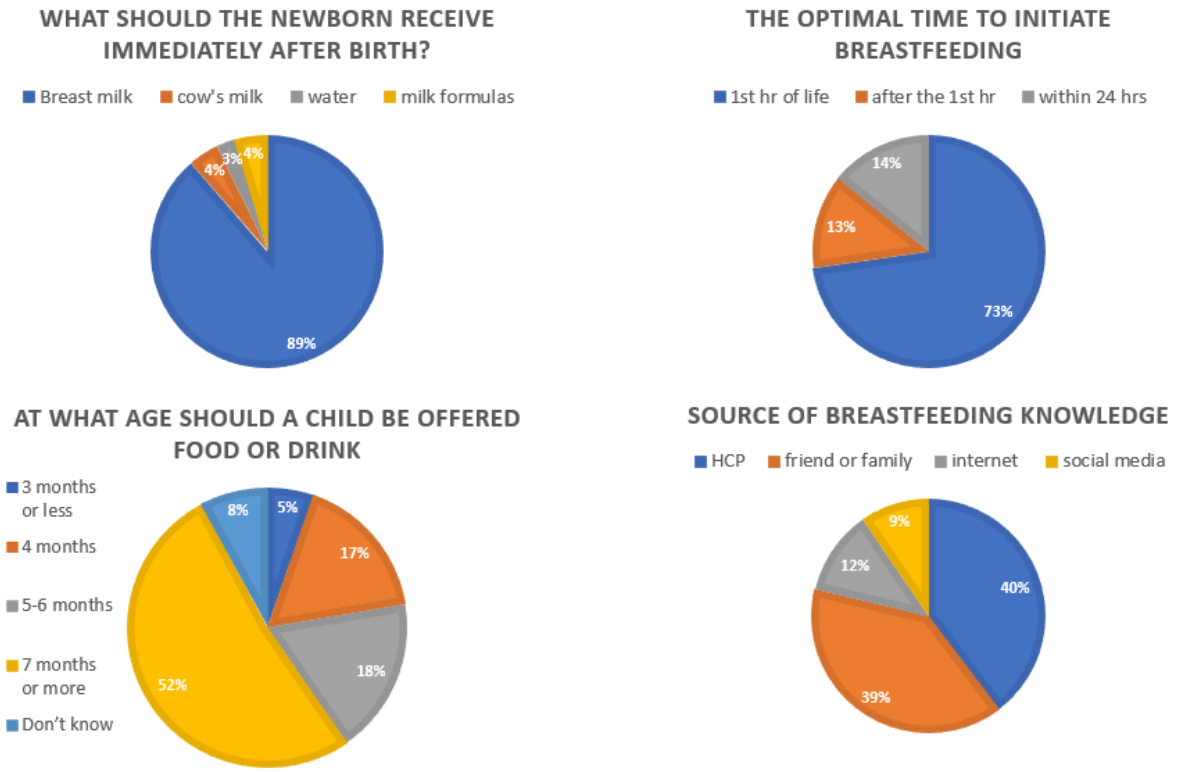

Figure (4.2): Knowledge of the participants in different statements

4.2.3 Attitude towards EBF

The attitude of the participants was generally positive. The majority of the participants (86.2%) agreed that breast milk should be given directly to newborns within an hour of birth, that breastfeeding is superior to formula feeding (92.2%), and that mother's milk is the ideal food for babies (91.1%). In addition, 91.8% agreed that breastfeeding strengthens the bond between mother and child, and 93.3% agreed that mother's milk is more easily digested than infant formula. About fifty percent of the participants disagreed or were neutral with the statement that giving water in addition to BF is necessary. Furthermore, as shown in the table, more respondents believe that giving water in addition to breastfeeding is necessary, and three-quarters agree that the mother needs an additional meal during EBF and that breastfeeding is related to reducing postpartum bleeding, see table (4.4).

Table (4.4):Frequency and percentage distribution of participants' response to attitude statements

Attitude statements	Agree Frequency (%)	Neutral Frequency (%)	Disagree Frequency (%)
1. Breast milk should be given to newborns directly within an hour after birth.	243 (86.2)	21 (7.4)	18 (6.4)
2. Giving water in addition Breastfeeding is necessary*.	67 (23.8)	65 (23.0)	150 (53.2)
3. Breastfeeding is better than formula feeding the baby.	260 (92.2)	16 (5.7)	6 (2.1)
4. Breastfeeding increases the bond between mother and infant.	259 (91.8)	15 (5.3)	8 (2.8)
5. The mother must breastfeed her child on demand.	199 (70.6)	62 (22.0)	21 (7.4)
6. Mother's milk is the ideal food for babies.	257 (91.1)	20 (7.1)	5 (1.8)
7. The mother needs an extra diet during exclusive breastfeeding.	214 (75.9)	56 (19.9)	12 (4.3)
8. Breastfeeding is related to reducing postpartum bleeding.	213 (75.5)	45 (16.0)	24 (8.5)
9. It is better to give additional foods before 6 months of age*.	103 (36.5)	59 (20.9)	120 (42.6)
10. Exclusive breastfeeding increases the bond between mother and infant.	101 (35.8)	73 (25.9)	108 (38.3)
11. Breastfeeding is more beneficial to the health of the child than artificial feeding.	252 (89.4)	16 (5.7)	14 (5.0)

12. Mother's milk is better digested than infant formula.	263 (93.3)	7 (2.5)	12 (4.3)
13. It is best to feed your baby breast milk alone for the first six months.	242 (85.8)	21 (7.4)	19 (6.7)
14. Breastfeeding makes the mother's breasts sag*.	135 (47.9)	79 (28.0)	68 (24.1)
15. Breastfeeding reduces physical activity*.	102 (36.2)	76 (27.0)	104 (36.9)
*Agree response indicate negative attitude towards EBF (inversely scored).			

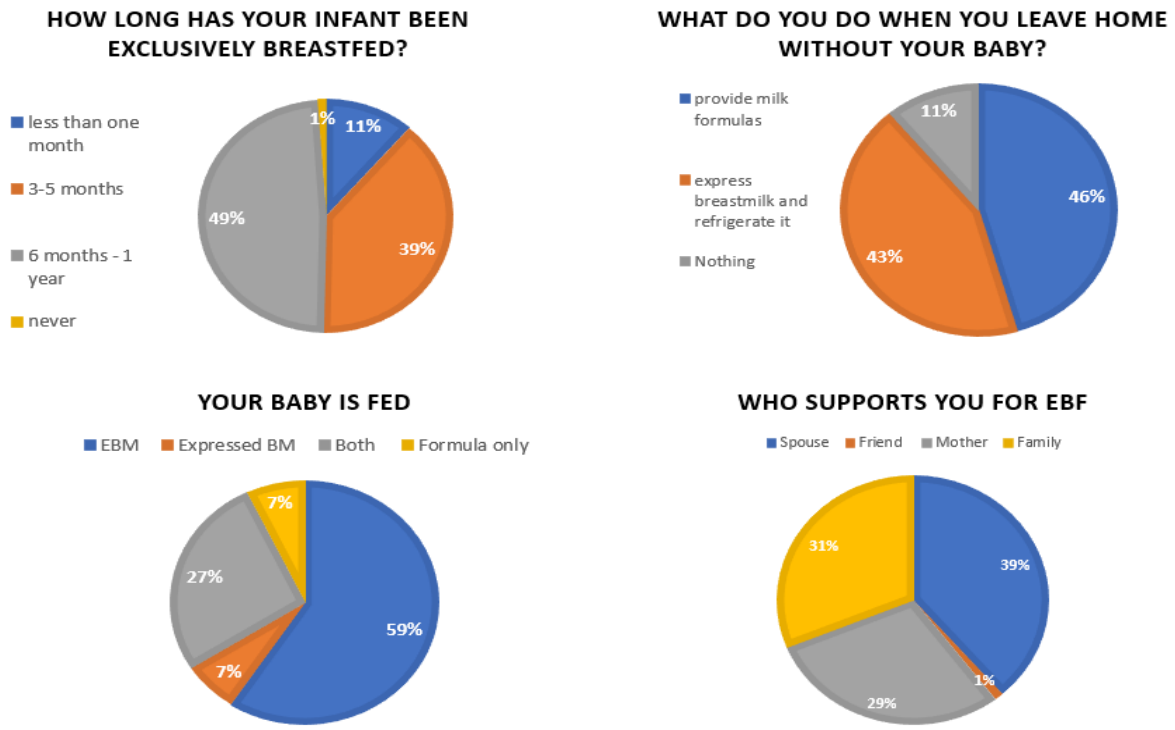

Figure 4.1: participants' responses towards different EBF issues.

