An-Najah National University

Faculty of Graduate Studies

PSYCHOLOGICAL FACTORS, ATTITUDES, AND BEHAVIORS OF NURSING MOTHERS TOWARD EXCLUSIVE BREASTFEEDING: A CROSS-SECTIONAL STUDY

By

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Dedication

TO THE SNOWSTORM

A special feeling of gratitude to my loving parents "Mahdi and Nahawat," my brothers "Yazan, Abdullah, and Bashar," and many friends especially “Ola Abu Zant”, who have never left my side and are very special to me, my best supporters.

This thesis is dedicated to my dear uncle "Ali," who has meant and still means so much to me. My beloved uncle's memories still govern my life, even if he has passed away.

Finally, to the people I hold in my heart.

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Many thanks to my co-supervisor, Dr. Nihal Natour, and to the defense committee members.

Declaration

I, the undersigned, declare that I submitted the thesis entitled:

PSYCHOLOGICAL FACTORS, ATTITUDES, AND BEHAVIORS OF NURSING MOTHERS TOWARD EXCLUSIVE BREASTFEEDING: A CROSS-SECTIONAL STUDY

I declare that the work provided in this thesis, unless otherwise referenced, is the researcher's own work, and has not been submitted elsewhere for any other degree or qualification.

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Date: 9-11-2023

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PSYCHOLOGICAL FACTORS, ATTITUDES, AND BEHAVIORS OF NURSING MOTHERS TOWARD EXCLUSIVE BREASTFEEDING: A CROSS-SECTIONAL STUDY

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Abstract

Background: According to the World Health Organization (WHO), EBF could save the lives of almost 220,000 children each year. The WHO recommends exclusively nursing newborns for the first six months of their lives.

Aim: This study was intended to assess how psychological factors, attitudes, and behaviors influencing exclusively breastfeed among nursing mothers.

Methods: A quantitative, cross-sectional study was conducted in the northern West Bank of Palestine at the maternal and child health clinics of the PMoH. A convenience sample used among 368 participants. A self-reported survey used, including the Arabic versions of the Depression and Anxiety Stress Scale (DASS-21) and the Breastfeeding Behavior Questionnaire (BBQ). The Statistical Package for Social Sciences (SPSS) version 24 was used for analysis.

Results: A total of 368 participants responded and were included. The prevalence rates of postpartum depression, anxiety, and stress were 50.8%, 59.8%, and 68.5%, respectively. The current infant's age between 2 and 4 months (P = 0.03, OR = 1.66, CI: 1.03, 2.67) had a significant association with depression toward EBF among nursing mothers, as well as anxiety (P = 0.00, OR = 2.12, CI = 1.33, 3.39). The husbands between 31 and 40 years old, mean age 35.5 years old, had a higher odd of having stress (P = 0.04, OR = 2.13, CI: 1.01, 4.49), same for mothers of less than 50 kg (P = 0.04, OR = 0.19, CI: 0.19, 0.95). Also, 76.1% of the participants had negative attitudes and behaviors. Both of monthly incomes of less than $500 and between $500 and $800, and nursing mother age less than 18 years old had a significant association between EBF attitudes and behaviors

(P = 0.01, OR = 0.82, CI: 0.71, 0.95, P = 0.02, OR = 0.85, CI: 0.74, 0.98, P = 0.00, OR = 7.26, CI: 3.88, 13.60, respectively).

Conclusion: The study revealed significant postpartum psychological problems among Palestinian nursing mothers, accompanied by unfavorable attitudes and behaviors towards EBF.

Recommendations: Implementing the DASS-21 and the BBQ in PMoH clinics is strongly advised. Further researches is necessary to identify the factors contributing to these concerning findings.

Keywords: Psychological factors, Anxiety, Depression, Stress, Exclusive Breastfeeding, Breastfeeding, EBF, Breastfeeding, BF, Attitudes, Behaviors, Palestine, Nablus.

Chapter One
Introduction

1.1 Overview

Breastfeeding has a significant advantage for both the mother's and the baby's health (Stuebe, 2009). Accordingly, the World Health Organization (WHO) recommends six months of exclusive breastfeeding for all newborns and that they continue breastfeeding for at least two years with complementary breastfeeding (Lyons et al., 2018). Similarly, breastfeeding is recommended by both the Academy of Family Physicians (AAFP) (Stenchover, 2007) and the American Academy of Pediatrics (AAP) during at least the first year of a baby's life (Stuebe, 2009).

Also, the WHO recommends that all newborns have six months of exclusive nursing and then continue breastfeeding for at least two years with complementary breastfeeding (Lyons et al., 2018). It is the process of feeding a baby food after six months of age because breastfeeding is insufficient and the baby needs more nutrition (Abeshu et al., 2016). Between six months and 23 months is the optimal age for complementary feeding, and as the infant gets older and more nutritionally dependent, the need for it increases (Dewey, 2001).

Although every mother's pregnancy and delivery experience different and unique phases (Namujju et al., 2018), but they are also brimming with psychological, physical, and social changes (Brockington, 2004; Machado et al., 2014). As a result, these alterations are strongly linked to psychological factors, leaving women more susceptible to depressive, anxiety, and stress disorders (Ahmadpour et al., 2023). The presence of these psychological symptoms negatively affects exclusive breastfeeding (De Jager et al., 2014; Jalal et al., 2017; Machado et al., 2014).

Depression (sadness feelings affect feelings, thinking, and daily activity (National Institute of Mental Health, 2023)), which is estimated to affect from 10% to 15% of all postpartum mothers (Abdollahi et al., 2011), is marked beside anxiety and stress to influence the process of exclusive breastfeeding (Hurley et al., 2008).

Pregnancy-related anxiety (discomfort, such as concern or fear, that can range from mild to severe, according to (Weisberg, 2009)) or distress is a discrete and identifiable

syndrome marked by increased fears or concerns about characteristics of pregnancy that are unique to it (e.g., medical treatment, physical symptoms, bodily changes, newborn health) (Blackmore et al., 2016). Accordingly, pregnancy-related anxiety showed that it impacts exclusive breastfeeding at weeks 6–8 postpartum (Horsley et al., 2019).

Psychosocial factors (factors that influence or emerge in a person's mind) (Brazier, 2018) are expected to have a key role in ensuring breastfeeding exclusively for the first six months after birth (De Jager et al., 2014). Moreover, the duration (nursing over an extended period of time), initiation (starting breastfeeding early after birth), and exclusivity of breastfeeding are significantly linked with psychological aspects such as breastfeeding self-efficacy, proclivity optimism, belief in breastmilk, breastfeeding anticipations, anxiety, anticipated breastfeeding duration, and the decision related to the infant's feeding time (O'Brien et al., 2008).

Women with psychosocial problems, anxiety, or depression are more likely to experience a cessation of breastfeeding, and they need support to continue exclusive breastfeeding (Sharifi et al., 2016). Also, hormonal changes, psychological adjustment to parenting, and exhaustion may all play a role (Abdollahi et al., 2011).

Likewise, postpartum psychological adjustment (the process of behavior by individuals that maintains a balance between their needs and the obstacles of the environment) (Asadi et al., 2020), early breastfeeding difficulties, support, increasing self-efficacy, and knowledge (Lyons et al., 2018) have also been reported to be important determinants of exclusive breastfeeding duration and intention (De Jager et al., 2014). Positive support perceptions have been shown to significantly influence adaptive maternal behavior, the transition to parenthood, and postpartum health (Hung & Chung, 2001).

Prenatal interventions that aim to promote the duration of exclusive breastfeeding may benefit from the inclusion of strategies that assist in alleviating the anxieties and concerns that arise with being pregnant (Horsley et al., 2019). Therefore, this indicates the importance of psychological factors for improving breastfeeding behaviors.

Breastfeeding, on the other hand, is a complex behavior impacted by a number of circumstances, including the mother's and the newborn's traits, healthcare systems, and family, community, and professional support (Gallegos et al., 2020). Non-modifiable and

modifiable determinants of breastfeeding include maternal age, socioeconomic status, geographic residence, parity, and the infant's birthweight, as well as modifiable factors like type of delivery, self-efficacy, attitudes (driven by religion), previous breastfeeding exposure, and social and professional support (Bernard et al., 2016).

In addition, knowledge about breastfeeding, attitudes and behaviors toward breastfeeding play a significant role in the process of exclusively breastfeeding practices (Dukuzumuremyi et al., 2020) and the decision to breastfeed (Martens, 2001).

However, childbearing and motherhood are intimately interlinked in the Palestinian setting with common cultural ideas and behaviors. Mothers, sisters, mother-in-law, and other female relatives typically help new mothers with all aspects of motherhood, including breastfeeding, bathing and physically caring for their children, learning about their cries, providing nutritional advice, and managing other aspects of health and well-being, as well as family care (Taraki, 2006).

In the State of Palestine "Palestine is a country divided into two parts, the West Bank and the Gaza Strip, because of the occupation from 1948 to present, according to (Efrat, 2006)", most women view breastfeeding as beneficial (Izhiman A., 2015). Initially, according to a 2014 Palestinian Multiple Indicator Cluster Survey, the percentage of children aged 0 to 23 months who were breastfed in Palestine was 96.6%, with 95.8% in the West Bank and 97.6% in Gaza. According to a survey conducted by the Palestinian Center for Statistics (PCBS), 38.6 percent of infants aged 0 to 5 months in the West Bank and 36.4 percent in Gaza were exclusively breastfed (PCBS, 2014).

However, the rate drops over the next six months, with just 40% of exclusively breastfed babies reaching the age of six months (36 percent in the Gaza Strip and 41 percent in the West Bank). As a supplement to the nutritious maternal milk, infants are given formula, sugar water, or even herbal tea (Izhiman A., 2015).

Despite the fact that UNRWA (United Nations Relief and Works Agency for Palestine Refugees in the Near East) clinics have been implementing a breastfeeding promotion program, reports on the prevalence of exclusive breastfeeding (EBF) among Palestinian refugee newborns receiving UNRWA facilities have only reached 32.7 percent (Musmar & Qanadeelu, 2012). Furthermore, pre-conception care, prenatal care, intra-natal care,

postnatal care, and family planning are among the reproductive health services provided by UNRWA (UNRWA, 2021). It encourages women to visit UNRWA health centers after giving birth to get postnatal care, which includes a full medical examination of the mother and the newborn, as well as counseling on family planning, breastfeeding, and newborn care (UNRWA, 2020).

This study was conducted in Nablus clinics that provide Palestinian Ministry of Health services (PMoH), Asira Al-Shamliya, Ras Al-Ain, Balata, and central Nablus clinic. The purpose of this research is to assess the psychological factors, attitudes, and behaviors of nursing mothers towards exclusive breastfeeding.

1.2 Conceptual and theoretical definitions

1.2.1 Postpartum period

The postpartum period is divided into three different but interconnected phases, commonly termed the "fourth stage of labor." The initial phase (acute phase) begins within the first 6 hours of birth and lasts for 12 hours, followed by the second phase (subacute phase), which involves the first two to six weeks, and the last phase (delayed postpartum phase) for up to 6 months (Romano et al., 2010).

1.2.2 Exclusive breastfeeding

In the first six months of life, newborns are exclusively breastfed (also known as "exclusive breastfeeding"), which means that no other liquids, including water, tea, herbal medicines, or food (with the exception of prescription medications or dietary supplements such as minerals and vitamins), should be added to the breast milk (Motee A. & Jeewon R., 2014).

1.2.3 Complementary feeding

The WHO defines complementary feeding as the practice of meeting an infant's nutritional requirements with liquids and meals (meals include elements other than breast milk or formula) when breast milk is no longer sufficient. It's crucial to give newborns the nutrition they need for growth and development (Abeshu et al., 2016).

1.2.4 Formula feeding

Formula, or bottle-feeding, is an artificial milk feeding for the baby instead of breastmilk (Maxwell et al., 2023).

1.2.5 Breastfeeding attitudes

Attitude is a multifaceted and frequently used notion. It could be evaluated in patients by health experts in order to attain the desired behavior. It includes four characteristics: making a judgment based on experience, behaviors, knowledge, and/or principles; feelings and ideas about a certain topic (e.g., nursing); agreeing, disagreeing, or remaining neutral; and exploring behavior and/or action modification (or a decision not to take action). Therefore, a breastfeeding attitude is the intention, initiation, and continuation of breastfeeding (Hamze L. et al., 2018).

1.2.6 Breastfeeding behaviors

It is a dyadic behavior in which an infant gets breast milk from his or her own mother. Breastfeeding behaviors include initiation, duration, and method of breast feeding, such as feeding the baby directly from the breast or using expressed breast milk (breast milk expression feeding is feeding breast milk that has been expressed by hand or pump to the infant by bottle feeding, with or without added infant formula or solid foods) (Rasmussen et al., 2017).

1.3 Aim of the study

To explore the psychological factors influencing attitudes and behaviors toward exclusive breastfeeding among Palestinian nursing mothers.

1.3.1 Objectives

1. Identify the prevalence of sociodemographic among exclusively nursing mothers.
2. Identify the prevalence of psychological factors (depression, anxiety, stress) among exclusively nursing mothers.
3. Identifying the prevalence of positive and negative attitudes and behaviors among nursing mothers.
4. Assess if there are a significant difference between exclusive breastfeeding and depression, anxiety, and stress.
5. Assess if there are a significant difference between exclusive breastfeeding and attitudes and behaviors among nursing mothers.

1.4 Problem statement

Breastfeeding is an infant's preferred method of nutrition (Radwan, 2013). It is easier to digest in comparison with formula since it contains antibodies, and it helps in the prevention of allergies and protects from chronic conditions, but artificial feeding does not contain antibodies and cannot match the complexity of breast milk (Ben-Joseph E., 2018).

The World Health Organization (WHO) recommends breastfeeding for the baby until the age of 23 months as a target age (Abeshu et al., 2016),which is related to its benefits for the mother and baby since it helps the baby gain the right amount of weight, has appropriate growth and development, decreases the risk of chronic diseases, and has economic benefits (Yasser Abulreesh et al., 2021). Thus, formula feeding is expensive, might lead to overweight gain, and might increase the risk of chronic diseases (De Onis & Onyango, 2003). Also, for mothers, breastfeeding decreases the risk of breast and ovarian cancer (Prentice, 2022) and cardiovascular diseases (Tschiderer et al., 2022).

However, in order to implement the WHO recommendation to breastfeed until a youngster is two years old, it is important to identify the psychological factors influencing breastfeeding attitudes, practices, behaviors, initiation, duration, and exclusive breastfeeding of nursing women (Kronborg & Vaeth, 2004).