Intriguingly, 63% (n=178) of the participants reported EBF; they fed their infants breast milk for at least six months. Regarding the EBF practice, approximately half of the participants have

breastfed their infant for 6-12 months, and 39% have breastfed their infants for 3-5 months. 46% of parents provided infant formula if they were away from home. The majority are encouraged to continue breastfeeding by their spouse or mother (39% and 29%, respectively); see figure (4-1).

4.2.4 Practices towards EBF

At the time of data collection, only 46.1% (n=133) of participants were breastfeeding their current child, but the vast majority (87.9%) had previously breastfed their children. Sixty-one percent of respondents indicated that they watch programs that emphasize the significance of breastfeeding and the proper way to practice it. In contrast, 61.3% (n=173) of mother's supplement breastfeeding during the first six months of their last child's life. Only 37.6% of the participants (n=106) stopped breastfeeding if they experienced breast engorgement or minor nipple cracking, 67.7% (n=191) stopped breastfeeding if the nipple leaked pus, and 33.3% (n=94) stopped breastfeeding due to the child's illness (diarrhea, fever, jaundice). In addition, 44.3% (n=125) of mothers breastfeed according to a specific schedule. In addition, 73% (n=206) of mothers breastfeed their children at night, and 74.5 % (n=210) do so 8-12 times per day. However, 22.7% (n=64) of you had introduced milk substitutes to your child due to family or close friend pressure. As demonstrated in the table (4-2).

Table 4.2: Frequency and percentage distribution of participants' responses to practice statements

Practice statements*	**Yes**	**No**
16. Are you breastfeeding your current child?	130 (46.1)	152 (53.9)
17. Have you ever used breastfeeding for your children?	248 (87.9)	34 (12.1)

18. Do you watch programs related to the importance of breastfeeding and the right way to practice it?	172 (61.0)	110 (39.0)
19. During the first six months of your last child's life, did you give anything else in addition to your milk?*	173 (61.3)	109 (38.7)
20. If you had breast engorgement during breastfeeding or minor nipple cracking, did you stop breastfeeding?*	106 (37.6)	176 (62.4)
21. I stop breast-feeding in cases of certain illnesses in the child (diarrhea, fever, jaundice)?*	94 (33.3)	108 (66.7)
22. I breastfeed my child 8-12 times in 24 hours?	210 (74.5)	72 (425.5)
23. I breastfeed the baby according to a specific schedule?*	125 (44.3)	157 (55.7)
24. I Give water between feedings?*	86 (30.5)	196 (69.5)
25. I stop breastfeeding if cracked nipples occur?*	110 (39.0)	172 (61.0)
26. I stop breastfeeding if a nipple leaks pus?*	191 (67.7)	91 (32.2)
27. I breastfeed my baby at night?	206 (73.0)	76 (27.0)
28. Have you or your child had any medical complications that prevented you from starting exclusive breastfeeding?*	72 (25.5)	210 (74.5)
29. I introduced milk substitutes to your child because of pressure from your family or close friends?*	64 (22.7)	218 (77.3)
* Yes, indicates bad practice (inversely scored).		

4.2.5 EBF knowledge, attitude and practice

In the following figure, the final scores for knowledge, attitude and practice was calculated and blooms criteria cut of point was used to categorize the findings as a result, good knowledge was seen in 78% (95%CI, 72.3%-82.4%) of the participants', good attitude was found in 78.7% (95%CI, 73.4%-83.4%) and good practice was reported in 9.2% (95%CI, 6.1% - 13.2%) of the participant only.

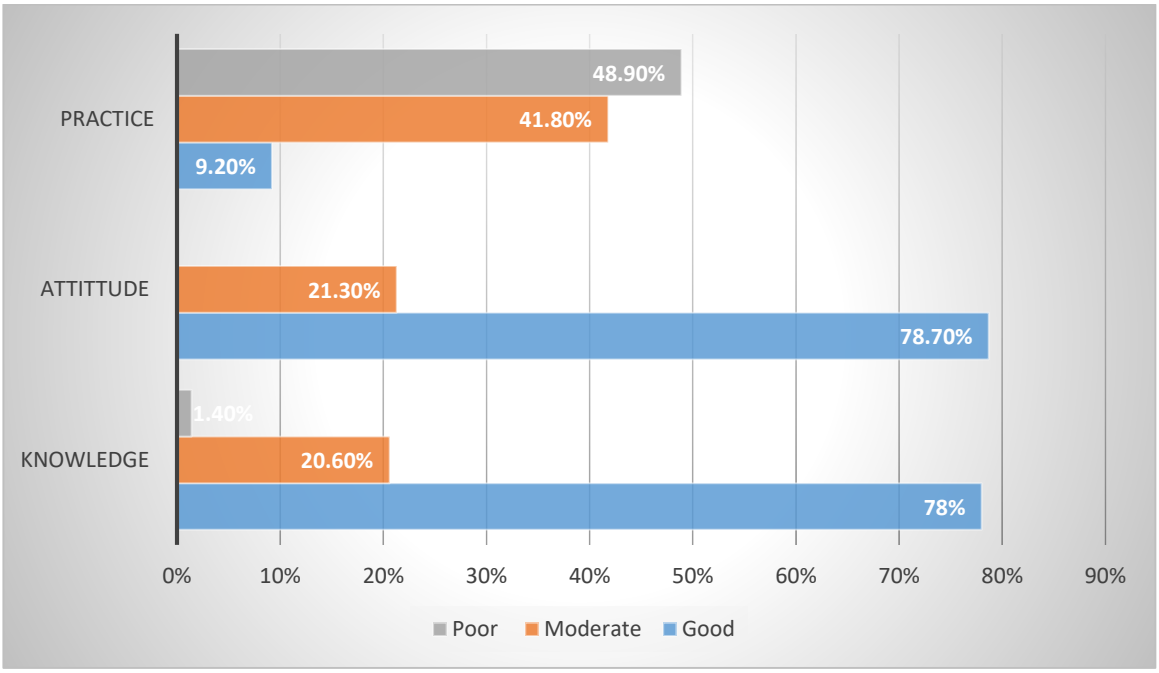

Figure (4.3): Knowledge, attitude practice scores of the participants.

4.3. Invariable Analysis

4.3.1 Relationship between EBF levels and background characteristics

Statistically significant associations were identified between the EBF practice and background variables using the Chi-square test and a p-value of 0.05 as the level of significance. With a p-value of 0.074, the middle age group (30-39 years old) was more likely to engage in EBF than younger and older age groups. Moreover, the older the age at which a woman marries, the more

likely she is to practice EBF, as 100% of women who were married after their 26th birthday practice EBF, compared to 54% of women who were married between the ages of 17 and 21 (p-value 0.05). In addition, urban residents were more likely to engage in EBF than those in villages and camps (68.7%, 53.6% and 59.4%, respectively). as seen in table (4-5). In terms of educational level, a statistically significant difference was found between the level of education of the husbands and the EBF practice for the wives, with husbands with a university education being more likely to have EBF wives than husbands with a secondary education (p value=0.04). On the contrary, participants' educational level was not statistically significant in relation to their EBF practice (p value = 0.866). There were no significant associations found between employment status and obstetric variables and EBF practice.