Moreover, there are not enough studies about the psychological factors influencing exclusive breastfeeding attitudes, practices, behaviors, initiation, and duration, even with all the recommendations and breastfeeding encouragement programs. This study aims to assess and identify these variables among Palestinian nursing mothers presenting to primary health care centers in Nablus city.

1.5 Significance of the study

The ideal infant's food is breast milk, which should be initiated within the first hour of a baby's life and last for at least six months of EBF (exclusive breastfeeding). It supplies all of the nutrition a newborn need throughout the first six months of life, as well as protecting the kid from sickness (Yasser Abulreesh et al., 2021). According to the World Health Organization, exclusive breastfeeding could save the lives of roughly 220,000 children each year.

There are a set of factors influencing the ability of women to breastfeed their babies (Krol & Grossmann, 2018).They are a mix of psychosocial, psychological, and medical

variables. The studies reviewed different factors affecting EBF, but a few of them determined that psychological factors affect EBF attitudes, practices, duration, behavior, and initiation. Accordingly, more studies are needed, and this study focused on the psychological factors, attitudes, and behaviors among Palestinian women and their impacts on exclusive breastfeeding.

1.6 Research questions

1. What is the prevalence of sociodemographic among exclusively nursing mother?
2. What is the prevalence of psychological factors (Depression, Anxiety, Stress) among exclusively nursing mother?
3. What is the prevalence of positive and negative attitudes and behaviors among nursing mothers?
4. Are there significant differences between psychological factors and exclusive breastfeeding?
5. Are there significant differences between psychological factors and breastfeeding attitudes?
6. Is there a significant association between psychological factors and behaviors about breastfeeding?

1.7 Hypotheses of the study

H0: There are no significant differences between psychological factors (depression, anxiety and stress) and exclusive breastfeeding, at the level of p-value ≤ 0.05.

H0: There is no relation between behaviors and attitudes and exclusive breastfeeding, at the level p-value ≤ 0.05.

H1: There are no significant differences between psychological factors (depression, anxiety and stress) and exclusive breastfeeding, at the level of p-value ≤ 0.05

H1: There are significant differences between behaviors and attitudes and exclusive breastfeeding, at the level p-value ≤ 0.05.

Chapter Two

Literature Review

2.1 Literature Review

In this chapter, the researcher presents the studies related to the physiological factors influencing exclusive breastfeeding among nursing mothers worldwide, in Arab countries, and in Palestine.

2.1.1 Sociodemographic and EBF

In order to find out the association between breastfeeding practices in women with a body mass index (BMI) of 30 kg and any psychological issues, a systematic study was published in 2018. Researchers investigated 20 articles, and 16 psychological characteristics were reported. In this study, it was discovered that breastfeeding habits were related to nursing preferences, body image, social awareness, belief in nutritional adequacy, and the availability of enough breast milk. On the other side, researchers in this review recommended supporting breastfeeding, giving women knowledge to disprove specific myths, and addressing their self-image and social awareness (Lyons et al., 2018).

To assess the degree of women's knowledge, attitudes, and practices related to exclusive breastfeeding and to offer recommendations on how to enhance it, an East African systematic review study was conducted in 2020. An inventory of English-language publications published between January 2000 and June 2019 was compiled by researchers using several databases. For the purpose of gathering data for the mentioned research (16 studies), a survey of peer-reviewed literature was conducted. The results showed that 84.4% of women recognized what EBF was, 49.2% knew it only lasted for the first six months, and 96.2% had heard of it. Furthermore, 42.1% and 24% of mothers disagreed and strongly disagreed with the importance of breastfeeding the child during the first hour after birth and immediately, respectively, and 47.9% disagreed that discarding the colostrum is important. According to the statistics, 42% of mothers wanted to nurse their children exclusively for the first six months. In comparison, 55.9% of them had nursed their children exclusively for at least six months (Dukuzumuremyi et al., 2020).

A quantitative, cross-sectional study was conducted among young women in Nigeria to assess breastfeeding knowledge, practices, and attitudes. Researchers used the Knowledge, Attitude, and Intention (KAI) scale to evaluate 457 of the included participants. Study outcomes highlighted that 52.1% of women knew the benefit of starting nursing within the first hour after birth, while 37.8% of the respondents reported that breast milk is not enough for babies during the first 6 months of age and water should be introduced to them (Leshi et al., 2016).

However, this published historical series aimed to monitor EBF's frequency for eight cross-sectional studies between 2004 and 2015 that conducted the annual vaccination in Primary Healthcare services. Results were obtained from 6027 infants with a mean age of 6.2 months. Findings showed a significant increase among infants aged four months or less in rates of breastfeeding (7.2%) and exclusive breastfeeding (9.5%), but there was a decline between 2010 and 2015 for infants aged four and five months (6.3%). While the prevalence increased up to 10.1% among infants aged between six and nine months old in comparison with no change for those aged between 10 and 11 months (Faustino-Silva et al., 2023).

Another quantitative, cross-sectional study was conducted in Ghana to identify breastfeeding practices and sociodemographic characteristics that influence EBF. From May to June 2016, researchers utilized a simple random selection technique and a structured questionnaire to recruit 355 mothers of infants aged 0 to 24 months for the study. The findings of the study demonstrated a high level of awareness and comprehension of EBF. In addition, 63.4 percent of women started breastfeeding within an hour of giving birth, and 81 percent of mothers gave their newborns colostrum following delivery. Only 33.7 percent of 6- to 8-month-old infants have begun consuming supplemental foods. In addition, women between the ages of 20 and 24 were more likely to engage in EBF, as were less educated women as well (Asare et al., 2018).

2.1.2 Attitudes and behaviors

For the purpose of investigating breastfeeding knowledge, attitudes, and behavior among female undergraduate students as well as the variables that affect breastfeeding intention, a quantitative, cross-sectional study was carried out in the Middle East (Lebanon and Syria). A convenience sample of 293 individuals from four chosen universities in each

city—194 from Beirut and 199 from Damascus—completed a multi-part questionnaire. The results show a relationship between breastfeeding and knowledge, attitude, and behavior in Lebanon as well as in Syria (Hamade et al., 2014).

To assess the attitudes and information about nursing held by working mothers, a quanti tative, cross-sectional study was carried out. 400 working mothers were given an Arabic-language self-report questionnaire by researchers at their places of employment. The survey was completed by 80% of participants. According to the findings, 20.9% of women breastfed their babies exclusively for six months, whereas 72.4% of women initiated nursing. Additionally, there was outstanding nursing expertise as well as supportive attitudes. Additionally, 30% of working women said their jobs were the reason for their child's early termination of nursing (Altamimi et al., 2017).

In Ethiopia, the researchers used data from the 2019 Ethiopian Mini Demographic and Health Survey (2019 EMDHS) to determine factors influencing exclusive breastfeeding among infants six months of age or younger. The outcomes of a total of 566 participants were presented, of which 83% were EBF practices. There is a significant link between EBF under 6 months and education (higher education), residency place (urban), type of delivery, place of giving birth, and number of antenatal care visits (4 or more) (Mekebo et al., 2022).

In India, a total of 441 participants with an infant age less than 12 months were interviewed prospectively and retrospectively to identify the prevalence of survival EBF practices and related factors. It was highlighted that EBF decreased after five months in comparison with its good survival rate up to three months. EBF practices were 69.4% and were significantly linked to education, region, birth weight, and maternal age (Sankar et al., 2023).

In Changsha County, China, a cross-sectional study was conducted among 414 women who completed an online survey to identify the factors influencing exclusive breastfeeding practices. The study highlighted that 46.1% of the participants were exclusively breastfed. Also, results showed a significant relationship between EBF and self-efficacy and intention of EBF, while there was an indirect relationship with social support (Li et al., 2022).

2.1.3 Psychological factors

Besides, psychosocial factors are likely to have a substantial influence in maintaining exclusive breastfeeding for six months. To identify the psychosocial factors linked with the ability to EBF for six months postpartum and to investigate a conceptual model of exclusive breastfeeding duration's psychological association s. A quantitative, cross-sectional study was obtained among 174 women aged 18 years old or more who gave birth between 6 and 24 months and completed an online, retrospective survey. The Breastfeeding Self-Efficacy Scale (BSE), Body Attitude Questionnaire (BAQ), Depression, Anxiety, and Stress Scale (DASS), Fetal Health Locus of Control Scale, and the Brief Coping Orientation to Problems Experienced (COPE) scale were used to measure psychosocial factors (De Jager et al., 2014).

The findings revealed that exclusive breastfeeding desire, duration, breastfeeding self-efficacy, public nursing comfort, perceived physical strength, and reported less perceived breastfeeding difficulties were all significant predictors. Also, this study highlighted a significant relationship between maternal attitude towards pregnancy (both antenatal and postnatal), early breastfeeding difficulties, and psychological adjustment (De Jager et al., 2014).

Additionally, psychological factors may influence breastfeeding behavior, as literature suggests (Krol & Grossmann, 2018). In 2008, a quantitative, cross-sectional study aimed to identify the link between women’s psychological factors and breastfeeding duration after socio-demographic factors were controlled. Within 14 days of giving birth, 375 postnatal inpatients at two hospitals completed the initial questionnaire, and at six months, complementary feeding was added. However, study results highlighted that nursing duration was statistically associated with psychological factors: breastfeeding expectations, breastfeeding self-efficacy, faith in breast milk, planned duration of breastfeeding, decision of infant feeding time, dispositional optimism, and anxiety. In addition, results showed that 44% of women experienced postnatal distress after giving birth (O'Brien et al., 2008).

A published, quantitative, cross-sectional study aimed to explore the influence of depression symptoms during antenatal care on the women's intention to EBF. A self-reported survey was completed by 393 pregnant women in China. This study's results

clarified that there is a negative relationship between EBF intention and antenatal depression symptoms, which means the EBF decreases when women experience antenatal depression symptoms without social support (Liu et al., 2023).

Anxiety is more common among women than it is in men (Hoff et al., 2019). Approximately 7 to 10% of women in developed countries (Andersson et al., 2003) and 25% of women in underdeveloped countries (Shahhosseini et al., 2015), experience anxiety during pregnancy. Also, the majority of diagnosed women were undiagnosed and untreated (Andersson et al., 2003).

Also, to identify the relation between psychological aspects, social support, and the nursing process in Iran, a study was conducted among 465 women with infants aged between one and six months who were presented to healthcare centers from 2012 to 2016. Data were collected using self-reported questionnaires and other scales, including the Beck Depression Inventory, Spielberger's State-Trait Anxiety Inventory, Cohen's Perceived Stress Scale, and the Multidimensional Scale of Perceived Social Support. Findings showed the prevalence of EBF was 68.4%. Also, there was a significant link between anxiety and EBF ($p = 0.004$ and $p = 0.006$, respectively), which leads to decreased EBF chances. The study's suggestions centered on monitoring and controlling mothers' anxiety during the postpartum period to encourage exclusive breastfeeding (Jalal et al., 2017).

2.1.4 Factors influencing EBF

Moreover, in the context of acculturation (the process of adopting another culture's practices and behaviors) and exclusive breastfeeding, in 2016, a qualitative study investigated the acculturation levels and advantages and disadvantages of exclusive breastfeeding among Mexican American mothers. The sample size was 21 women who were interviewed using Pender's Health Promotion Model concepts and the revised Acculturation Rating Scale. More than half of the sample (66%) were women who were "Very Mexican-oriented". Study outcomes showed the majority of participants exclusively breastfed, with less use of compulsory feeding for "inadequate breastmilk." Three main themes emerged: the woman's natural ability to give birth; encouragement, tradition, and guidance influencing her decision to breastfeed; and the preference for breast milk influenced by life events (Wambach et al., 2016).

In United Arab Emirates, a quantitative, cross-sectional study was conducted to examine the factors influencing various infant feeding methods. interviews included 593 women with children aged two years or less. Results showed 99% of women initiated breastfeeding, with a mean duration of 8.6 months. Age, education, parity, nipple issues, and contraception use influenced initiation and duration of BF. A significant relationship between EBF and feeding patterns was presented, including feeding on demand, more frequently at night, and rooming in. Percentages of newborns used complementary feeding, exclusively breastfed, mostly breastfed since birth were, 24.1%, 25%, and 49.4%, respectively. Non-milk fluids were given to 30% of infants before 3 months, while solid food was given to 83.5% before 6 months. Reasons for breastfeeding termination include new pregnancy, inadequate milk production, and the infant weaning process (Radwan, 2013).

Moreover, in 2017, a quantitative, cross-sectional study investigated variables linked with cessation of EBF in the first and second months of the postpartum period. Researchers interviewed 1077 postnatal women in the first and second months of the postpartum period in Taiwan. Outcomes showed that 40.1% of participants maintained exclusive breastfeeding, and at 2 months, 29.3% maintained EBF. Premature exclusive breastfeeding cessation is linked with education level, primiparity, perceived poor milk amount, and return to work (Chang et al., 2019).

The Global Strategy for Infant and Young Child Feeding highlights the critical actions that must be implemented in order to promote, protect, and encourage breastfeeding. When a kid is nursed exclusively, their immune system is improved, allowing them to avoid life-threatening infections such as pneumonia and diarrhea, among others (Nassar, 2019; santé et al., 2003).

According to studies, newborns who are not nursed exclusively for the first six months of life are 15 times more likely to die from pneumonia than those who are exclusively breastfed for the first six months of life. Moreover, 220,000 children could be saved every year with EBF, as the WHO estimated (Nassar, 2019; WHO, 2023).

2.1.5 EBF in Palestine

Meanwhile, in Palestine, according to the outcomes of a study conducted in 2013, the percentage of exclusive breastfeeding in the Gaza Strip and West Bank was 55% and 52.9%, respectively, and 53.9% in the state of Palestine (Nassar, 2019).

In 2010, a quantitative, cross-sectional, retrospective study conducted in Nablus refugee camps (Balata, Askar, and Ein Beit el Ma) aimed to investigate the relationship between selected mothers' and newborns' sociodemographic characteristics and the infants' feeding patterns during the first six months of life. Researchers reviewed 690 files in 2007 for women receiving health care services in one of three of The United Nations Relief and Works Agency (UNRWA) clinics in Nablus. Results showed 70% of women exclusively breastfeed during the first six months of a child's life, 16% for partial breastfeeding, and 14% for exclusive formula feeding. There was a significant relationship between EBF ($p = 0.05$) and both the mother and infant sociodemographic factors: mothers aged 22–28 years old at marriage and at delivery, those with high parity (more than 4), mothers with basic and secondary levels of education, fathers who were not educated, vaginal delivery, and female infants (Qanadelo, 2010).

In summary, exclusive breastfeeding is important for the infant’s life, growth and development. And many factors influence the duration, initiation, attitudes, practices, behaviors and the pattern of breastfeeding. In order to these factors, a set of studies discussed them to encourage EBF for six months and a complementary feeding from 6 months to 2 years old of child life, as a recommendation from the World Health Organization (WHO), The United Nations Relief and Works Agency (UNRWA), and United Nations International Children's Emergency Fund (UNICEF).

Chapter Three

Methodology

3.1 Study design

To obtain the primary objective of this study, which aimed to examine the psychological factors influencing attitudes and behaviors toward exclusive breastfeeding among Palestinian nursing mothers, the researcher used a quantitative, cross-sectional, and descriptive research design. Moreover, the study sought to address associated research questions and sub-questions while evaluating the hypotheses posited by the researcher for acceptance or rejection.

In this study design, the researcher collected data at a single point in time, specifically during the postpartum period from the time of delivery up to six months. This approach aimed to describe the characteristics of a phenomenon within a specific population of nursing mothers. Utilizing numerical data predominantly gathered through surveys or questionnaires, the researcher in this study used a questionnaire comprising two scales and demographic data-related questions. This quantitative methodology allowed for the analysis of patterns, relationships, and trends, ultimately offering a snapshot view of the subject under investigation.

3.2 Study population

The population consisted of postpartum nursing mothers presenting to get postpartum services from Palestinian Ministry of Health (PMoH) primary health care clinics in Nablus city/ North of the West Bank.

3.3 Site and setting

The study was conducted at the primary health care clinics which provide Maternal and Child Health (MCH) services in Nablus city/ North of West Bank. The total number of clinics was four, Ras Al-Ain camp clinic, Nablus central clinic, Balata clinic, and Asira Al-Shamliya clinic.

3.4 Study time table

After receiving IRB (Institutional Review Board) approval from An-Najah National University (NNU), and approval from the Palestinian Ministry of Health's Research Ethics Committee Department, the study began in January 2022. From January to March 2022, data was collected and entered. In addition, data analysis started in September 2022, while the literature review and writing study results were completed by the end of October 2022 as shown in appendix A.

3.5 Sample size and sampling methods

3.5.1 Sample size

By using the Stephen Thompson Equation formula to determine the sample size (Thompson k.,1945), the population size is 8494 (PMoH, 2021)", the sample size is 368 at a minimum and the respond rate was 100%, the number of the participants who were completed the questionnaire was 368.

That is according to the following formula:

$$n = \frac{N \times p(1-p)}{\left[\left[N-1 \times \left(d^2 \div z^2\right)\right] + p(1-p)\right]} \quad \ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots(1)$$

n: Sample size.

N: Population size.

z: Confidence level at 95% = (1.96).

d: Error proportion = (0.05).

p: Population proportion (expressed as a decimal) = 0.50.

3.5.2 Sampling method

The researcher in this study used a convenience sampling technique. It is one of the forms of non-probability sampling methods that focuses on gathering data from individuals of the community who are readily available to participate in the study (Polit and Beck, 2004).

3.6 Inclusion and Exclusion Criteria

3.6.1 The nursing mother should be

1. Postpartum nursing mothers presenting to primary health care clinics to get the services during first six months of giving birth.
2. Without breast problems.
3. With healthy baby.
4. With gestational age more than 37 weeks.

3.6.2 The following nursing mother were excluded

1. Postpartum nursing mother presenting to primary health care clinics to get the services after six months of giving birth because the EBF is up to six months only.
2. Diagnosed with mental illnesses.
3. Having a medical disease.
4. With breast problems.
5. Who have died or ill baby.
6. With premature babies, gestational age less than 37 weeks.

3.7 Data collection process

Data were collected within the first six months of giving birth by using a self-reported questionnaire. The time needed to complete the survey was five to ten minutes for each participant at the PMoH clinics.

1. The researcher visited the PMoH clinics on a daily basis to engage with the participants included in the study.
2. All participant who were in the clinic and met the inclusion criteria on the day that researcher went to collect data were included in the study.
3. The study's objectives and the participants' rights were elucidated by the researcher.
4. After obtaining oral permission, participants provided written informed consent by their signature.
5. Each participant independently completed the questionnaire in a serene, solitary setting devoid of disruptions.
6. In instances where questions required clarification, participants received the necessary elucidation without any hints to ensure unbiased responses.

7. Before participants left, the researcher conducted a quick review of the questionnaire to confirm comprehensive responses; any missed items were addressed and completed by the participant after informing her.
8. Instances of unanswered questions arose, prompting some participants to decline responses; such cases resulted in the exclusion of the respective questionnaire
9. The researcher undertook daily data review, subsequently inputting the data into the SPSS program
10. Upon achieving the designated sample size, data collection ceased, and researchers moved on to the next phase of data analysis.

3.7.1 Study instruments

The data was collected from January, 2022, to February, 2022, by a self-reported questionnaire that included the sociodemographic data, the Depression, Anxiety, and Stress Scale (DASS-21) to assess psychological factors affecting the duration of exclusive breastfeeding and a Breastfeeding Behavior Questionnaire (BBQ) scale to evaluate nursing mothers' behaviors and factors affecting the duration of exclusive breastfeeding. The needed time to fill out the questionnaire and scales is 5 to 10 minutes.

3.7.1.1 Sociodemographic data

This part of the questionnaire consists of 11 items, including the mother's age, marital status, husband's age, residency place, monthly income, level of education, work status, the number of current kids, the current child’s age, type of delivery, and the current weight of the mother region. Which were found to have associations with the factors influencing exclusive breastfeeding.

3.7.1.2 Depression Anxiety Stress Scale-21 (DASS-21)

The DASS-21 consists of 21 items divided into three subscales, each with seven items. They inquire about depressed symptoms (for example, feeling down and out), anxiety symptoms (for example, feeling on the verge of panic), and other stress-related symptoms (e.g., having a tendency to over-react to situations). The relevant questions are graded on a four-point scale (0 = did not belong to me at all, 1 = apply to me a little, 2 = apply to me at sometimes, 3 = apply to me the majority of the time). More psychological distress is indicated by higher scores (Ali and Green, 2019).

The DASS is a well-known and reliable instrument for assessing depression, anxiety, and stress. Individual experience and emotional expression may be influenced by cultural differences. As a result, when academics and practitioners use Western-based assessments with Asian people without properly validating them, the process can be difficult (Oei et al., 2013). However, the Arabic version of the DASS-21 scale was tested among Egyptian drug users and has good validity and reliability (reliability was high at 0.88) (Ali and Green, 2019).

3.7.1.3 Breastfeeding Behavior Questionnaire (BBQ)

The third questionnaire part included BBQ scale which used to assess the women's opinions about their own breastfeeding behaviors and attitudes. It's a valid and reliable scale that can be translated into a variety of languages and used in a variety of settings. According to a study of Lebanese women, the Arabic version of BBQ-A has strong internal consistency reliability (Cronbach's alpha = 0.78), and can determine whether a baby will nurse exclusively at one, three, and six months. On 354 pregnant, the internal consistency, reliability, and construct validity of the Arabic BBQ (BBQ-A) were investigated. The ability of the tool to predict breastfeeding outcomes was tested by comparing the women's BBQ-A scores to their breastfeeding outcomes at one, three, and six months after birth (Charafeddine et al., 2020).

However, the BBQ-A scale consisted of 12 scenarios. For each one, participants are asked whether or not they agree with the woman’s choice via a six-point scale called Likert; 1 = Very Strongly Agree, 2 = Strongly Agree, 3 = Agree, 4 = Disagree, 5 = Strongly Disagree, and 6 = Very Strongly Disagree (Charafeddine et al., 2020).

It is unidimensional, according to exploratory factor analysis. The inter-item association s ranged from 0.016 to 0.934, while the corrected-item total association s ranged from 0.273 to 0.678. Positive breastfeeding attitudes, adequate breastfeeding knowledge, and stronger nursing intention were all linked to perceived positive breastfeeding behavior and attitudes, indicating that it had external validity (Charafeddine et al., 2020).

3.8 Variables

Dependent variables: Depression, anxiety, stress, attitudes, and behaviors.

Independent Variables: sociodemographic.

3.9 Data analysis

The data analyzed using the Statistical Package for Social Science (SPSS) version 24. Frequency and regressions tests were used to identify the relation between variables.

To determine the prevalence of stress, depression, and anxiety among Palestinian exclusively nursing mothers, a frequency test was applied. Additionally, it was utilized to determine the prevalence of both negative and positive attitudes and behaviors regarding exclusive breastfeeding. An ordinal logistic regression analysis test was used to define relationships between variables, specifically to identify association between sociodemographic data and psychological factors such as depression, stress, and anxiety. This same analytical approach was used to explore the associations between sociodemographic data and attitudes as well as behaviors among Palestinian exclusively nursing mothers.

3.10 Ethical Consideration

Approval to perform the study was obtained from the Palestinian Ministry of Health (Annex 8.13), and the college of Graduate Studies and An-Najah National University's **Institutional Review Boards (IRB)** committee the reference number was Mas. Jan. 2022/6 (Annex 8.12). The following steps were taken into consideration while collecting data to keep privacy and confidentiality:

For the study's data management, numerical codes were applied to label the questionnaire papers. A clear elucidation of the study's aim and objectives was provided to all participants, followed by the collection of informed consent from each individual. Participants individually completed the questionnaires within a single, calm, and private room to ensure privacy. Subsequently, the completed surveys were securely stored in a closed drawer under the exclusive supervision of the researcher, who maintained access to the data. The collected data was meticulously inputted into Excel and SPSS programs as numerical entries by the researcher. Once the data analysis was completed, the researcher ensured the proper disposal of the papers in a secure manner.

Chapter Four
Results

In this chapter, the researcher presents the study's outcomes, obtained from data analysis, in tables accompanied by explanations. These tables encompass a range of information, including demographic data, the prevalence of depression, anxiety, and stress among nursing mothers, the association between these mental health factors and the demographics of the mothers, the prevalence of positive and negative attitudes and behaviors towards exclusive breastfeeding, and ultimately, the association of these attitudes and behaviors with the demographic characteristics of the nursing mothers.

4.1 Sociodemographic data

Table 1 displays the sociodemographic of the 368 participants included in this study. Among the mothers' age groups, the highest percentage was observed among nursing mothers aged between 19 and 29 years old, accounting for 67.1% (n = 247). As for the highest percentage among fathers' age groups, it was found among husbands aged between 31 and 40 years old, comprising 52.4% (n = 193). Furthermore, the percentages for nursing mothers aged between 30 and 40 years old, 41 years old or more, and less than 18 years old were 25% (n = 92), 8% (n = 26), and 7.1% (n = 3), respectively. Similarly, for husbands, the percentages were 36.7% (n = 135) for those aged 30 years or less and 10.9% (n = 40) for those aged 41 years or more.

Based on the results, it was found that 86.7% (n = 319) of nursing mothers reside in urban areas, while 13.3% (n = 49) live in camps and villages. In terms of monthly income, the majority of participants, 48.9% (n = 180), have an income ranging from 500 to 800 dollars. This is followed by 38.6% (n = 142) who earn less than 500 dollars, and 12.5% (n = 45) who earn more than 800 dollars.

Among nursing mothers, there was an equal percentage of 48.9% (n = 180) for both educational levels: high school or less and a bachelor's degree. Additionally, 2.2% (n = 8) of nursing mothers possessed a master's degree or higher. Out of the total 368 participants, 83.7% (n = 308) were unemployed, indicating that 16.3% (n = 60) were employed as working mothers.

Furthermore, among the breastfeeding mothers in this study, it was found that 74.5% (n = 274) had one to three children, followed by 23.6% (n = 87) who had four to six children, and 1.9% (n = 7) who had more than six children. Regarding the distribution of participants based on the age of their current child, it was observed that 28% (n = 103) had a child under two months old, 30.2% (n = 111) had a child between two and four months old, and 41.8% (n = 154) had a child between four and six months old.

Regarding the type of giving birth, women who had a cesarean section birth 51.9% (n = 191) outnumbered those who gave normal vaginal birth 48.1% (n = 177).

Lastly, in terms of participant body weight, women with a body weight ranged from 51 kilograms to 65 kilograms had by far the highest percentage, 48.6% (n = 179), which means that the other half was approximately divided between mothers who had a body weight of less than 50 kilograms, 11.4% (n = 42), followed by those with a body weight between 66 and 80 kilograms, 26.9% (n = 99), and more than 80 kilograms, 13% (n = 48).

Table 1

Prevalence of sociodemographic data among nursing mothers

Item	Sociodemographic data		
		Frequency	Percent (%)
Age	Less than 18	26	7.1
	19 to 29	247	67.1
	30 to 40	92	25
	41 or more	3	8
Husband age	30 or less	135	36.7
	31 to 40	193	52.4
	41 or more	40	10.9
Residency	Camp or village	49	13.3
	City	319	86.7
Monthly income	Less than 500$	142	38.6
	500$ to 800$ or more	180	48.9
	More than 800$	45	12.5
Level of education	High school or less	180	48.9
	Bachelor degree or more	188	51.1
Work	I work	60	16.3
	I do not work	308	83.7
The number of current kids	1 to 3	274	74.5
	4 to 6 or more	94	25.5
Current child's age	Less than 2 months	103	28
	2 to 4 months	11	30.2
	4 to 6 months	154	41.8
Type of delivery	Normal delivery	177	48.1
	Cesarean section	191	51.9
Current weight	Less than 50 kg	42	11.4
	51 to 65 kg	179	48.6
	66 to 80 kg	99	26.9
	More than 80 kg	48	13

4.2 Prevalence of depression, anxiety and stress among nursing mothers

Table 2 provides an overview of the prevalence of psychological factors, including depression, anxiety, and stress, across various intensity levels ranging from mild to extremely severe.

Approximately half of the participants, 49.2% (n = 181), did not exhibit any signs of depression. The remaining distribution included individuals with mild depression,

accounting for 14.9% (n = 55); moderate depression, accounting for 20.1% (n = 74); severe depression, accounting for 9.2% (n = 34); and extremely severe depression, accounting for 6.5% (n = 24).

In terms of anxiety, nearly 40.2% (n = 148) of nursing mothers did not experience any anxiety. Among those who did, 8.7% (n = 32) reported mild anxiety, 24.7% (n = 91) experienced moderate anxiety, 7.6% (n = 28) reported severe anxiety, and 18.8% (n = 69) reported extremely severe anxiety.