Table (4.5): Relationship between EBF and background characteristics of the participants

Variable	EBF Frequency (%)	Not EBF Frequency (%)	P-value
Age* groups			0.074
20-29 years	61 (56.5)	47 (43.5)	
30 -39 years	88 (70.4)	37 (29.6)	
40 years or more	29 (59.2)	20 (40.8)	
Age of marriage			0.001
17-20 years	58 (54.2)	49 (45.8)	
21-23 years	62 (60.2)	41 (39.8)	
24-26 years	40 (74.1)	14 (25.9)	
More than 26 years	18 (100)	0 (0.0)	
Place of residence			0.058
City	114 (68.7)	52 (31.3)	
Village	45 (53.6)	39 (46.4)	
Camp	19 (59.4)	13 (40.6)	
Educational level			0.866
Elementary	11 (68.8)	5 (31.3)	
Secondary	40 (61.5)	25 (38.5)	
University	127 (63.2)	74 (36.8)	
Husband educational level			0.040
Elementary	27 (79.4)	7 (20.6)	
Secondary	61 (56.0)	48 (44.0)	
University	90 (64.7)	49 (35.3)	
Previous marriage			0.41
Yes	15 (71.4)	6 (28.6)	

No	163 (62.5)	98 (37.5)	
Employment			0.969
Yes	92 (63.0)	54 (37.0)	
No	86 (63.2)	50 (36.8)	
Patient recruited			0.45
Hospital	98 (81.3)	62 (38.8)	
PHC center	80 (65.6)	42 (34.4)	
GA at delivery			0.284
<38 week	27 (56.3)	21 (43.8)	
38-40 weeks	135 (63.4)	78 (36.6)	
More than 40 weeks	16 (76.2)	5 (23.8)	
Frequency of ANC follow up			0.079
Once only	22 (73.3)	8 (26.7)	
Two times only	17 (81.0)	4 (19.0)	
Three or more	139 (60.2)	92 (39.8)	
History of abortion			0.276
None	92 (58.6)	65 (41.4)	
Once only	50 (65.8)	26 (34.2)	
Two times only	25 (73.5)	9 (26.5)	
Three or more	11 (73.3)	4 (26.7)	
Type of delivery			0.98
NVD	123 (63.1)	72 (36.9)	
CS	55 (63.2)	32 (36.8)	
Infant BWT			0.24
Less than 2.5 Kilograms	18 (64.3)	10 (35.7)	
2.5 – 4 kilograms	139 (61.2)	88 (38.8)	
More than 4 kilograms	21 (77.8)	6 (22.2)	
Use of contraception			0.47
Never	68 (61.3)	43 (38.7)	
Traditional	29 (58.0)	21 (42.0)	
Medical	81 (66.9)	40 (33.1)	

4.3.2 Relationship between knowledge levels and background characteristics

Regarding breastfeeding knowledge statistically significant associations were identified between knowledge level and background variables using the Chi-square test and a p-value of 0.05 as the level of significance. With a p-value of 0.01, the more the age of the participants the more knowledge she had about breast feeding, about 94% of participants in the age group of more than 40 years reported good knowledge compared to 68.5% of participants' in their twentieth age. Moreover, the more the age at marriage the most likely the breast-feeding

knowledge will be on moderate and good levels with the age group (24-26 years old) at marriage was the more likely to have good knowledge about breastfeeding. Frequency of antenatal visits was also associated with good practice with a statistically significant level (p-value= 0.008), in which those with more frequent antenatal visits reported better knowledge. Besides, the more the infant birth Wight the more the mothers reported good knowledge with a significant p value = 0.001, see table (4-7). Otherwise, there were no significant associations found between educational level for the mother or the husband, employment status and obstetric variables and breastfeeding knowledge as seen in table (4-7).

Table (4.7): Relationship between knowledge and background characteristics of the participants.

Variable	Poor (%)	Moderate (%)	Good (%)	P-value
Age* groups				0.010
20-29 years	2 (1.9)	32 (29.6)	74 (68.5)	
30 -39 years	2 (1.6)	23 (18.4)	100 (80.0)	
40 years or more	0 (0.0)	3 (6.1)	46 (93.9)	
Age of marriage				0.001
17-20 years	0 (0.0)	24 (22.4)	83 (77.6)	
21-23 years	4 (3.9)	30 (29.1)	69 (67.0)	
24-26 years	0 (0.0)	2 (3.7)	52 (96.3)	
More than 26 years	0 (0.0)	2 (11.1)	16 (88.9)	
Place of residence				0.39
City	4 (2.4)	37 (22.3)	125 (75.3)	
Village	0 (0.0)	14 (16.7)	70 (83.3)	
Camp	0 (0.0)	7 (21.9)	25 (78.1)	
Educational level				0.15
Elementary	0 (0.0)	1 (6.3)	15 (93.8)	
Secondary	2 (3.1)	18 (27.7)	45 (69.2)	
University	2 (1.0)	39 (19.4)	160 (79.6)	
Husband educational level				0.083
Elementary	0 (0.0)	10 (29.4)	24 (70.6)	
Secondary	4 (3.7)	23 (21.1)	**82 (75.2)**	
University	0 (0.0)	25 (18.0)	220 (78.0)	

Previous marriage				0.41
Yes	0 (71.4)	6 (28.6)		
No	4 (62.5)	98 (37.5)		
Employment				0.94
Yes	14 (9.6)	62 (42.2)	70 (47.9)	
No	12 (8.8)	56 (41.2)	68 (50.0)	
Patient recruited				0.22
Hospital	4 (2.5)	34 (21.3)	122 (76.3)	
PHC center	0 (0.0)	24 (19.7)	98 (80.30	
GA at delivery				0.284
<38 week	2 (4.2)	13 (27.1)	33 (68.8)	
38-40 weeks	0 (0.0)	41 (19.2)	172 (80.8)	
More than 40 weeks	2 (9.5)	4 (19.0)	**15 (71.4)**	
Frequency of ANC follow up				0.008
Once only	0 (0.0)	12 (40.0)	18 (60.0)	
Two times only	2 (9.5)	3 (14.3)	16 (76.2)	
Three or more	2 (0.9)	43 (18.6)	186 (80.5)	
History of abortion				0.007
None	2 (1.3)	23 (14.6)	132 (84.1)	
Once only	0 (0.0)	18 (23.7)	58 (76.3)	
Two times only	2 (5.9)	13 (38.2)	19 (55.5)	
Three or more	0 (0.0)	4 (26.7)	11 (73.3)	
Type of delivery				0.28
NVD	2 (1.0)	44 (22.6)	149 (76.4)	
CS	2 (2.3)	14 (16.1)	71 (81.6)	
Infant BWT				0.001
Less than 2.5 Kilograms	4 (14.3)	9 (32.1)	15 (53.6)	
2.5 – 4 kilograms	0 (0.0)	46 (20.3)	181 (79.7)	
More than 4 kilograms	0 (0.0)	3 (11.1)	24 (88.9)	
Use of contraception				0.31
Never	2 (1.8)	29 (26.1)	80 (72.1)	
Traditional	0 (0.0)	10 (20.0)	40 (80.0)	
Medical	2 (1.7)	19 (15.7)	100 (82.6)	

4.3.3 Relationship between Attitudes levels and background characteristics

Regarding breastfeeding attitude statistically significant associations were identified between knowledge level and background variables using the Chi-square test and a p-value of 0.05 as the level of significance. With a p-value of 0.008, the more the age of the participants the more attitude she had about breast feeding, about 96% of participants in the age group of more than 40 years reported good attitude compared to 75.9% of participants' in their twentieth age. Moreover, the more the age at marriage the most likely the breast-feeding attitude will be at good levels with the participants' aged more than 26 years at marriage were the more likely to have good attitude towards breastfeeding. Otherwise, there were no significant associations found between educational level for the mother or the husband, employment status and obstetric variables and breastfeeding attitude as seen in table (4-8).