Furthermore, the table indicates that 31.5% (n = 116) of nursing mothers did not experience stress. Slightly higher than this, 33.4% (n = 123) reported mild stress. The percentages for participants experiencing moderate stress (n = 75), severe stress (n = 43), and extremely severe stress (n = 11) were 20.4%, 11.7%, and 3% respectively.

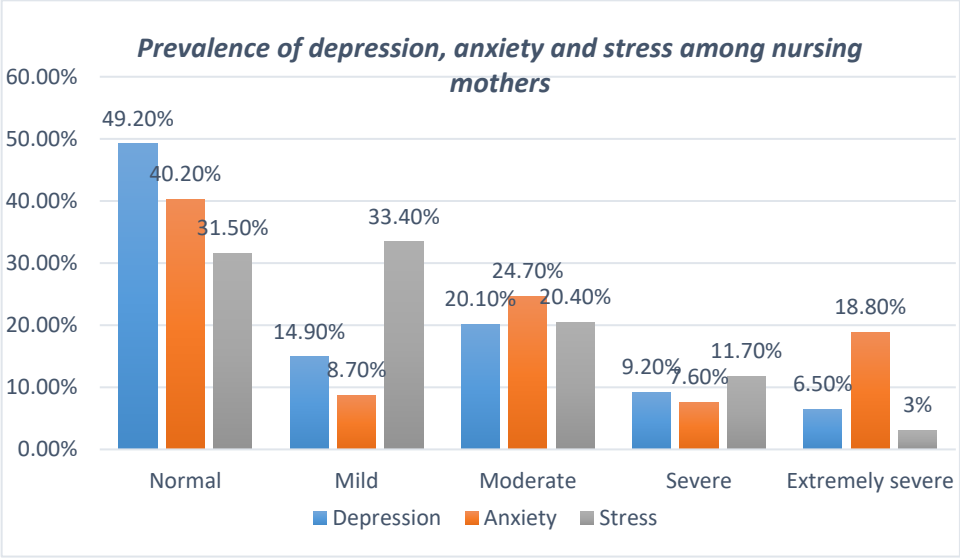
Table 2

Prevalence of depression, anxiety and stress among nursing mothers

	Depression N (%)	Anxiety N (%)	Stress N (%)
Normal	181 (49.2%)	148 (40.2%)	116 (31.5%)
Mild	55 (14.9%)	32 (8.7%)	123 (33.4%)
Moderate	74 (20.1%)	91 (24.7%)	75 (20.4%)
Severe	34 (9.2%)	28 (7.6%)	43 (11.7%)
Extremely severe	24 (6.5 %)	69 (18.8%)	11 (3%)
Total	368 (100%)	368 (100%)	368 (100%)

Figure 1

Prevalence of depression, anxiety, and stress among nursing mothers



4.3 Ordinal logistic regression of the variables predicting depression

Table 3 in this study presented the association results between nursing mothers' demographics and different levels of depression, including normal, mild, moderate, severe, and extremely severe. The findings of the table reveal a significant relation between depression and the age of the current child, specifically within the range of 2 to 6 months (P = 0.03, OR = 1.66, CI: 1.03, 2.67).

4.4 Ordinal logistic regression of the variables predicting anxiety

The association results between nursing mothers' demographics and various levels of anxiety, including normal, mild, moderate, severe, and extremely severe, was presented in Table 3 of this study.

The table's findings indicate a significant association between anxiety and the age of the current child, particularly between 2 to 4 months (P = 0.00, OR = 2.12, CI: 1.33, 3.39).

4.5 Ordinal logistic regression of the variables predicting stress

Table 3 in this study showcases the association findings between nursing mothers' demographics and various levels of stress, encompassing normal, mild, moderate, severe, and extremely severe.

The results of the table indicate a noteworthy association between stress and the age of the mothers' husbands, specifically within the range of 31 and 40 years old (P = 0.04, OR = 2.13, CI: 1.01, 4.49). Additionally, a significant relationship was observed between the current weight of the nursing mothers and their level of stress (P = 0.04, OR = 0.19, CI: 0.19, 0.95).

Table 3

Ordinal logistic regression of the variables predicting depression, anxiety, and stress (N = 368):

Variable		B	SE	P value	OR	CI (95%) Lower	Upper
Depression							
Normal		-2.66	1.84	0.14	0.06	0.00	2.59
Mild		-2.02	1.84	0.27	0.13	0.00	4.93
Moderate		-0.88	1.84	0.63	0.41	0.01	15.24
Severe		0.14	1.83	0.93	1.15	0.03	42.11
Extremely sever		0[a]	0[a]	0[a]	1	0[a]	0[a]
Age	Less than 18	-1.01	1.19	0.39	0.36	0.04	3.76
	19 to 29	-1.21	1.14	0.29	0.29	0.03	2.79
	30 to 40	-1.45	1.15	0.21	0.24	0.03	2.24
	41 or more	0[a]	0[a]	0[a]	1	0[a]	0[a]
Husband age	30 or less	-0.28	0.41	0.49	0.76	0.34	1.69
	31 to 40	-0.01	0.37	0.98	0.98	0.48	2.05
	41 or more	0[a]	0[a]	0[a]	1	0[a]	0[a]
Residency	Camp or village	0.37	0.66	0.58	1.44	0.39	5.25
	City	0[a]	0[a]	0[a]	1	0[a]	0[a]
Monthly income	Less than 500$	-0.07	0.35	0.83	0.92	0.47	1.83
	500$ to 800$	0.16	0.33	0.62	1.17	0.62	2.22
	800$ or more	0[a]	0[a]	0[a]	1	0[a]	0[a]
Level of education	High school or less	0.40	0.81	0.62	1.49	0.31	7.34
	Bachelor degree or more	0[a]	0[a]	0[a]	1	0[a]	0[a]
Work	I work	-0.08	0.31	0.79	0.92	0.51	1.68
	I do not work	0[a]	0[a]	0[a]	1	0[a]	0[a]
The number of current kids	1 to 3	-0.46	0.76	0.55	0.63	0.14	2.81
	4 to 6 or more	0[a]	0[a]	0[a]	1	0[a]	0[a]
Current child's age	Less than 2 months	-0.08	0.25	0.76	0.92	0.57	1.51
	2 to 4 months	0.51	0.24	*0.03	1.66	1.03	2.67
	2 to 6 months	0[a]	0[a]	0[a]	1	0[a]	0[a]
Type of delivery	Normal delivery	0.01	0.21	0.98	1.01	0.67	1.50
	Cesarean section	0[a]	0[a]	0[a]	1	0[a]	0[a]
Current weight	Less than 50 kg	-0.80	0.45	0.07	0.45	0.19	1.08
	51 to 65 kg	0.32	0.31	0.31	1.38	0.74	2.57
	66 to 80 kg	0.29	0.34	0.39	1.34	0.68	2.63
	More than 80 kg	0[a]	0[a]	0[a]	1	0[a]	0[a]

4.6 Ordinal logistic regression of the variables predicting anxiety

The association results between nursing mothers' demographics and various levels of anxiety, including normal, mild, moderate, severe, and extremely severe, was presented in Table 4 of this study.

The table's findings indicate a significant association between anxiety and the age of the current child, particularly between 2 to 4 months (P = 0.00, OR = 2.12, CI: 1.33, 3.39).

The results of the table indicate a noteworthy association between stress and the age of the mothers' husbands, specifically within the range of 31 and 40 years old (P = 0.04, OR = 2.13, CI: 1.01, 4.49). Additionally, a significant relationship was observed between the current weight of the nursing mothers and their level of stress (P = 0.04, OR = 0.19, CI: 0.19, 0.95).

Table 4

Ordinal logistic regression of the variables predicting anxiety (N = 368)

Variable		B	SE	P value	OR	CI (95%) Lower	Upper
Anxiety							
Normal		-0.78	1.89	0.68	0.46	0.01	18.68
Mild		-0.41	1.89	0.83	0.67	0.02	27.26
Moderate		0.75	1.89	0.69	2.11	0.05	86.29
Severe		1.22	1.89	0.52	3.38	0.08	138.01
Extremely sever		0[a]	0[a]	0[a]	0[a]	0[a]	0[a]
Age	Less than 18	1.57	1.35	0.25	4.79	0.34	67.15
	19 to 29	1.09	1.30	0.40	2.98	0.23	38.33
	30 to 40	0.95	1.30	0.47	2.58	0.20	33.24
	41 or more	0[a]	0[a]	0[a]	1	0[a]	0[a]
Husband age	30 or less	0.43	0.40	0.29	1.53	0.69	3.38
	31 to 40	0.65	0.36	0.07	1.91	0.94	3.88
	41 or more	0[a]	0[a]	0[a]	1	0[a]	0[a]
Residency	Camp or village	0.15	0.65	0.82	1.16	0.33	4.10
	City	0[a]	0[a]	0[a]	1	0[a]	0[a]
Monthly income	Less than 500$	-0.00	0.34	0.99	0.99	0.52	1.93
	500$ to 800$	-0.14	0.32	0.64	0.86	0.46	1.61
	800$ or more	0[a]	0[a]	0[a]	1	0[a]	0[a]
Level of education	High school or less	0.19	0.74	0.79	1.21	0.29	5.15
	Bachelor degree or more	0[a]	0[a]	0[a]	1	0[a]	0[a]
Work	I work	0.25	0.29	0.38	1.29	0.73	2.27
	I do not work	0[a]	0[a]	0[a]	1	0[a]	0[a]
The number of current kids	1 to 3	-1.32	0.93	0.16	0.27	0.04	1.64
	4 to 6 or more	0[a]	0[a]	0[a]	1	0[a]	0[a]
Current child's age	Less than 2 months	0.00	0.24	0.99	1.00	0.63	1.61
	2 to 4 months	0.75	0.24	*0.00	2.12	1.33	3.39
	2 to 6 months	0[a]	0[a]	0[a]	1	0[a]	0[a]
Type of delivery	Normal delivery	-0.09	0.20	0.63	0.91	0.61	1.35
	Cesarean section	0[a]	0[a]	0[a]	1	0[a]	0[a]
Current weight	Less than 50 kg	-0.58	0.41	0.16	0.56	0.25	1.26
	51 to 65 kg	0.45	0.32	0.16	1.57	0.83	2.95
	66 to 80 kg	0.19	0.34	0.59	1.21	0.62	2.36
	More than 80 kg	0[a]	0[a]	0[a]	1	0[a]	0[a]

4.7 Ordinal logistic regression of the variables predicting stress

Table 5 in this study showcases the association findings between nursing mothers' demographics and various levels of stress, encompassing normal, mild, moderate, severe, and extremely severe.

Table 5

Ordinal logistic regression of the variables predicting stress (N = 368)

Variable		B	SE	P value	OR	CI (95%) Lower	Upper
Stress							
Normal		-2.63	1.65	0.11	0.07	0.00	1.82
Mild		-1.15	1.65	0.49	0.32	0.01	7.99
Moderate		0.05	1.65	0.97	1.06	0.04	26.48
Severe		1.79	1.66	0.28	6.04	0.23	156.86
Extremely sever		0[a]	0[a]	0[a]	0[a]	0[a]	0[a]
Age	Less than 18	0.24	1.09	0.83	1.27	0.15	10.82
	19 to 29	0.72	1.03	0.48	2.06	0.27	15.67
	30 to 40	0.63	1.03	0.55	1.87	0.25	14.27
	41 or more	0[a]	0[a]	0[a]	1	0[a]	0[a]
Husband age	30 or less	0.52	0.42	0.22	1.68	0.74	3.82
	31 to 40	0.76	0.38	*0.04	2.13	1.01	4.49
	41 or more	0[a]	0[a]	0[a]	1	0[a]	0[a]
Residency	Camp or village	0.54	0.63	0.39	1.72	0.49	5.99
	City	0[a]	0[a]	0[a]	1	0[a]	0[a]
Monthly income	Less than 500$	-0.45	0.33	0.17	0.64	0.34	1.21
	500$ to 800$	-0.26	0.31	0.39	0.77	0.42	1.40
	800$ or more	0[a]	0[a]	0[a]	1	0[a]	0[a]
Level of education	High school or less	0.10	0.68	0.88	1.11	0.29	4.20
	Bachelor degree or more	0[a]	0[a]	0[a]	1	0[a]	0[a]
Work	I work	-0.32	0.28	0.26	0.73	0.42	1.3
	I do not work	0[a]	0[a]	0[a]	1	0[a]	0[a]
The number of current kids	1 to 3	-1.10	0.74	0.14	0.33	0.08	1.41
	4 to 6 or more	0[a]	0[a]	0[a]	1	0[a]	0[a]
Current child's age	Less than 2 months	-0.11	0.24	0.65	0.89	0.56	1.43
	2 to 4 months	0.34	0.24	0.12	1.44	0.91	2.29
	2 to 6 months	0[a]	0[a]	0[a]	1	0[a]	0[a]
Type of delivery	Normal delivery	0.17	0.19	0.39	1.18	0.80	1.74
	Cesarean section	0[a]	0[a]	0[a]	1	0[a]	0[a]
Current weight	Less than 50 kg	-0.84	0.40	*0.04	0.19	0.19	0.95
	51 to 65 kg	-0.24	0.31	0.44	0.79	0.43	1.44
	66 to 80 kg	-0.36	0.34	0.28	0.69	0.36	1.35
	More than 80 kg	0[a]	0[a]	0[a]	00[a]	0[a]	0[a]

B: coefficient; SE: standard error; *statistically significant difference at $p \leq 0.05$, 0a: reference category, OR: odds ratio.

4.8 Prevalence of positive and negative attitudes and behaviors toward exclusive breastfeeding

According to the findings in table 6, the majority of nursing mothers, specifically 76.1% (n = 280), held negative attitudes and behaviors regarding exclusive breastfeeding. On the other hand, Figure 1 demonstrated that the remaining participants, accounting for 23.9% (n = 88), had positive attitudes and behaviors.