Table (4.8): Relationship between attitude and background characteristics of the participants

Variable	Moderate (%)	Good (%)	P-value
Age* groups			0.008
20-29 years	26 (24.1)	82 (75.9)	
30 -39 years	20 (16.1)	105 (84.0)	
40 years or more	2 (4.1)	47 (95.9)	
Age of marriage			0.019
17-20 years	14 (13.1)	93 (86.9)	
21-23 years	26 (25.2)	77 (74.8)	
24-26 years	8 (14.8)	46 (85.2)	
More than 26 years	0 (0.0)	18 (100)	
Place of residence			0.058
City	25 (15.1)	141 (84.9)	
Village	16 (19.0)	68 (81.0)	
Camp	7 (21.9)	25 (78.1)	
Educational level			0.59
Elementary	1 (6.3)	15 (93.8)	
Secondary	12 (18.5)	53 (81.5)	
University	35 (17.4)	166 (82.6)	

Husband educational level			0.61
Elementary	4 (11.8)	30 (88.2)	
Secondary	21 (19.3)	88 (80.7)	
University	23 (16.5)	116 (83.5)	
Previous marriage			0.41
Yes	6 (28.6)		
No	98 (37.5)		
Employment			0.27
Yes	29 (19.9)	117 (80.1)	
No	19 (14.0)	117 (86.0)	
Patient recruited			0.633
Hospital	29 (18.1)	131 (81.9)	
PHC center	19 (15.6)	103 (84.4)	
GA at delivery			0.699
<38 week	6 (12.5)	42 (87.5)	
38-40 weeks	38 (17.8)	175 (82.2)	
More than 40 weeks	4 (19.0)	17 (81.0)	
Frequency of ANC follow up			0.059
Once only	7 (23.3)	23 (76.7)	
Two times only	7 (33.3)	14 (66.7)	
Three or more	34 (14.7)	197 (85.3)	
History of abortion			0.276
None	26 (16.6)	131 (83.4)	
Once only	10 (13.2)	66 (86.8)	
Two times only	9 (26.5)	25 (73.5)	
Three or more	3 (20.0)	12 (80.0)	
Type of delivery			0.087
NVD	28 (14.4)	167 (8.6)	
CS	20 (23.0)	67 (77.0)	
Infant BWT			0.064
Less than 2.5 Kilograms	8 (28.6)	20 (71.4)	
2.5 – 4 kilograms	33 (14.5)	194 (85.5)	
More than 4 kilograms	4 (25.9)	20 (74.1)	
Use of contraception			0.69
Never	21 (18.9)	90 (81.1)	
Traditional	9 (18.0)	41 (82.0)	
Medical	18 (14.9)	103 (85.1)	

4.4.3 Relationship between practice levels and background characteristics

Statistically significant associations were identified between the breastfeeding practice and background variables using the Chi-square test and a p-value of 0.05 as the level of significance. With a p-value of 0.049, the more the age at marriage the most likely the breast feeding practice will be on moderate and good levels with the age group (21-23 years old) at marriage was the more likely to engage in good practice.

Otherwise there were no significant associations found between age, educational level for the mother or the husband, employment status and obstetric variables and breastfeeding practice.

Table (4.6): Relationship between practice and background characteristics of the participants.

Variable	Poor (%)	Moderate (%)	Good (%)	P-value
Age* groups				0.234
20-29 years	15 (13.9)	46 (42.6)	47 (43.5)	
30 -39 years	8 (6.4)	50 (40.0)	67 (53.6)	
40 years or more	3 (6.1)	22 (44.9)	24 (49.0)	
Age of marriage				0.049
17-20 years	12 (11.2)	50 (46.7)	45 (42.1)	
21-23 years	7 (6.8)	33 (32.0)	63 (61.2)	
24-26 years	13 (13.0)	25 (46.3)	22 (40.7)	
More than 26 years	0 (0.0)	10 (55.6)	8 (44.4)	
Place of residence				0.058
City	15 (9.0)	68 (41.0)	83 (50.0)	
Village	10 (11.9)	40 (47.6)	34 (40.5)	
Camp	1 (3.1)	10 (31.3)	21 (65.6)	
Educational level				0.688
Elementary	0 (0.0)	7 (43.8)	9 (56.3)	
Secondary	5 (7.7)	27 (41.5)	33 (50.8)	
University	21 (10.4)	84 (41.8)	96 (47.8)	
Husband educational level				0.162
Elementary	2 (5.9)	16 (47.1)	16 (47.1)	
Secondary	10 (9.2)	54 (49.5)	45 (41.3)	
University	14 (10.1)	48 (34.5)	77 (55.4)	
Previous marriage				0.27

Yes	0 (0.0)	8 (38.1)	13 (61.9)	
No	26 (10.0)	110 (42.1)	125 (47.9)	
Employment				0.93
Yes	14 (9.6)	62 (42.5)	70 (47.9)	
No	12 (8.8)	56 (41.2)	68 (50.0)	
Patient recruited				0.44
Hospital	16 (10.0)	71 (44.4)	73 (45.6)	
PHC center	10 (8.2)	47 (38.5)	65 (53.3)	
GA at delivery				0.103
<38 week	3 (6.3)	21 (43.8)	24 (50.0)	
38-40 weeks	23 (10.8)	92 (43.2)	98 (46.0)	
More than 40 weeks	0 (0.0)	5 (23.8)	**16 (76.20**	
Frequency of ANC follow up				0.302
Once only	4 (13.3)	8 (26.7)	18 (60.0)	
Two times only	2 (9.5)	7 (33.3)	12 (57.1)	
Three or more	20 (8.7)	103 (44.6)	108 (46.8)	
History of abortion				0.16
None	17 (10.8)	65 (41.4)	17 (10.8)	
Once only	9 (11.8)	35 (46.1)	9 (11.8)	
Two times only	0 (0.0)	13 (38.2)	0 (0.0)	
Three or more	0 (0.0)	5 (33.3)	0 (0.00	
Type of delivery				0.27
NVD	19 (9.7)	87 (44.6)	**89 (45.6)**	
CS	7 (8.0)	31 (35.6)	49 (56.3)	
Infant BWT				0.085
Less than 2.5 Kilograms	2 (7.1)	9 (32.1)	17 (60.7)	
2.5 – 4 kilograms	24 (10.6)	99 (43.6)	104 (45.8)	
More than 4 kilograms	0 (0.0)	10 (37.0)	17 (63.0)	
Use of contraception				0.068
Never	16 (14.4)	49 (44.1)	16 (14.4)	
Traditional	4 (8.0)	22 (44.0)	4 (8.0)	
Medical	6 (5.0)	47 (38.8)	6 (5.0)	

4.5.3 Relationship between practice levels and knowledge, attitude of participants

The ANOVA test results revealed no significance in the mean difference between EBF practice and knowledge, attitude, and BF practice. For the chai-square test, which assessed knowledge, attitude, and practice categories (Good, Moderate, Poor), EBF was higher in those with good BF practice compared to those with poor practice (65.4% in good BF practice reported EBF versus only 58.7% in poor practice), but the results were not statistically significant (p-value =0.74). Furthermore, participants with better knowledge practiced EBF more than those with poor knowledge (64.1% of participants with good knowledge EBF their infant's vs 50% of those with poor knowledge), p-value= 0.1. finally, with a p-value of 0.49, all those with a positive attitude had higher EBF than those with a moderate attitude (see table 4.9).