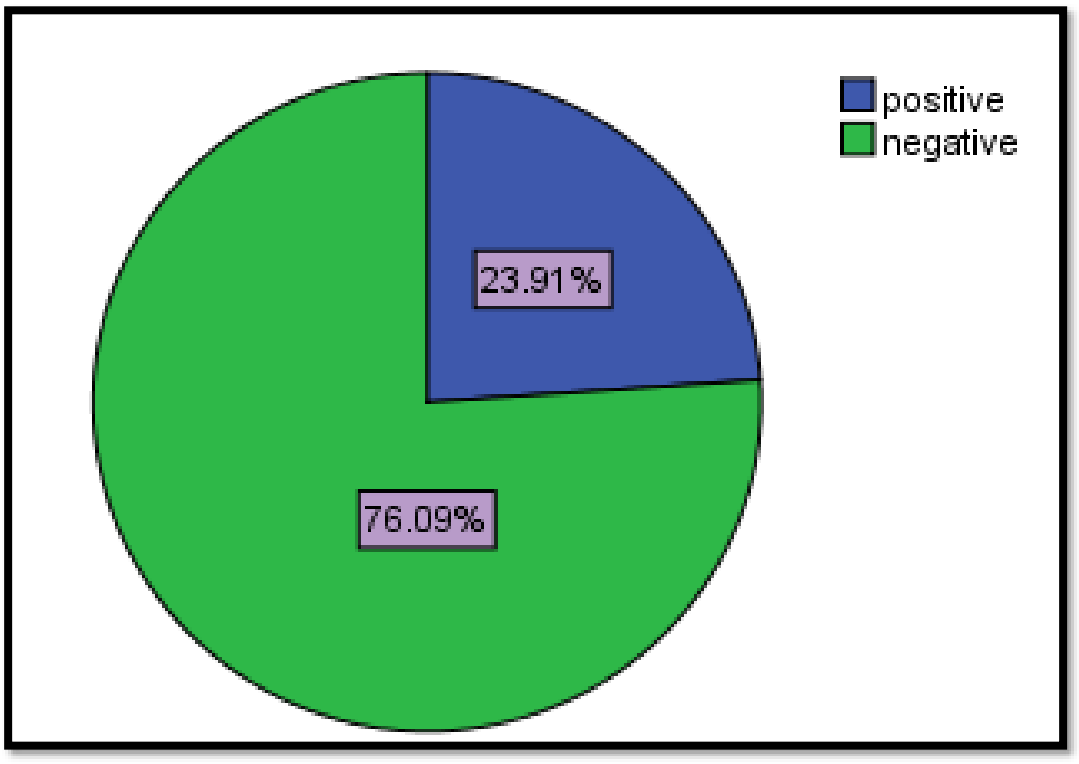
Table 6

Prevalence of positive and negative attitudes and behaviors toward EBF

	Frequency (n)	Percent (%)
Positive	88	23.9
Negative	280	76.1
Total	368	100.0

Figure 2

Prevalence of positive and negative attitudes and behaviors toward EBF



4.9 Logistic regression analysis of the association of attitudes and behaviors with the demographic characteristics for nursing women

Table 7 in this study presented the association of the results between nursing mothers' demographics and their attitudes and behaviors.

Notably, a significant relationship was observed between nursing mothers' attitudes and behaviors and three specific demographic factors. These factors include the age of the nursing mothers less than 18 years old (P = 0.00, OR = 7.26, CI: 3.88, 13.60), monthly income less than 500$ (P = 0.01, OR = 0.82, CI: 0.71, 1.41), and monthly income ranging from 500$ to 800$ (P = 0.02, OR = 0.85, CI: 0.74, 0.98).

Table 7

Logistic regression of the association of attitude and behaviors with the demographic characteristics for nursing women:

		B	SE	P Value	OR	C. I (95%)	
						Lower	Upper
Age	Less than 18	1.98	0.32	*0.00	7.26	3.88	13.60
	19 to 29	0.03	0.10	0.81	1.03	0.84	1.26
	30 to 40	0.09	0.06	0.12	1.10	0.98	1.25
	41 or more	0[a]	0[a]	0[a]	1	0[a]	0[a]
Husband age	30 or less	0.03	0.09	0.77	1.03	0.86	1.23
	31 to 40	0.02	0.08	0.83	1.02	0.87	1.19
	41 or more	0[a]	0[a]	0[a]	1	0[a]	0[a]
Residency	Camp or village	0.05	0.15	0.77	1.05	0.78	1.41
	City	0[a]	0[a]	0[a]	1	0[a]	0[a]
Monthly income	Less than 500$	-0.19	0.08	* 0.01	0.82	0.71	0.95
	500$ to 800$	-0.16	0.07	* 0.02	0.85	0.74	0.98
	More than 800$	0[a]	0[a]	0[a]	1	0[a]	0[a]
Level of education	High school or less	-0.24	0.16	0.15	0.79	0.57	1.09
	Bachelor degree or more	0[a]	0[a]	0[a]	1	0[a]	0[a]
Work	I work	-0.05	0.06	0.48	0.96	0.84	1.08
	I do not work	0[a]	0[a]	0[a]	1	0[a]	0[a]
The number of current kids	1 to 3	0.02	0.17	0.91	1.02	0.73	1.42
	4 to 6 or more	0[a]	0[a]	0[a]	1	0[a]	0[a]
Current child's age	Less than 2 months	-0.03	0.05	0.57	0.97	0.87	1.08
	2 to 4 months	-0.06	0.05	0.27	0.94	0.85	1.05
	4 to 6 months	0[a]	0[a]	0[a]	1	0[a]	0[a]
Type of delivery	Normal delivery	-0.02	0.05	0.60	0.98	0.89	1.07
	Cesarean section	0[a]	0[a]	0[a]	1	0[a]	0[a]
Current weight	Less than 50 kg	-0.04	0.09	0.66	0.96	0.80	1.15
	51 to 65 kg	-0.01	0.07	0.91	0.99	0.86	1.14
	66 to 80 kg	-0.02	0.08	0.76	0.98	0.84	1.13
	More than 80 kg	0[a]	0[a]	0[a]	1	0[a]	0[a]

B: coefficient; SE: standard error; *statistically significant difference at $p \leq 0.05$, 0a: reference category, OR: odds ratio.

4.10 Discussion

In this chapter, regarding to comprehensive analysis of the research results, the researcher examined the study's findings in light of existing literature, making comparisons to derive the key findings. Also, the researcher addressed hypothesis rejections, conclusion, recommendations, limitations of the study, strength of the study, and potential implication of the study.

Based on the study findings, the researchers rejected both null hypotheses that posited no significant association between psychological factors (depression, anxiety, and stress) and exclusive breastfeeding, with a significance level of p-value ≤ 0.05. Furthermore, the study also demonstrated the rejection of the null hypothesis indicating the absence of a significant association between behaviors, attitudes, and exclusive breastfeeding, with a significance level of p-value ≤ 0.05.

In Palestine, breastfeeding plays a vital role in the well-being of both mothers and infants. However, the term "exclusive breastfeeding" is not commonly used, and there is a lack of understanding about its significance, which subsequently influences the attitudes and behaviors of nursing mothers. Moreover, the association between breastfeeding practices and mental health has yielded diverse findings, emphasizing the importance of exploring this relationship further.

With the importance of breastfeeding and its potential impact on mental health established, it is essential to delve into the prevalence of depression among nursing mothers in Palestine. Understanding the prevalence rates and risk factors for depression in this particular community will help shed light on the challenges they face and encourage the development of focused interventions to promote their well-being.

It is important to compare and contrast our findings in this study with those of comparable research carried out in other areas and cultural contexts in order to put the prevalence of depression among nursing mothers in Palestine into context.

In this particular study, the prevalence of depression symptoms among participants was noteworthy, with approximately more than half of them (50.8%) experiencing depression, classified into four severity levels ranging from mild to extremely severe. When compared to the global mapping of postpartum depression prevalence among nursing

mothers, the worldwide prevalence was found to be 17.22% (Wang et al., 2021). Interestingly, the highest prevalence was observed in Southern Africa (39.96%), while high-income countries and developing countries had the lowest prevalence rates (Wang et al., 2021), in addition to the Western countries since the prevalence ranged between 10% and 15% (Faisal-Cury et al., 2013).

The result of (Glasser et al., 2011) in Bedouin Palestinians, (Green et al., 2006) in United Arab Emiratis, and in Kazakhstan (Abenova et al., 2022) were consistent with our study, where the prevalence among exclusively nursing mothers was 43% , 44.2%, and 59.4%, respectively. Similarly, a high prevalence of postpartum depression among nursing mothers was observed in Egypt (73.7%), although the small sample size (n = 57) should be considered (Mohamed et al., 2014).

On the contrary, high-income countries exhibited lower prevalence rates of postpartum depression compared to the findings of this study. Countries such as the China (6.7%) (Hegde et al., 2012), India (16%) (Hegde et al., 2012), Australia (20%) (Adhikari & Cooper-Stanbury, 2012), and Southern Brazil (14%) (Hartmann et al., 2017), reported similar lower prevalence rates. The observed variations and similarities between countries can be attributed to shared cultural contexts, socio-demographic factors, and economic conditions.

Similarly, when examining the prevalence of anxiety among postpartum mothers, our study's findings warrant comparison with other research conducted in different countries. On one hand, high-income countries have reported lower prevalence rates of postpartum anxiety compared to our study's results. Anxiety prevalence varies between developed and developing countries, with rates ranging from 7% to 10% in developed nations (Andersson et al., 2003) and reaching 25% in developing countries (Shahhosseini et al., 2015) among nursing mothers.

The prevalence rate of anxiety in this study was 59.8%, with participants experiencing varying levels of anxiety, ranging from mild to moderate to severe and extremely severe. This finding closely aligns with the prevalence rates of postpartum anxiety reported in Iran (54.2%) (Alipour et al., 2018), Lebanon (67.7%) (Hobeika et al., 2023), and Saudi Arabia (67.6%) (Radwan et al., 2021). The similarities in prevalence rates between our

study and these Middle Eastern countries suggest a significant burden of postpartum anxiety in the region.

Furthermore, upon comparing our results with other global studies, where prevalence rates were slightly lower, we found that Iraq had a rate of 37.5% of postpartum anxiety among nursing women (Mishkin et al., 2018), in Egypt (32.85%) (Wassif et al., 2019), in Pakistan (28.8%) (N. S. Ali et al., 2009), in Brazil (20.2%) (Faisal-Cury et al., 2009), in Havana Cuba (20%) (Esquivel Lauzurique et al., 2022), in Italy (13.2%) (Giardinelli et al., 2012), and in Australia (12.7%) (Yelland et al., 2010).

Researchers investigating mother mental health are becoming increasingly interested in and concerned about the prevalence of stress among postpartum nursing mothers. Globally, 44% of postnatal women experience stress. For instance, the prevalence rate of postpartum stress among Palestinian exclusively breastfeeding mothers was found to be 68.5%. A comparison with other international studies reveals varying prevalence rates across different regions. In Lebanon, the reported prevalence was 50% (Hamade et al., 2013), while in Jordan, it was as high as 75% (Moh'd Yehia et al., 2013). Similarly, among Mexican women during the COVID-19 pandemic, the prevalence of postpartum stress was reported to be 46.1% (Suárez-Rico et al., 2021), and in New Zealand, it reached 55% (Signal et al., 2017). Understanding the prevalence of postpartum stress globally can assist in developing targeted interventions and support systems to address the unique needs of postpartum nursing mothers especially in Palestine.

The sociodemographic elements on mental well-being, including depression, anxiety, and stress, significantly impact on the patterns and practices of exclusive breastfeeding.

In our study by using a regression analysis to find the relationship, there was a significant relation between postpartum depression among Palestinian nursing women and the age of the current child, particularly within the range of 2 to 6 months ($P = 0.03$, $OR = 1.66$, CI: 1.03, 2.67).

Studies highlighted a significant link between psychological factors such as depression, anxiety, and stress with the sociodemographic data such as residency place, place of delivery, and child's age (Mekebo et al., 2022). According to the studies, postpartum depression may vary in frequency and severity depending on the age of the child at the

time of assessment. That is indicated and supported by (Liu et al., 2023) in a study which concluded that postpartum depression among breastfeeding mothers has an impact on exclusive breastfeeding. Regardless, studies provide evidence for the immediate influence of postpartum depression on infant, while indicating a lack of enduring effects over an extended period (Stewart et al., 2003).

In Italy, a study supported our findings; researchers concluded that breastfeeding mothers exhibited high scores of postpartum depression, particularly when the infant age was three months old up to six months of age (Vismara et al., 2016). Agreed with a study conducted in the United Kingdom and Taiwan, taking into consideration the notably higher quality of care in the United Kingdom (Huang & Mathers, 2001). While in a study in the University of Minnesota in United State of America which investigated the severity of postpartum depression severity from 0 to 9 months, the prevelnace of severity was 7% at two months of age which alighn with our study findings, in comaprsion with the highest prevelance at 0 to 1 months of age (12.5%) (Gjerdingen et al., 2011).

In contrast, in a meta anlysis the prevlenace of postpartum depression were higher in childrean aged six months up to one year of age (21.9%) (Gaynes et al., 2005). Same in another studies counducted by (Netsi et al., 2018) in England (6.8%), and in Greece (12.9%) up to one year (Gonidakis et al., 2008).

Similar patterns emerged concerning the relation between the assessment timing during the postpartum phase, reflecting the child's age, and the presence of postpartum anxiety symptoms. Within our study, a significant association was identified solely between postpartum anxiety among Palestinian exclusively breastfeeding mothers and infants aged two to four months (P = 0.00, OR = 2.12, CI: 1.33, 3.39).

For instance, in Pakistan the highest prevalence of postpartum anxiety was at age one year (13.1%) while it was less among women after six months (10.1%), and slightly lower and similar at ages one to two months (5.2%) (Ali et al., 2009). Agreed with a systematic review (OR = 2.64, CI: 2.02, 3.46), and in Grand Fork in United State of America the prevalence of postpartum anxiety at eight weeks were the highest (56%).

Despite the varying prevalence rates in the relationship between postpartum anxiety and the assessment timing, which corresponds to the child's age, a significant connection

persists. Our study specifically zoomed in on the age range of two to four months, as no other associations were observed with different time points.

Within this context, our study's identification of significant associations between postpartum stress and specific sociodemographic variables is essential for a deeper understanding of how various factors influence exclusively nursing mothers. In this study, a significant association was presented between postpartum stress and the age of the mothers' husbands, specifically within the range of 31 and 40 years old (P = 0.04, OR = 2.13, CI: 1.01, 4.49).

The association between the husband's age and postpartum stress, as found in this study among Palestinian exclusively breastfeeding women, appears to be a unique, as no previous studies have identified or discussed this specific relationship. However, many studies have focused on parental adjustments and adaptation and the stress experienced by parents following the birth of a child.

Additionally, a significant relationship was observed between the current weight less than 50 kg of Palestinian nursing mothers and postpartum stress (P = 0.04, OR = 0.19, CI: 0.19, 0.95). In a study by (Leonard, 2017) a consistent results were identified about the significant relation between postnatal mothers' weight and postpartum stress, in Leonard study no specific weight mentioned. Also, same results appeared among American women between six months up to one year postpartum in a study conducted by (Whitaker et al., 2014).

An examination of the prevalence rates of positive and negative attitudes and behaviors towards breastfeeding in Palestine identifies an important relationship between attitudes, behaviors, and factors such as sociodemographic characteristics, cultural norms, and different practices.

Despite the fact that 53.9% of Palestinian women exclusively breastfeed their infants (55% in Gaza Strip and 52.9% in the West Bank), according to Nassar's 2019 study (Nassar, 2019), this supported by a study conducted by Qanadelo in 2010 in Nablus city in West Bank that 70% of nursing women believes breastfeeding and they are exclusively breastfeed (Qanadelo, 2010).

However, in Palestine, the prevalence rates of positive and negative attitudes and behaviors toward exclusively nursing mothers were found to be 23.9% and 76.1%, respectively, according to the findings of this study. Consistent with these outcomes, researcher found another instance of elevated prevalence concerning extremely negative attitudes toward exclusive breastfeeding in Lebanon (90.8%) while only 9.2% was the prevalence of positive part (Naja et al., 2022).

Poland was in the middle, exhibiting a prevalence rate of 46.6% for negative attitudes and behaviors toward exclusive breastfeeding (Olejnik et al., 2020). Similarly, among Chinese women, a rate of 54.7% was observed for negative attitudes and behaviors associated with insufficient knowledge about breastfeeding (Zhou et al., 2010). This observation aligns with a study conducted in Honolulu, United States of America, where approximately half of the participants exhibited both positive and negative attitudes and behaviors regarding exclusive breastfeeding (Mitchell-Box et al., 2013). Also agreed with a study in Nigeria with a rate of 52.1% for positive one (Leshi et al., 2016).

In contrast of this study findings, results were observed in a different context, where researchers identified notably low prevalence of negative attitudes toward exclusive breastfeeding in Northwest Ethiopia (24%), with a contrasting prevalence of positive attitudes at 76% (Alamirew et al., 2017). Corroborating this finding, a study undertaken at King Saud University Medical Center in Saudi Arabia reported a significant rate of 80.8% for positive behaviors and attitudes (Alnasser et al., 2018).

Attitudes and behaviors toward exclusive breastfeeding are not only influenced by individual preferences but also by multiple factors, including sociodemographic characteristics, that shape cultural norms and values. In the context of Palestine, understanding the relationship between these sociodemographic factors and the prevalence of positive and negative attitudes towards exclusive breastfeeding is important.

Providing a comprehensive comparison among various studies conducted in both low- and middle-income (LMIC) and high-income countries and comparing them with this study gives an important insight into the factors influencing and their relationship with exclusive breastfeeding.

Notably, a significant relationship was observed between nursing mothers' attitudes and behaviors and the age of the nursing mothers (P = 0.00, OR = 7.26, CI: 3.88, 13.60). This result aligns with a study conducted in four European countries (Scotland, Spain, Sweden, and Italy) using Lowa Infant Feeding Attitude Scale (LIFAS) (P= 0.038) (Scott et al., 2015). Same in Saudi Arabia in a study conducted among Mothers in Princess Nourah Bint Abdulrahman University (P = 0.006).

Also, the age had a significant association of sociodemographic characteristics and birth in relation to exclusive breastfeeding attitudes and behaviors among Qatari and Lebanese women (OR = 3.47, CI: 1.07.11.21) (Naja et al., 2022). Similar in Northwest Ethiopia women aged 45 years or older exhibited 1.44 times higher odds (OR = 1.44, CI: 1.12, 5.59; P < 0.05) compared to those under the age of 25 with a significant relation between nursing mothers age and the positive or negative attitudes and behaviors toward exclusive breastfeeding (Chekol Abebe et al., 2022). Among Polish women aged less than 25 years old, negative attitudes and behaviors towards exclusive breastfeeding were three times higher than those of older women (OR = 3.05, 95% CI: 1.82, 5.12) (Olejnik et al., 2020).

Additionally, the monthly income in this study was found to be significantly associated with the attitudes and behaviors toward exclusive breastfeeding among Palestinian women, particularly those with a monthly income of less than $500 and those with incomes ranging from $500 to $800, with a significance level of (P = 0.01, OR = 0.82, CI: 0.71, 1.41) and (P = 0.02, OR = 0.85, CI: 0.74, 0.98) respectively. In an Indonesian study, a consistent result was noted, highlighting the significance of monthly income in relation to exclusive breastfeeding, with a P value of 0.047 (Shofiya et al., 2020).

Also, a study in Somaliland showed same significance of family income ranged from 100$ to 200$ (OR = 0.35, CI: 0.18, 0.68) (Jama et al., 2020). Another study conducted in the Fafan zone of the Somali Regional State in Ethiopia corroborated the findings of the previous studies. The results indicated that a monthly income ranging from 500 birr to 2000 birr (equivalent to $9.07 to $36.27) and a monthly income ranging from 2001 birr to 3500 birr (equivalent to $36.29 to $63.47) exhibited statistical significance, with odds ratios of (OR = 2.7, CI: 1.4, 5.2) and (OR = 2.2, CI: 1.2, 4), respectively (Tadesse et al., 2019).

In contrast, no significant relationship was identified between sociodemographic characteristics, including monthly income and nursing mother age, and attitudes and behaviors about exclusive breastfeeding, as presented in a study conducted at the University Kebangsaan Malaysia Medical Centre, Kuala Lumpur, Malaysia (Ishak et al., 2014).

However, no other significant demographic factors in this study were found to have a relationship with attitudes and behaviors toward exclusive breastfeeding among Palestinians, such as parity, level of education, residency place, husband age, number of current children, or weight.

In summary, the study found that there were high prevalence rates of depression, stress, and anxiety among Palestinian nursing mothers who practiced exclusive breastfeeding. Additionally, the study revealed that both negative and positive attitudes and behaviors towards exclusive breastfeeding were prevalent among these mothers. The majority of the studies' in different countries findings were consistent, showing a significant link between breastfeeding and mental health outcomes including depression, stress, and anxiety and with positive and negative attitudes and behaviors. However, a few of the studies' results showed slightly different trends when compared to the overall findings of the study.

In addition, regarding the relationship between sociodemographic characteristics and depression, anxiety, stress, as well as attitudes and behaviors among Palestinian women exclusively practicing nursing, a significant relationship emerged during the discussion. Depression and anxiety exhibited a significant association with the age of the last baby, while stress demonstrated links with both maternal weight and the age of their husbands. Maternal age and monthly income were found to influence attitudes and behaviors.

The overwhelming majority of studies supported these associations, although one study showed no relationship between attitudes and behaviors toward exclusive breastfeeding and the mother's age or family's monthly income.

4.11 Conclusion

Breastfeeding is essential for the health of Palestinian mothers and infants. However, the concept of "exclusive breastfeeding" is not well understood, which results in a lack of knowledge about its importance. Nursing mothers' attitudes and behaviors are subsequently impacted by this. Different findings on the association between breastfeeding practices and outcomes related to mental health highlight the need for additional research.

Understanding the frequency of depression among nursing mothers in Palestine is essential, given the significance of breastfeeding's impact on mental health. Insights into the difficulties these mothers confront can be gained by determining depression prevalence rates and risk factors among Palestinian nursing mothers, enabling focused interventions to improve their well-being.

A comparison with comparable studies from other areas and cultural situations was important to contextualize the prevalence of depression among nursing mothers in Palestine. Significantly, the prevalence of depression was significant in this study, with over half of the participants experiencing various levels of severity from mild to extremely severe. When compared to global figures, the worldwide prevalence was lower, highlighting a specific concern within the Palestinian context.

Similar findings were observed regarding anxiety among postpartum nursing mothers. This study’s prevalence finding aligned with rates reported in other Middle Eastern countries, indicating a notable burden of postpartum anxiety in the region. Although there are regional variations in prevalence, a worldwide understanding of anxiety prevalence will enhance the interventions for women.

Sociodemographic factors significantly influence mental well-being, impacting exclusive breastfeeding patterns. A significant relationship was identified between postpartum depression and anxiety and the age of the last child. Studies corroborated this link, with some studies highlighting the immediate impact of postpartum depression on infants from the feeding point.

Furthermore, a significant relationship emerged between postpartum stress and sociodemographic factors, such as the age of mothers' husbands and maternal weight.

This association was distinct and previously unexplored, offering novel insights into the stress experienced by postpartum nursing mothers.

Attitudes and behaviors toward exclusive breastfeeding are molded by sociodemographic factors and cultural norms. In this study, the prevalence rates of positive and negative attitudes and behaviors were identified, demonstrating the need for well-established interventions.

The study's findings align with and diverge from prior research, emphasizing the need for culturally tailored interventions. Notably, the age of nursing mothers was linked to attitudes and behaviors, mirroring results from other countries. Additionally, monthly income exhibited a significant association with attitudes and behaviors.

To sum up, the study highlights the high prevalence of depression, anxiety, and stress among Palestinian nursing mothers practicing exclusive breastfeeding. Attitudes and behaviors toward breastfeeding also exhibit a nuanced landscape influenced by various sociodemographic factors. By considering both shared and unique factors, interventions can be developed to promote the mental well-being of postpartum nursing mothers in Palestine and similar contexts by using two different scales DASS-21 and BBQ.

4.12 Recommendations

Integration of assessment scales into healthcare system

Policymakers are strongly encouraged by the researcher to take proactive steps towards integrating the Depression, Anxiety, and Stress Scale (DASS-21) within Palestinian Ministry of Health (PMoH) clinics. This integration will enable healthcare providers to systematically identify and address postpartum depression, stress, an

By incorporating this assessment tool into routine postpartum visits, healthcare professionals can promptly detect psychological concerns and provide necessary support. This direct follow-up approach seeks to minimize the potential psychological risks and ensure that appropriate interventions are offered in a timely manner.

Enhancing breastfeeding proficiency

In order to promote effective breastfeeding attitudes and behaviors, it is recommended that healthcare providers utilize the Breastfeeding Behavior Questionnaire (BBQ)

assessment tool. Employing this tool, one can assess mothers' attitudes and behaviors regarding exclusive breastfeeding.

Health care providers can better customize their guidance and encouragement to mothers' needs by learning about their perspectives, attitudes, behaviors, and behaviors about exclusive breastfeeding. This improves mothers' breastfeeding competence and self-assurance. A better understanding of mothers' needs will result from incorporating the BBQ assessment into postpartum care, allowing medical personnel to target their instruction and support.

In-depth research on Exclusive Breastfeeding (EBF)

The significance of exclusive breastfeeding (EBF) in Palestine justifies additional investigation into the various attitudes, behaviors, and causes that contribute to negative judgments.

A fuller comprehension of the difficulties faced by nursing mothers will result from thorough research on the cultural, socioeconomic, and psychological variables impacting attitudes toward exclusive breastfeeding. These research initiatives will offer insightful information that can guide the creation of successful interventions and support strategies that are adapted to the Palestinian context.

Collaboration and sharing knowledge

In order to effectively address the multifaceted issues associated to breastfeeding and mother mental health, policymakers, health care providers, researchers, and community organizations are being encouraged to work collaboratively together.

Establishing partnerships and platforms for knowledge sharing will enable the exchange of best attitudes, behaviors, practices, insights, and successful interventions. By collecting resources and expertise, stakeholders can collectively work towards enhancing the overall well-being of postpartum nursing mothers in Palestine.

Community engagement and support

Policymakers should consider investing in community-based initiatives that focus on providing emotional support and education to postpartum nursing mothers.

Creating local support groups, workshops, and awareness campaigns within communities can foster a sense of belonging and alleviate the isolation that some mothers may

experience. Community-driven initiatives play a vital role in destigmatizing mental health challenges and promoting a supportive environment for nursing mothers.

Capacity building for healthcare providers

Recognizing the important role that healthcare providers play in supporting postpartum nursing mothers, it is essential to offer training and capacity-building programs.

Healthcare professionals should receive specialized training in identifying signs of postpartum depression, stress, and anxiety, as well as effective communication strategies to address these concerns sensitively. Equipping healthcare providers with the necessary tools and skills will enhance their ability to provide comprehensive and holistic care to nursing mothers.

4.13 Strength of the study

1. This study is the first one conducted to assess the psychological factors influencing attitudes and behaviors among exclusively breastfeeding (EBF) nursing mothers within the context of Palestine.
2. An accurate data collection methodology was applied. This methodology extended to the careful exclusion of participants who had not received a clear explanation from the researcher and they filled out the questionnaire with others' help. This precautionary measure was taken to minimize any potential sources of bias that could have otherwise influenced the study's findings.
3. In situations where certain questionnaire items were not completed or left unanswered, a diligent effort was made to maintain the integrity of the data. This involved proactively reaching out to the participating mothers to directly clarify any ambiguities or uncertainties that might have arisen. This approach not only underscores the commitment to accuracy in the data collection process but also avoided the risk of bias due to the gap of unanswered questions.
4. The findings presented in this study are important and shed light on the encouragement of exclusive breastfeeding and attitudes and correct behaviors about it not to focus only on enhancing breastfeeding.
5. This study highlights the importance of nursing mothers in Palestine, providing a foundation upon which future investigations and interventions can be built to promote the well-being of postpartum nursing mothers in Palestine.

4.14 Limitations of the study

1. One of the limitations of this study was the study design. A cross-sectional study is unique in that it provides a snapshot of data collected at a specific point in time, which makes it challenging to establish cause-and-effect relationships.

   Since cross-sectional studies capture information from different individuals or groups at a single time point, it is difficult to determine whether the observed associations are temporally related or if they represent long-term trends.
2. The sampling technique was convenience sampling, which may lead to a lack of diversity in the sample. For example, in this study, participants from camps were some of them considered themselves from the city, which led to sampling bias.
3. There were few studies about EBF and breastfeeding attitudes and behaviors in Palestine, and the majority of the participants were from the city.