Table (4.9): Relationship between EBF and Knowledge, attitude, BF practice characteristics of the participants

Variable	EBF Frequency (%)	Not EBF Frequency (%)	P-value
BF Practice- mean(SD)	***0.59 (0.17)***	***0.58 (0.18)***	**0.79**
Good	17 (65.4)	9 (34.6)	0.74
Moderate	80 (67.8)	38 (32.2)	
Poor	81 (58.7)	57 (41.3)	
Knowledge - mean(SD)	***0.85 (0.08)***	***0.84 (0.10)***	**0.10**
Good	141 (64.1)	79 (35.9)	0.71
Moderate	35 (60.3)	23 (39.7)	
Poor	2 (50.0)	2 (50.0)	
Attitude- mean(SD)	***0.84 (0.06)***	***0.84 (0.07)***	**0.49**
Good	141 (63.5)	81 (36.5)	0.79
Moderate	37 (61.7)	23 (38.3)	

4.4 Predictors of favorable practice

After all, variables were adjusted, and all possible confounders were controlled using regression analysis. Nothing of the factors detected had significant association with EBF, as seen in the table (4.10).

Table 4.10: Factors significantly associated with a positive an EBF practice

Domain	Favorable practice				
	B	SE	Adj. OR	P-value	CI
Age groups* 20-29 years					
30 -39 years	0.28	0.373	1.3	0.57	0.59-2.55
40 years or more	0.52	0.37	1.6	0.15	0.81-3.5
Age of marriage 17-20 years[1]					
21-23 years	20.9	9382	0.001	0.98	0.00-0.001
24-26 years	20.7	9382	0.001	0.98	0.00-0.001
More than 26 years	20.2	9382	0.001	0.98	0.00-0.001
Husband educational level					
Elementary [1]					
Secondary	0.81	0.48	2.2	0.87	5.7
University	0.18	0.29	0.8	0.46	1.4

***adj**., adjusted; **CI**, confidence interval; **OR**, odds ratio; SE, standard error.[1]Reference group. **β**, coefficient of determination. *****Statistically significant at P<0.05.*

Chapter Five

Discussion

5.1. Introduction

This study was conducted to assess knowledge, attitudes, and practices regarding exclusive breastfeeding among mothers and to identify factors associated with exclusive breastfeeding practices among Bethlehem district women. Knowledge, attitude, and practice domains regarding EBF and breastfeeding were assessed.

The response rate was 94%. The prevalence of EBF was 63% (95%CI, 57.2%-68.7%) which is higher than a meta-analysis in low-income and middle-income countries, were only 37% of children younger than 6 months of age are exclusively breastfed. The prevalence of good general BF practice was 9.2%, good knowledge was 78% (95%CI, 72.3%-82.4%) and good attitude 78.7% (95%CI, 73.4%-83.4%).

5.2. Participants background characteristics

Around three quarter of study participants get married before the age of 23 years of old. Early marriage is a common practice in many Arabic countries and is deeply rooted in cultural and traditional values. The legal age of marriage varies across the region, but in many countries, it is possible for girls to get married as early as 16 years old with parental consent. In some cases, girls as young as 13 or 14 are forced into marriage due to poverty, cultural beliefs, or family pressures (UNICEF, 2022b).

The age of marriage varies across different cultures and religions. Some societies encourage early marriage, while others promote later marriage. In some cases, early marriage is a result of poverty, lack of education, and cultural traditions. However, early marriage can have negative

consequences, especially for girls, including dropping out of school, poor reproductive health outcomes, and increased risk of domestic violence (Delima, 2022).

Besides, Families may see marriage as a way to reduce their financial burden by transferring the responsibility of supporting their daughter to her husband. In addition, cultural and traditional beliefs around gender roles and the importance of virginity and modesty can also contribute to early marriage (Malhotra & Elnakib, 2021). Looking closely at Palestine, early marriage is a prevalent issue in Palestine, particularly in rural areas and refugee camps. According to the Palestinian Central Bureau of Statistics, in 2020, 8% of girls aged 15-19 were married or in a union, while 0.4% of boys in the same age range were married or in a union (PCBS, 2022). The consequences of early marriage for young girls in Palestine can be severe. Girls who get married early are more likely to drop out of school, have limited access to education and employment opportunities, and experience domestic violence. Early marriage also increases the risk of complications during pregnancy and childbirth, which can have serious health implications for both the mother and the child (Syam & Shamun, 2015). Furthermore, early marriage can impact a girl's ability to exclusively breastfeed her child. Young mothers may lack knowledge about the benefits of exclusive breastfeeding, struggle with breastfeeding challenges, or not have access to necessary healthcare and support (Efevbera et al., 2017).

In regards of educational level for the study participants and their husbands, university level education was reported more in the mother than the husband. Palestinian females have made considerable strides in closing the education gap with their male counterparts. According to data from the Palestinian Central Bureau of Statistics, the participation rate in formal education (one year before enrolling in the official elementary stage) in Palestine is around 73% (68% for males and 78% for females). Data for 2022 showed that the percentages of females completing different educational levels (lower and upper secondary education) were approximately 97%

and 78%, respectively, while the percentages for males were 90% and 53%, respectively. However, the percentages for males and females are equal for primary education completion rates, which were 99% in the same year. In 2021-2022, the percentage of female students enrolled in Palestinian higher education institutions reached 62% of the total number of students enrolled in higher education institutions (PCBS, 2023).

Furthermore, regarding employment status, more than half of our study participants were employed, this is despite the historical fact that female employment in Palestine faces significant challenges, including limited access to job opportunities, discrimination, and cultural barriers. However, there are progress and growth in this area (The World Bank, 2018). In 2022, approximately 19% of all women of working age will participate in the labor force, an increase from the current rate of 17%. Notably, this percentage was 17% in 2021, while the rate of male labor force participation reached 71% in 2022, up from 69% in 2021. In contrast, the unemployment rate for women in the labor force in 2022 was approximately 40%, compared to 20% for men. The unemployment rate for college graduates aged 19 to 29 with an Intermediate Diploma or higher reached 48 percent (61.3% for women versus 34% for men)(PCBS, 2023).

Some of the barriers to female employment in Palestine include social and cultural attitudes towards women's roles and responsibilities, lack of access to education and training opportunities, and limited access to transportation and childcare services. Additionally, there are legal and regulatory barriers that restrict women's access to certain types of jobs and industries (Commission & Escwa, 2018). However, there have also been some efforts to address legal and regulatory barriers to women's employment, such as the recent amendment to the Palestinian Labor Law to prohibit discrimination on the basis of gender in employment (General Mission of Palestine, 2008).

Concerning the obstetric variables in our research participants. Antenatal care is an important component of maternal and child health, and regular antenatal visits are essential for ensuring the mother's and baby's health and well-being. More than 80% of the study participants had three or more antenatal visits during their pregnancies. The frequency of antenatal visits in Palestine varies depending on a number of factors, including access to healthcare and cultural beliefs about pregnancy and childbirth. According to the Palestinian Ministry of Health, antenatal visits should be scheduled at least four times during the pregnancy, with additional visits recommended for high-risk pregnancies. However, the actual frequency of antenatal visits varies by region and access to healthcare (Palestinian Ministry of Health, 2021).

The frequency of antenatal visits among pregnant women was discovered and reported in a study that assessed multiple factors affecting mother and child health in conflict areas such as Palestine. The study discovered that 79% of women received antenatal care during their pregnancy, with an average of 6.2 antenatal visits. However, visit frequency varied significantly depending on region and type of healthcare provider. One of the main barriers to antenatal care in Palestine is access to healthcare, particularly in rural areas and refugee camps. There is also a lack of awareness and knowledge about the importance of antenatal care among some communities. Additionally, cultural beliefs and practices around pregnancy and childbirth may impact the frequency and timing of antenatal visits (Leone et al., 2019).

5.3. Factors affect EBF

Understanding the factors associated with exclusive breastfeeding and implementing appropriate interventions can help to increase the prevalence of exclusive breastfeeding and improve the health outcomes of infants and mothers.

Several factors have been found to be associated with exclusive breastfeeding, including maternal education, socio-economic status, age, and support from health professionals and

family members (Victora et al., 2016). Therefore, interventions aimed at improving maternal knowledge and attitudes towards breastfeeding, promoting breastfeeding-friendly environments, and providing support from health professionals and family members can increase the prevalence of exclusive breastfeeding. In Norway, there were correlations between parental education, maternal age, and marital status, and continued breastfeeding past the 6-month mark. Mothers' education, age, and the number of children all played a role in whether or not they were still breastfeeding at 12 months. Breastfeeding was negatively associated with maternal smoking and decreasing birth weight at both ages (Kristiansen et al., 2010). Place and environment of residence also play and important role in EBF; in comparison to their rural counterparts, urban dwellers had a higher prevalence of EBF, and early initiation of breastfeeding across household wealth quintiles and levels of mothers' education (Ekholuenetale et al., 2022). Water supplementation during the first week of life and for the first six months of life was associated with an increased risk of full-term breast-feeding cessation during the first month; sugar water supplementation; or formula supplementation. Caesarean births (RR 1.15; 95% CI: 1.06, 1.16) and breastfeeding difficulties (RR 1.56; 95% CI: 1.45, 1.67) were also associated with an increased risk (Häggkvist et al., 2010).

5.4. Knowledge about EBF

Breastfeeding is a natural and essential process that provides numerous benefits to both the mother and the child. Despite the proven benefits of breastfeeding, mothers often have misconceptions or lack adequate knowledge about it. The study participants reported high level of knowledge about breastfeeding; good knowledge was seen in 78% (95%CI, 72.3%-82.4%) of the participants. Besides, nearly all reported the importance of breastfeeding for the health of the mother and the child. Several studies have found that mothers who are knowledgeable

about breastfeeding are more likely to initiate and continue breastfeeding for a longer duration (Kronborg & Vaeth, 2004; Magarey et al., 2015). Age, age of marriage and frequency of antenatal visits were significantly associated with EBF. Similarly, a study conducted in Iran found that mothers who had received antenatal education about breastfeeding had a higher rate of exclusive breastfeeding (Maryam et al., 2014). Besides, a systematic review found that mothers who had a higher level of knowledge about breastfeeding were more likely to exclusively breastfeed their infants for the first six months (Sankar et al., 2015). In addition, the majority of study participants have a solid understanding of breast milk as a complete food for infants during the first six months after birth and the benefits of colostrum. Despite the importance of breastfeeding, many mothers lack the necessary knowledge. 55% of mothers in India were aware that colostrum is essential for the baby's health, and only 30% knew the correct duration for exclusive breastfeeding (Krishnendu & Devaki, 2017). Another study conducted in Pakistan found that many mothers believed that formula milk is better for their babies than breast milk (Memon et al., 2019).

Several factors influence mothers' knowledge about breastfeeding, including their age, education level, socio-economic status, and cultural beliefs. Our results, showed a significant association between the participant age and age of marriage and breastfeeding knowledge. A study conducted in Ethiopia found that mothers who were older and had a higher level of education had a better understanding of the benefits of breastfeeding (Dachew & Bifftu, 2014). A study conducted in the United States found that mothers who had a higher income and education level were more likely to initiate and continue breastfeeding (Bartick et al., 2017). Cultural beliefs also play a significant role in mothers' knowledge about breastfeeding. A study conducted in Nigeria found that some mothers believed that breast milk alone was not enough to meet their baby's nutritional needs (Mbada et al., 2013).

Studies have also explored the factors that can influence mothers' knowledge regarding breastfeeding. For example, a study conducted in Iran found that mothers who had received breastfeeding education had higher levels of knowledge and were more likely to breastfeed (Maleki Saghooni et al., 2021). Similarly, a study conducted in Saudi Arabia found that mothers who had received breastfeeding education had better knowledge about the benefits and techniques of breastfeeding (Yasser Abulreesh et al., 2021).

5.5. Attitudes towards EBF

More than three quarters of study participants expressed a favorable positive attitude towards EBF. Mainly agreeing that breastfeeding is more beneficial to the health of the child than artificial feeding. The attitude towards exclusive breastfeeding is influenced by several factors including maternal attitudes, healthcare provider attitudes, family attitudes, and cultural beliefs (Wu et al., 2022). Promoting a positive attitude towards exclusive breastfeeding among mothers, healthcare providers, and family members can play a crucial role in improving the practice of exclusive breastfeeding and improving child health outcomes.

Several studies have shown that the attitude of mothers towards exclusive breastfeeding is an important factor in determining its practice. In a study conducted in Kenya, it was found that mothers who had a positive attitude towards exclusive breastfeeding were more likely to exclusively breastfeed their infants for the first six months of life compared to those with a negative attitude (Webb-Girard et al., 2012). Another study conducted in Ethiopia found that mothers who had a positive attitude towards exclusive breastfeeding were more likely to exclusively breastfeed their infants compared to those with a negative attitude (Alamirew et al., 2017). In addition to maternal attitudes, the attitudes of healthcare providers and family members also play a crucial role in promoting exclusive breastfeeding. A study conducted in

Nigeria found that healthcare providers who had a positive attitude towards exclusive breastfeeding were more likely to encourage and promote its practice among mothers (Mohamed et al., 2018). Similarly, another study conducted in Pakistan found that the attitude of family members towards exclusive breastfeeding significantly influenced the practice of exclusive breastfeeding (Riaz et al., 2022).

Cultural beliefs and practices also influence the attitude towards exclusive breastfeeding. In some cultures, breastfeeding is considered taboo, and mothers may feel embarrassed or uncomfortable breastfeeding in public. In a study conducted in the United States, it was found that the attitude towards breastfeeding was influenced by cultural and societal norms. The study found that mothers who perceived breastfeeding to be socially acceptable were more likely to breastfeed their infants exclusively (Carlin et al., 2019). On the other hand, some women reported that breastfeeding makes the mother's breasts sag and that it may reduce physical activity. Breastfeeding is known to provide numerous health benefits for both the infant and the mother. However, many women may have concerns about breastfeeding, including the fear that breastfeeding may cause their breasts to sag. Several studies have explored women's perceptions of breastfeeding and its impact on breast appearance. A study conducted in Nigeria found that many women believed that breastfeeding would cause their breasts to sag (Mohamed et al., 2018). Similarly, a study conducted in Iran found that a significant number of women believed that breastfeeding would cause their breasts to lose their shape and firmness (Parsa et al., 2015). However, these perceptions are not supported by scientific evidence. A study conducted in Australia found that breastfeeding did not have a significant impact on breast sagging. The study found that the primary factors contributing to breast sagging were age, weight changes, and genetics. Breastfeeding was not found to be a significant contributor to breast sagging. Another study conducted in the United States found that women who breastfed

for longer durations had higher levels of satisfaction with the appearance of their breasts compared to those who breastfed for shorter durations. The study suggests that women who breastfeed for longer durations may have a more positive perception of their breast appearance.

5.6. Conclusion

Understanding the factors that influence exclusive breastfeeding and implementing appropriate interventions can help to increase the prevalence of exclusive breastfeeding and improve infant and maternal health outcomes. This study found that EBF practice is lower than reported figures at the national level and in comparison, to previous studies, yielding contradictory results. In comparison to Ibrahim et al., early marriage was found to be associated with less exclusive breast-feeding practice and cesarean section had no effect on EBF practice. Besides, despite Palestinian policy mandating a minimum marriage age of 18 years or older, the culture of early youth marriage persists in Palestine, negatively impacting exclusive breastfeeding practice. Adolescence massages that focus on sexual and reproductive health should be empowered. In addition, mothers' knowledge about breastfeeding plays a critical role in the initiation and duration of breastfeeding. Despite the proven benefits of breastfeeding, many mothers lack adequate knowledge about it. Therefore, it is essential to provide mothers with accurate and culturally appropriate information about breastfeeding to ensure that they make informed decisions about their infant's health and well-being. It is important to educate women about the benefits of breastfeeding and to address any concerns they may have about its impact on breast appearance.