List of Abbreviations

Abbreviation	Meaning
AAFP	Academy of Family Physicians
AAP	American Academy of Pediatrics
BBQ	Breastfeeding Behavior Questionnaire
Birr	Ethiopian birr
BF	Breastfeeding
BMI	Body Mass Index
COVID-19	Coronavirus Disease 19
DASS-21	Depression Anxiety Stress Scale-21
DSM-V	Diagnostic and Statistical Manual of Mental Disorders
EBF	Exclusive Breastfeeding
E.g.	For Example
KAP	Knowledge, Attitudes, and Practices
Kg	Kilogram
IMoH	Iraqi Ministry of Health
LIFAS	Lowa Infant Feeding Attitude Scale
MCH	Maternal and Child Health
No.	Number
PCC	Palestinian Center for Counseling
PMoH	Palestinian Ministry of Health
UNRWA	United Nations Relief and Works Agency
WHO	World Health Organization

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Appendices

Appendix A

Time Table

Research Activities	Oct. 2021	Nov. 2021	Dec. 2021	Jan. 2022	Feb. 2022	Mar. 2022	Apr. to Sep. 2022	Oct. 2022 to Aug 2023
Writing proposal	✖	✖						
Development of research tool		✖						
Sample selection		✖						
Data collection approval			✖	✖				
Data collection				✖	✖	✖		
Data entry and analysis							✖	
Writing thesis								✖

Appendix B

Budget

Expense description	Number of units	Cost of each unit	Total cost
Transportation.	34 visits	14 NIS	476 NIS
Data analysis.	-	-	-
Questionnaire printing and copying.	400	1 NIS	400 NIS
Thesis copying and printing.	6	100	600 NIS
Miscellaneous.	-	-	500 NIS
Total cost = 1976 NIS.			

Appendix C

Informed Consent

تحية طيبة

الموافقة لأجل المشاركة في بحث علمي

أنا طالبة ماجستير صحة نفسية من جامعة النجاح الوطنية، أقوم بدراسة حول العوامل النفسية والسلوكيات والمعتقدات حول الرضاعة الطبيعية الخالصة، فأرجو من حضرتكِ المشاركة في هذا البحث، علماً أن كافة المعلومات الموجودة سيتم أخذها لغرض البحث العلمي مع الحفاظ على الخصوصية الكاملة لكِ والحفاظ على هذه المعلومات بما يستوجب ويتناسب مع أخلاقيات البحث العلمي.

أشكر لكِ حسن المشاركة والقبول

احترامي وجزيل شكري

توقيع المشارك إسراء صوالحة

طالبة ماجستير صحة نفسية

جامعة النجاح الوطنية

Israamsawalha@gmail.com

Appendix D

Questionnaire in English

First part: Demographic data

1	Age	1. Less than 18 2. 19 to 29 3. 30 to 40 4. 41 or more
2	Marital status	1. Married 2. Divorced
3	Husband age	1. 30 or less 2. 31 to 40 3. 41 or more
4	Residency	1. Camp 2. Village 3. City
5	Monthly income	1. Less than 500$ 2. 500$ to 800$ 3. More than 800$
6	Level of education	1. High school or less 2. Bachelor degree 3. Master degree or more
7	Work	1. I work 2. I do not work
8	The number of current kids	1. 1 to 3 2. 4 to 6 3. More than 6
9	Current child's age	1. Less than 2 months 2. 2 to 4 months 3. 4 to 6 months
10	Type of delivery	1. Normal delivery 2. Cesarean section
11	Current weight	1. Less than 50 kg 2. 51 to 65 kg 3. 66 to 80 kg 4. More than 80 kg

Appendix E

DASS-21 Scale in English

Please read each statement and circle a number 0, 1, 2 or 3 which indicates how much the statement applied to you *over the past week*. There are no right or wrong answers. Do not spend too much time on any statement.

The rating scale is as follows:

0 Did not apply to me at all

1 Applied to me to some degree, or some of the time

2 Applied to me to a considerable degree, or a good part of time

3 Applied to me very much, or most of the time

1	I found it hard to wind down	0	1	2	3
2	I was aware of dryness of my mouth	0	1	2	3
3	I couldn't seem to experience any positive feeling at all	0	1	2	3
4	I experienced breathing difficulty (eg, excessively rapid breathing, breathlessness in the absence of physical exertion)	0	1	2	3
5	I found it difficult to work up the initiative to do things	0	1	2	3
6	I tended to over-react to situations	0	1	2	3
7	I experienced trembling (eg, in the hands)	0	1	2	3
8	I felt that I was using a lot of nervous energy	0	1	2	3
9	I was worried about situations in which I might panic and make	0	1	2	3

	a fool of myself			
10	I felt that I had nothing to look forward to	0	1	2
11	I found myself getting agitated	0	1	2
12	I found it difficult to relax	0	1	2
13	I felt down-hearted and blue	0	1	2
14	I was intolerant of anything that kept me from getting on with what I was doing	0	1	2
15	I felt I was close to panic	0	1	2
16	I was unable to become enthusiastic about anything	0	1	2
17	I felt I wasn't worth much as a person	0	1	2
18	I felt that I was rather touchy	0	1	2
19	I was aware of the action of my heart in the absence of physical exertion (eg, sense of heart rate increase, heart missing a beat)	0	1	2
20	I felt scared without any good reason	0	1	2
21	I felt that life was meaningless	0	1	2

Appendix F

BBQ in English

Breastfeeding Behaviour Questionnaire:

Instructions: For each of these scenarios, the participants are asked for their opinion if they agree with the woman's choice in the scenario by using the six-point Likert scale as follows

1 = More strongly agree 2 = Strongly agree 3 = Agree 4 = Disagree 5 = Strongly disagree 6 = More strongly disagree.

1. Juanita Garcia, who just gave birth a while ago, is breastfeeding in the living room. Her neighbor woman friend has come to visit. Juanita covers her chest and baby's head with a shawl and finishes breastfeeding her child while the two adult's chat. Does it seem to you that it was good that Juanita to continue breastfeeding?

   1 2 3 4 5 6

2. Estrela Hernandez is breastfeeding her baby in the living room. The neighbors, a man and a woman, arrive to visit. Estrela covers her breast and baby's head with a shawl and finishes nursing while they chat. Does it seem right that Estrela finished nursing?

   1 2 3 4 5 6

3. Marta Menendez is eating lunch with her friends at McDonald's. When the baby woke up and seemed hungry, Marta decides to feed the baby under her blouse. Do you believe that Marta should have taken her baby from the public area to nurse?

   1 2 3 4 5 6

4. Catalina Ortega is lunching with friends at Dairy Queen. When her baby wakes up and seems hungry, she decides to feed the baby under her blouse. Her friends are embarrassed. Then she leaves to go to the car to breastfeed. Are you in agreement with Catalina's decision to take the baby out to the car to nurse?

1 2 3 4 5 6

5. Ana Jara and her husband take their baby to church. When the girl became hungry, Ana took her to the bathroom to breastfeed. Do you believe it is necessary to carry the baby outside the church to breastfeed?

1 2 3 4 5 6

6. Maria Sanchez and her husband take their baby to church. When the baby was hungry, Maria breastfeeds under her blouse. Also, she covers the baby's head with a shawl in case her blouse doesn't cover the baby. Do you believe Maria should have taken the baby outside the church to breastfeed?

1 2 3 4 5 6

7. Juanita Perez is pregnant with her first baby and wants to breastfeed. Juanita's mother says that no one in the family could breastfeed because all the women have small breasts and can't produce enough milk. Juanita decides to breastfeed anyway. Do you agree with her decision?

1 2 3 4 5 6

8. Aurora Blanca is pregnant with her first baby and wants to breastfeed. Her husband wants her to use a bottle because breastfeeding is shameful and old-fashioned. Aurora decides to use the bottle in place of breastfeeding. Do you agree with Aurora's decision to not breastfeed?

1 2 3 4 5 6

9. Laurel Martinez is pregnant and her doctor says she ought to breastfeed. Laurel had wanted to bottle feed but changes her mind. Do you agree with Laurel's decision to follow the advice of her doctor?

1 2 3 4 5 6

10. Elena Zaragoza, who is pregnant with her first child, is counseled by a nurse to breastfeed because "human milk is best for newborns." Elena decides to bottle feed in place of breastfeeding because her friends say that cow's milk is equal to human milk. Do you agree with her decision not to breastfeed?

1 2 3 4 5 6

11. Margarita Kelly is pregnant with her first baby and will give birth soon. She was considering breastfeeding, but she decides to give a bottle because she wants to return to work when the baby is 6 months old. She believes the baby won't take a bottle if she nurses. Do you agree with Margarita's decision not to breastfeed?

1 2 3 4 5 6

12. Carla Ramos is pregnant with her second baby. She's been told that breastfeeding is best for the babies. She decides to bottle feed. She tried to breastfeed with her first baby but stopped because the baby lost weight in the first week. Do you agree with her decision not to breastfeed her second baby?

1 2 3 4 5 6

Appendix G

Questionnaire in Arabic

استبيان المعرفة والسلوكيات والممارسات حول الرضاعة الطبيعية:

القسم الأول: المعلومات الديموغرافية

1	العمر	1. أقل من 18 سنة 2. 19 الى 29 سنة 3. 30 الى 40 سنة 4. أكثر من 41 سنة
2	الحالة الاجتماعية	1. متزوجة 2. مطلقة
3	عمر الزوج	1. 30 سنة أو أقل 2. 31 الى 40 سنة 3. 41 سنة فما فوق
4	مكان السكن	1. مخيم 2. قرية 3. مدينة
5	الدخل الشهري	1. 500 دولار أو أقل 2. 500 الى 800 دولار 3. 800 دولار أو أكثر
6	التحصيل العلمي	1. توجيهي أو أقل 2. بكالوريوس 3. ماجستير أو أكثر
7	العمل	1. أعمل 2. لا أعمل
8	عدد الأطفال الحاليين	1. 1 الى 3 2. 4 الى 6 3. 6 فأكثر
9	عمر الطفل الحالي	1. أقل من شهرين 2. 2 الى 4 أشهر 3. 4 الى 6 أشهر
10	طبيعة الولادة	1. ولادة طبيعية 2. ولادة قيصرية
11	الوزن الحالي	1. أقل من 50 كغم 2. من 51 الى 65 كغم 3. من 66 الى 80كغم 4. أكثر من 80 كغم

Appendix H

Arabic version of DASS-21 scale

Arabic DASS21

اسم:_____ التاريخ:_____

اقرأ كل من النصوص التالية ثم ضع دائرة حول الرقم ٠،١،٢ أو ٣ الذي يبين درجة انطباق هذا الشعور عليك في الأسبوع الماضي. لا يوجد إجابات صحيحة أو خاطئة. لا تقضي وقتاً طويلاً في أي منها.

استعمل التقديرات التالية:

٠ لا ينطبق عليّ بتاتاً

١ ينطبق عليّ بعض الشيء أو قليلاً من الأوقات

٢ ينطبق عليّ بدرجة ملحوظة أو بعض الأوقات

٣ ينطبق عليّ كثيراً جداً، أو معظم الأوقات

١	وجدت صعوبة في الاسترخاء والراحة	٠	١	٢	٣
٢	شعرت بجفاف في حلقي	٠	١	٢	٣
٣	لم يبدو لي أن بإمكاني الإحساس بمشاعر إيجابية على الإطلاق	٠	١	٢	٣
٤	شعرت بصعوبة في التنفس (شدة التنفس السريع، اللهثان بدون القيام بمجهود جسدي مثلاً)	٠	١	٢	٣
٥	وجدت صعوبة في أخذ المبادرة بعمل الأشياء	٠	١	٢	٣
٦	كنت أميل إلى ردة فعل مفرطة للظروف والأحداث	٠	١	٢	٣
٧	شعرت برجفة (باليدين مثلاً)	٠	١	٢	٣
٨	شعرت بأنني أستهلك الكثير في الطاقة العصبية (شعرت بأنني أستهلك الكثير من قدرتي على تحمل التوتر العصبي)	٠	١	٢	٣
٩	كنت خائفاً من مواقف قد أفقد فيها السيطرة على أعصابي واسبب إحراجاً لنفسي	٠	١	٢	٣
١٠	شعرت بأن ليس لدي أي شيء أتطلع إليه	٠	١	٢	٣
١١	شعرت بأنني مضطرب ومنزعج	٠	١	٢	٣
١٢	أجد صعوبة في الاسترخاء	٠	١	٢	٣
١٣	شعرت بالحزن والغم	٠	١	٢	٣
١٤	كنت لا أستطع تحمل أي شيء يحول بيني وبين ما أرغب في القيام به	٠	١	٢	٣
١٥	شعرت بأنني على وشك الوقوع في حالة من الرعب المفاجئ بدون سبب	٠	١	٢	٣
١٦	فقدت الشعور بالحماس لأي شيء	٠	١	٢	٣
١٧	شعرت بأن قيمتي قليلة كشخص	٠	١	٢	٣
١٨	شعرت بأنني أميل إلى الغيظ بسرعة	٠	١	٢	٣
١٩	شعرت بضربات قلبي بدون مجهود جسدي (زيادة في معدل الدقات، أو غياب دقة قلب، مثلاً)	٠	١	٢	٣
٢٠	شعرت بالخوف بدون أي سبب وجيه	٠	١	٢	٣
٢١	شعرت بأن الحياة ليس لها معنى	٠	١	٢	٣

Appendix I

Arabic version of BBQ

إستبيان التصرف في الرضاعة الطبيعية

Breastfeeding Behavior Questionnaire (BBQ)

التوجيهات: لكل من هذه السيناريوهات تسأل المشتركات ما إذا كن يوافقن أو لا يوافقن مع خيار المرأة عبر إستخدام مقياس لايكرت Lickert Scale ذا النقاط الست:

1= موافقة بشدة أكثر 2= موافقة بشدة 3= موافقة 4= غير موافقة 5= غير موافقة بشدة
6= غير موافقة بشدة أكثر

1. لينا أم جديدة ترضع طفلها من ثديها في غرفة المعيشة. صديقتها من الباب المجاور تأتي لرؤية الطفل الجديد. لينا غطت ثديها ورأس الطفل ببطانية، وإستمر الطفل يرضع في حين كانت المرأتان تتحدثان. هل توافقين أنه لا إشكال في إستمرار لينا بالرضاعة الطبيعية؟

6 5 4 3 2 1

2. مايا ترضع طفلها من ثديها في غرفة المعيشة. جاء الرجل والمرأة من الباب المجاور لرؤية الطفل الجديد فغطت مايا ثديها ورأس الطفل ببطانية وبقي الطفل يرضع في حين كان الجيران يتحدثون. هل تعتقدين أنه كان على مي أن توقف الرضاعة؟

6 5 4 3 2 1

3. هدى في الماكدونالد تتناول طعام الغداء مع صديقاتها. عندما إستيقظ طفلها وبدا جائعا" قررت إرضاعه من تحت قميصها. هل تعتقدين أنه كان ينبغي على هدى أن تأخذ طفلها بعيدا" عن المكان العام لإرضاعه؟

6 5 4 3 2 1

4. غادة تتناول طعام الغداء في المطعم مع صديقاتها. عندما إستيقظ طفلها وبدا جائعا" قررت أرضاعه من تحت قميصها. أحست صديقاتها بالإحراج فأخذت طفلها إلى السيارة لإرضاعه. هل توافقين على قرار هدى أن تأخذ طفلها إلى السيارة لإرضاعه؟