5.7. Study limitations

This study has several limitations that should be mentioned. The cross-sectional design with results based on a self-administered questionnaire is one of the potential limitations. Even with

the extraordinary response rate, self-desirability bias is a concern because self-reported EBF and BF practice are likely overestimated; however, the anonymity of our study makes this unlikely. Other factors contribute to selection bias, such as the fact that the study was conducted in only one governorate (Bethlehem governorate), with patients cured at MOH primary health and Beit Jala hospital. As the study used a cross-sectional design and was conducted between January 2022 and March 2022, time constraints could be applied with the possibility of volunteer bias. Selection bias could also be attributed to the fact that participants were recruited from service recipients (beneficiaries) of the Ministry of Health's healthcare services, ignoring other mothers who use the private sector for healthcare services. Information bias may also be a concern, as Palestinian women are culturally conservative when it comes to information about their sexual and reproductive health. Finally, increasing EBF to follow the global agenda may have an impact on the outcomes in terms of accessibility for the problematic areas. To reduce the risk of bias, we ensured data anonymity and confidentiality, and the researcher, a female who works outside the targeted setting, was in charge of data collection, and the clinics were chosen by the researcher independently of the district's governing body.

5.8. Strength of the study

This research could be one of the studies that support exclusive breastfeeding promotion in Palestine. EBF should be promoted by focusing on empowering women with adequate knowledge and meeting their needs and expectations, which will help the health promotion workers at the Palestinian ministry of health develop clear massages and regulations to improve health education services, thereby enhancing EBF. In addition, after understanding the causes and effects, it was clear which area of improvement required attention. The study's instrument is valid and reliable, and it could serve as a useful resource and foundation for many other

researchers. In addition, the study provided researchers with valuable information about mothers' needs and expectations regarding health education massage aimed at enhancing EBF, and it gave Bethlehem primary health level service decision-makers' insight into the situation.

5.9. Recommendations

- Mother and child care in MOH

1. Exclusive breastfeeding promotion and intervention programs should utilize media (local health campaigns and pamphlets/magazines), nutrition education (teachers), and health professionals (lactation consultants, nurse/midwives, and nutritionists) to promote breastfeeding.
2. Programs should emphasize the numerous benefits of breastfeeding and the cost-effectiveness of the practice for the family and society.
3. Different physical, emotional, psychological, and economic benefits of breastfeeding should be promoted.
4. Mothers' knowledge should be evaluated continuously to ensure EBF and the quality of services.

- **Community**

1. Communication in schools and through non-formal education and other social groups to promote EBF.
2. It should be emphasized that bottle-fed infants are sicker and more frequently than breastfed infants, and that breastfeeding should be viewed as the standard feeding methods.

- Other Researchers

To conduct the future research studies included all the primary healthcare providers (MMS, UNRWA, PMRS and MOH), because this study was conducted at Palestinian (MOH) centers only.

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Appendix I

State of Palestine
Ministry of Health
Education in Health and Scientific Research Unit

دولة فلسطين
وزارة الصحة
وحدة التعليم الصحي والبحث العلمي

Ref.: ………………
Date:………………

الرقـــم: م ح ١/ ٢٧١٧/ ٢٠٢٢
التـاريخ: ٢/ ١٢/ ٢٠٢٢

عطوفة الوكيل المساعد لشؤون الصحة العامة وصحة الاسرة المحترم،،،

الأخ مدير عام الادارة العامة للمستشفيات المحترم،،،

تحية واحترام...

<u>الموضـــوع: تسهيل مهمة بحث</u>

يرجى تسهيل مهمة **الطالبة: أفنان غريب– ماجستير صحة عامة/ كلية المهن الصحية/ جامعة القدس**، وباشراف د. مها النوباني، في عمل بحث بعنوان:

"knowledge, attitude and practices towards exclusive breastfeeding and associated factors among women in Bethlehem area "

من خلال السماح للطالبة بالحصول على معلومات من خلال تعبئة استبانة من قبل الامهات المراجعات لعيادات الطفولة والامومة (بعد اخذ موافقتهن)، وذلك في:

- **مديرية صحة بيت لحم**
- **مستشفى بيت جالا الحكومي**

على ان يتم الالتزام باساليب واخلاقيات البحث العلمي.
على ان يتم الالتزام بجميع تعليمات واجراءات الوقاية والسلامة الصادرة عن وزارة الصحة بخصوص جائحة كورونا، وتحت طائلة المسؤولية. وابراز شهادة التطعيم قبل دخول مرافق وزارة الصحة.
على ان يتم تزويد الوزارة بنسخة PDF من نتائج البحث، التعهد بعدم النشر لحين الحصول على موافقة الوزارة على نتائج البحث.

مع الاحترام...

د. عبد الله القواسمي
رئيس وحدة التعليم الصحي والبحث العلمي

نسخة: عميد كلية الصحة العامة المحترم/ جامعة القدس

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Appendix II

Questionnaire

جامعة القدس

كلية الصحة العامة

ندري الباحثة دراسة بعنوان " مدى معرفة الأمهات المرضعات واتجاهاتهن وممارساتهن حول الرضاعة الطبيعية الحصرية والعوامل المرتبطة بها في منطقة بيت لحم، بهدف الحصول على درجة الماجستير في الصحة العامة من جامعة القدس، لذا أرجو من حضراتكن الاجابة على فقرات الاستبانة وبدقة وموضوعية كتابيا، ولا يستغرق ذلك أكثر من15 دقيقة، كما نرجو توقيع هذه الاستبانة والتي ستعكس موافقتكم على المشاركة في الدراسة وإظهار مدى معرفتكم وممارستكم لموضوع الرضاعة الطبيعية الحصرية، علماً أن البيانات ستستخدم لأغراض البحث العلمي فقط.

شاكرين لكن حسن تعاونكن

التوقيع .....

القسم الأول: البيانات الأولية:

نرجو من حضرتكم وضع اشاره على المعلومات المناسبة لكم:

1. العمر الحالي:_____
2. ما هو عمرك عند الزواج:-_____
3. سبق ان استخدمت الموانع الحمل:
   - وسائل تقليديه
   - وسائل حديثه
   - لم يسبق الاستخدام
4. مكان اقامتك الحالية:
   - قرية
   - مدينه
   - مخيم
5. مستوى تعليمك:
   - ابتدائي
   - ثانوي
   - جامعي
6. مستوي تعليم زوجك:
   - ابتدائي
   - ثانوي
   - جامعي
7. ما نوع ولادتك لأخر طفل:
   - طبيعي
   - قيصري
8. وزن الطفل عند الولادة:
   - اقل من الوزن الطبيعي (2.5 كيلو غرام)
   - بين 2.5_4
   - أكثر من الوزن الطبيعي (4 كيلوغرام)
9. فنره الحمل عند الولادة:
   - اقل من 38 أسبوع
   - مده كامله (من 38 الى 40) أسبوع
   - أكثر من 41 أسبوع

10. كم مره قمت بمراجعه مراكز الأمومة والطفولة خلال فتره الحمل؟
    - مره واحده
    - مرتين
    - ثلاث مرات او أكثر

11. ما هي عدد مرات الإجهاض:
    - مره واحده
    - مرتين
    - ثلاث مرات او أكثر
    - ولا مرة

12. هل تكرر زواجك:
    - نعم
    - لا

13. هل تعملين:
    - نعم
    - لا

ثانياً: الأسئلة التالية تتعلق بمدى معرفه الأمهات حول الرضاعة الطبيعية الحصرية يرجى وضع اشاره √ حول رايك في العبارات التالية في المربع ادناه:

الرقم	الفقرات	نعم	لا
1	الرضاعة الطبيعية ضرورية لصحه الام والطفل؟		
2	هل تعلمين عن اهميه الرضاعة الطبيعية لصحه الطفل ؟		
3	هل لديك علم بضرورة الرضاعة الطبيعية الحصرية لمده سته اشهر دون ادخال أي نوع طعام او شراب؟		
4	هل تعتقدين ان الرضاعة الطبيعية الحصرية تساعد على زياده وزن الطفل؟		
5	هل الرضاعة الطبيعية تزيد من عدد رضعات الطفل في الليل؟		
6	هل تعرفين ما هو حليب اللبا الحليب الأصفر؟		
7	هل لديك معرفه بفوائد حليب الام (اللبا) اول أيام الولادة؟		
8	هل أعطيت طفلك الرضيع حليب اللبا؟		
9	هل تعتقدين ان الرضاعة من الثدي لها علاقة بتقليل حالات الإصابة بأمراض سرطان الثدي والرحم والمبايض؟		
10	هل تعلمين ان الرضاعة الطبيعية الحصرية تقلل من النزيف بعد الولادة وتقلل مخاطر الإصابة بالسكري والبدانة؟		
11	هل تعتقدي ان الرضاعة الطبيعية الحصرية تساعد بتقليل حالات الاكتئاب ما بعد الولادة؟		
12	الرضاعة الطبيعية تقلل من مخاطر سوء التغذية والسمنة عند الأطفال؟		
13	الطفل الذي يرضع هو اقل عرضة للإصابة بأمراض الالتهابات الصدرية مقارنة مع الرضاعة الصناعية؟		
14	الرضاعة الطبيعية الحصرية تحمي من الاسهال لدى الرضع؟		
15	يجب إرضاع الطفل عند الطلب؟		
16	هل تعلمين ان الرضاعة الطبيعية الحصرية تساهم في منع الحمل؟		
17	هل تعتقدين أن المرأة الحامل يمكنها إرضاع طفلها؟		
18	حليب الام غذاء متكامل للأطفال يحتوي على جميع العناصر الغذائية خلال 6 اشهر الأولى بعد الولادة؟		
19	اتباع الام المرضعة لنظام غذائي صحي يساعد في تصنيع وادرار الحليب؟		
20	تساعد الرضاعة المتكررة من الثدي عل انتاج الحليب؟		
21	حليب الام هو آمن وصحي ومتوفر دائمًا؟		
22	بداية تقديم الأطعمة المهروسة للطفل تكون بين الشهر الخامس والسادس؟		
23	الطفل الرضيع بحاجه الى تناول الاعشاب المغلية للتخفيف من بالمغص وخاصه في اول 6 اشهر من العمر؟		

1. من اين تلقيتي معلومات عن اهميه الرضاعة الطبيعية الموصي بها؟
   - طبيب، ممرضة، قابلة
   - اسرة، أصحاب
   - الانترنت
   - وسائل التواصل الاجتماعي

2. في أي عمر يجب تقديم طعام أو شراب للطفل؟
   - 3أشهر أو أقل
   - 4 أشهر
   - 5 أشهر
   - 6 أشهر
   - 7اشهر او أكثر
   - لا اعرف

3. ماذا يجب أن يعطى الطفل مباشرة بعد الولادة؟
   - حليب الثدي
   - حليب بقري
   - الماء العادي
   - ماء+ سكر
   - حليب مخصص للرضع (صناعي)

4. الوقت المناسب لإعطاء حليب الام بعد الولادة؟
   - في الساعة الأولى بعد الولادة
   - بعد ساعة واحدة من الولادة
   - خلال 24 ساعة

ثالثاً: الأسئلة التالية تتعلق باتجاهات الأمهات نحو الرضاعة الطبيعة الحصرية، يرجى وضع اشاره(X) أمام العبارة بما يتناسب مع وجهة نظرك:

الرقم	الفقرات	موافق	محايد	غير موافق
1	يجب إعطاء حليب الأم لحديثي الولادة مباشرة في غضون ساعة بعد الولادة.			
2	إعطاء الماء خلال الوجبات الرضاعة الطبيعية ضروري .			
3	الرضاعة الطبيعية أفضل من الرضاعة الصناعية للطفل.			
4	الرضاعة الطبيعية تزيد من الترابط بين الام والرضيع.			
5	يجب ان ترضع الام طفلها عند الطلب.			
6	حليب الام هو الغذاء المثالي للأطفال.			
7	تحتاج الام الى نظام غذائي إضافي اثناء الرضاعة الطبيعية الحصرية.			
8	تعتقدين ان الرضاعة الطبيعية لها علاقة بتقليل النزيف بعد الولادة.			
9	افضل بإعطاء الأطعمة الإضافية قبل 6 اشهر من عمر الطفل .			
10	تزيد الرضاعة الطبيعية الحصرية من الترابط بين الأم والرضيع.			
11	الرضاعة الطبيعية مفيدة لصحه الطفل اكثر من الرضاعة الصناعية.			
12	تتم عمليه هضم حليب الأم بشكل افضل من الحليب الاصطناعي للطفل.			
13	يفضل إرضاع طفلك حليب الثدي وحده خلال الأشهر الستة الأولى.			
14	الرضاعة الطبيعية تجعل ثدي الأم يترهل.			
15	هل تعتقدي أن الرضاعة الطبيعية تحد من نشاط الجسماني.			

رابعاً: الأسئلة التالية تتعلق بمدى ممارسه الأمهات الرضاعة الطبيعية الحصرية الرجاء وضع اشاره (X) حول رأيك أمام كل عبارة:

الرقم	الفقرات	نعم	لا
1	هل ترضعين طفلك الحالي؟		
2	هل سبق ان استخدمت الرضاعة الطبيعية لأطفالك؟		
3	هل تشاهدي البرامج المتعلقة بأهمية الرضاعة وطريقه ممارستها الصحيحة؟		
4	خلال الستة أشهر الأولى من عمر طفلك الأخير هل اعطيتي شيئا اخر بالإضافة الى حليبك؟		
5	إذا كنت قد اصبت باحتقان الثدي اثناء الرضاعة او تشقق الحلمه البسيط هل توقفت عن الرضاعة؟		
6	اتوقف عن الرضاعة في حالات مرضيه معينه عند الطفل(الاسهال والحرارة, الاصفرار)؟		
7	أقوم بإرضاع الطفل من (8_12) مره خلال 24 ساعه؟		
8	أقوم بإرضاع الطفل حسب جدول زمني معين؟		
9	اعطي الماء بين الرضعات؟		
10	اتوقف عن الرضاعة في حال حدوث تشقق في الحلمات؟		
11	اتوقف عن الرضاعة في حال نزول قدح من الحلمه؟		
12	ارضع طفلي اثناء الليل؟		
13	هل عانيت انت او طفلك من مضاعفات طبيه حالت دون بدء الرضاعة الطبيعية الحصرية؟		
14	ادخلتي بدائل الحليب لطفلك بسبب تعرضكي للضغط من الاهل او المقربين؟		

الفقرات الدالة على مدى ممارسة الامهات على الرضاعة الطبيعة الحصرية خلال الرعاية الأولية للطفل.

1. كم من الوقت أخذ طفلك حليب الثدي فقط؟

- اقل من شهر
- من 3 أشهر الى 5 أشهر
- من 6 أشهر الى سنه
- لم ترضع

منذ متى وانت تقومي بالرضاعة الطبيعية الحصرية؟

- اقل من 6 شهور
- 6 اشهر كامله
- من 6 أشهر الى سنة

2. إذا خرجتي لساعات طويله من البيت دون اصطحاب طفلك ماذا تفعلين بخصوص الرضاعة الطبيعية

- ترضعيه حليب اصطناع
- تفرغين حليبك في قنينه وتحفظيه في الثلاجة لا

  عطاءه للطفل فيما بعد
- لا تفعلين شيئا

3. يتم اعتمادك على تغذيه رضيعك من خلال:

- حليب الثدي بشكل كامل
- السحب(الشفط بواسطه اداه مناسبة)
- المزج بين حليب الثدي والسحب
- الحليب الصناعي فقط

4. من يقوم بدعمك للرضاعة الطبيعية الحصرية؟

- الزوج
- أصدقاء

- أمي
- العائلة

5. متى ادخلتي حليب الصناعي لطفلك:

- خلال الشهور الستة الأولى
- بعد الشهور الستة

شكرا لحسن تعاونكم