6 5 4 3 2 1

5. إصطحبت حنان وزوجها طفلتهما إلى دار العبادة. عندما حان وقت إرضاعها أخذت حنان طفلتها إلى حمام السيدات. هل تعتقدين أنه كان من الضروري لحنان أن تأخذ طفلتها إلى خارج دار العبادة لإرضاعها؟

6 5 4 3 2 1

6. أصطحبت نور وزوجها طفلهما إلى دار العبادة. عندما حان وقت إرضاعه أرضعته نور من تحت القميص، وغطت أيضا" رأس طفلها ببطانية في حال إنزلق قميصها. هل تعتقدين أنه كان ينبغي على نور أن تأخذ طفلها إلى خارج دار العبادة لإرضاعه؟

6 5 4 3 2 1

7. جون مون تنتظر مولودها الأول وتريد إرضاعه رضاعة طبيعية. والدة جون تخبرها أن لا واحدة من عائلتهم نجحت بالرضاعة الطبيعية لأن كل نساء العائلة لديهن أثداء صغيرة ولا تنتجن كميات حليب كافية. تقرر جون ممارسة الرضاعة الطبيعية على أي حال. هل توافقين جون الرأي؟

6 5 4 3 2 1

8. لميس تنتظر مولودها الأول وتريد إرضاعه طبيعيا". زوج لميس يريدها أن تعطي الطفل الحليب المجفف للأطفال لأنه يقول أن الرضاعة الطبيعية محرجة. تقرر لميس أن تعطي طفلها الحليب المجفف للأطفال بدل الرضاعة الطبيعية. هل توافقين لميس على خيارها بعدم ممارسة الرضاعة الطبيعية بسبب رأي زوجها؟

6 5 4 3 2 1

9. منى حامل وأخبرها طبيبها أنها يجب أن تخطط لإرضاع طفلها رضاعة طبيعية. كانت منى قد قررت أن تغذي طفلها بحليب الأطفال المجفف لكنها تغير رأيها. هل توافقين منى غلى قرارها بإتباع نصيحة الطبيب؟

6 5 4 3 2 1

10. وداد التي تنتظر مولودها الأول تلقت نصيحة بأن ترضع طفلها الجديد من ثديها لأن "حليب الإنسان هو الأفضل لطفل الأنسان". قررت وداد أن تغذي طفلها بحليب الأطفال المجفف لأنها سمعت أنه بجودة حليب الأم. هل توافقين وداد على قرارها بعدم ممارسة الرضاعة الطبيعية؟

6 5 4 3 2 1

11. سوزي تنتظر مولودها الأول قريبا" جدا". تلقت نصيحه بأن ترضعه من ثديها لكنها قررت أن تغذي طفلها بحليب الأطفال المجفف لأنها تريد العودة إلى العمل عندما يبلغ طفلها الثلاثة أشهر من العمر. وكانت سمعت أن الطفل الذي يرضع من الثدي لن يتناول قنينة الحليب المجفف. هل توافقين على قرار سوزي بعدم محاولة إرضاع طفلها من الثدي؟

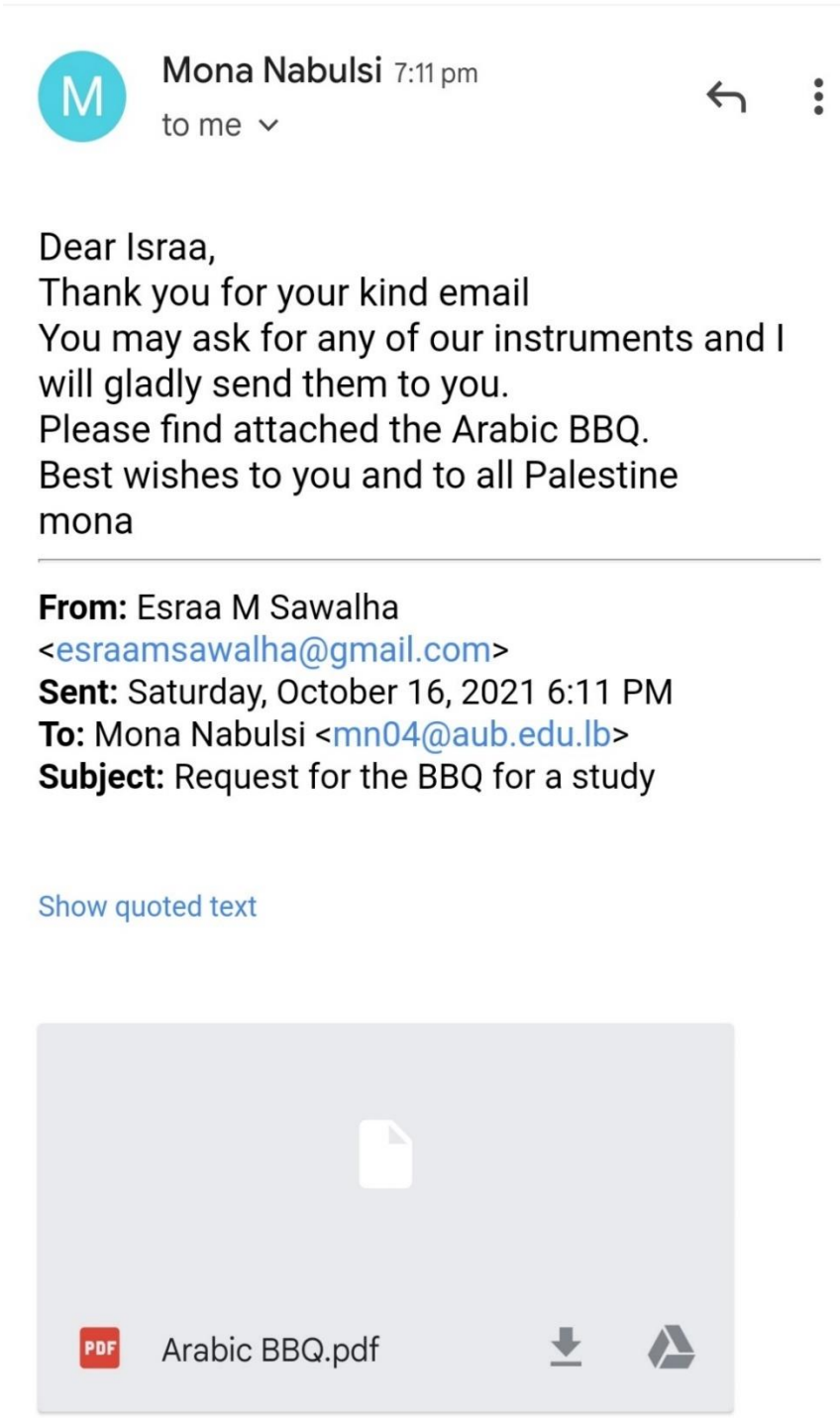
6 5 4 3 2 1

12. ديما تنتظر مولودها الثاني. على الرغم من أنها سمعت أن الرضاعة الطبيعية أفضل للأطفال إلا أنها قررت أن تغذي طفلها بحليب الأطفال المجفف. حاولت أن ترضع طفلها الأول من الثدي لكنها أضطرت للتوقف لأنه خسر وزنا" خلال الأسبوع الأول. هل توافقين ديما على رأيها بعدم محاولة إرضاع طفلها رضاعة طبيعية؟

6 5 4 3 2 1

Appendix J

Permission from the author to use BBQ



Mona Nabulsi 7:11 pm
to me

Dear Israa,
Thank you for your kind email
You may ask for any of our instruments and I will gladly send them to you.
Please find attached the Arabic BBQ.
Best wishes to you and to all Palestine
mona

From: Esraa M Sawalha <esraamsawalha@gmail.com>
Sent: Saturday, October 16, 2021 6:11 PM
To: Mona Nabulsi <mn04@aub.edu.lb>
Subject: Request for the BBQ for a study

Show quoted text

PDF Arabic BBQ.pdf

Appendix K

IRB Approval

An-Najah National University
Faculty of Medicine & Health Sciences
Institutional Review Board

جامعة النجاح الوطنية
كلية الطب وعلوم الصحة
لجنة اخلاقيات البحث العلمي

Ref:. Mas. Jan. *2022/6*

IRB Approval Letter

Title of Research:
"Factors Influencing Exclusive Breastfeeding's Attitudes, Practices, and Behaviors in Nursing Mothers: A Cross-Sectional Study".

Submitted by:
Israa M. Sawalha

Supervisor:
Adnan Sarhan

Approved:
9th Jan. 2022

Your Study Title **"Factors Influencing Exclusive Breastfeeding's Attitudes, Practices, and Behaviors in Nursing Mothers: A Cross-Sectional Study."** reviewed by An-Najah National University IRB committee and was approved on 9th Jan. 2022

Hasan Fitian, MD
IRB Committee Chairman

IRB

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Appendix L

IRB Certificate

Certificate of Completion

The National Institutes of Health (NIH) Office of Extramural Research certifies that **Israa Sawalha** successfully completed the NIH Web-based training course "Protecting Human Research Participants".

Date of completion: 08/28/2017.

Certification Number: 2461808.

Appendix M

PMoH approval

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

دولة فلسطين
وزارة الصحة
وحدة التعليم الصحي
والبحث العلمي

الرقم: ع ج/ ٩١/ ٢٠٢٢
التاريخ: ١٩/١١/٢٠٢٢

Ref.: .....
Date:.....

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

الموضـــوع: تسهيل مهمة بحث

يرجى التكرم بتسهيل مهمة الطالبة: **اسراء مهدي صوالحة**- ماجستير تمريض صحة نفسية مجتمعية- **جامعة النجاح**، لعمل بحث بعنوان:

العوامل التي تؤثر على مواقف وممارسات وسلوكيات الرضاعة الطبيعية الخالصة للنساء المرضعات:

دراسة مقطعية

حيث ستقوم الطالبة بجمع معلومات عن طريق تعبئة استبانة من قبل المريضات المراجعات للمراكز الصحية، بدون استخدام المعلومات الشخصية للمرضى، وذلك في:

- **عيادات الرعاية الصحية في مديريات شمال الضفة الغربية**

مع العلم أن مشرف الدراسة: د. عدنان سرحان ود. نهال ناطور.

على ان يتم الالتزام بالمحافظة على اخلاقيات البحث العلمي وسرية المعلومات.
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 وزارة الصحة.

مع الاحترام،،،

د. عبد الله القواسمي
رئيس وحدة التعليم الصحي والبحث العلمي

نسخة: منسقة برنامج ماجستير تمريض الصحة النفسية المجتمعية المحترمة/ جامعة النجاح

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Appendix N

Key analysis of scales

N.1 Analyses of DASS-21 scale:

The DASS is a numerical scale that measures discomfort along the axes of depression, anxiety (psychological arousal symptoms), and stress (the more cognitive, subjective symptoms of anxiety). It isn't a classification of clinical diagnoses.

Emotional disorders such as depression and anxiety are essentially dimensional, ranging in severity from mild to severe (independent of the specific diagnosis). As a result, the use of a single cut-off for a specific diagnostic can be appropriately identified as having significant symptoms and a high risk of subsequent issues.

However, having 'labels' to characterize the degree of severity relative to the population can be useful for clinical purposes. As a result, for each DASS scale, the following cut-off scores have been constructed to define mild/moderate/severe/extremely severe scores.

Note that the severity labels are used to depict the entire range of scores in the population; for example, "light" signifies that the person is above the population mean but still much below the average severity of someone seeking help (ie it does not mean a mild level of disorder).

Individual DASS ratings do not indicate which interventions are appropriate. In choosing suitable treatment for any individual, they should be utilized in conjunction with all clinical information accessible to you.

In light of the above discussion, researchers provide the following recommendations based on complete (42 item) scores (if using the DASS 21 item version, multiply the score by 2) (UNSW, 2018).

DASS-21 severity ratings

(If using the DASS 21 item version, multiply the score obtained by 2)

	Depression	Anxiety	Stress
Normal	0-9	0-7	0-14
Mild	10-13	8-9	15-18
Moderate	14-20	10-14	19-25
Severe	21-27	15-19	26-33
Extremely Severe	28+	20+	34

N.2 Analyses of BBQ:

A cross-sectional study was performed to evaluate breastfeeding knowledge, attitude, and perceived behavior among female undergraduate students in Lebanon and Syria, as well as to identify characteristics linked to breastfeeding intention. The Predictive Analysis Software was used to analyze the data in this investigation (PASW 18, formerly known as SPSS). The statistical methods were completed with a 5% significance level. Demographic characteristics, scores on each scale, and responses to all propositions within each scale were all subjected to descriptive statistics. Independent Student's t-tests and analysis of variance were used to compare mean knowledge, attitude, perceived behavior, and intention scores among sociodemographic variables and countries (ANOVA). Intercountry differences in the proportions of respondents scoring above the midpoint of each scale were investigated using the chi-squared test. Pearson bivariate association s were used to look at the associations between breastfeeding knowledge, attitude, exposure, perceived behavior, and intention scores. Multivariate linear regression analyses were conducted to assess the independent effect of the aforementioned variables on the intention to breastfeed in each country. The intention to breastfeed was the dependent variable in the multivariate regression models, while the independent variables were those that demonstrated statistically significant associations with the intention to breastfeed at the bivariate level. The normality of the residuals was tested in both regression models (Lebanon and Syria) using a histogram of standardized residuals and a normal probability plot (Hamad et al., 2014).

The attitudes toward breastfeeding among Spanish-speaking Hispanic American women were investigated in a descriptive, cross-sectional study. The Breastfeeding Behavior Questionnaire was utilized by the researchers (BBQ). For all variables in this study, descriptive statistics were generated. Each story on the BBQ is graded on a 6-point

Likert-type scale ranging from 1 (strongly disagree) to 6 (strongly disagree) (strongly disagree). The total possible score ranges from 12 to 72, with a lower total score indicating more favorable attitudes regarding breastfeeding. As the dividing line between generally positive and generally negative attitudes, the median of the possible score range (36 for the overall instrument, 3.6 for individual items) was selected. SAS was used to examine this data set. Only three questionnaires were missing a score for one of the vignettes, and these were replaced with each respondent's average score for the remaining vignettes. BBQ data were severely skewed and not normally distributed, according to a probability plot monster. For further bivariate analyses, nonparametric approaches such as the Spearman rank association and the Wilcoxin rank sum test were used (Libbus, 2000).

BBQ scoring:

BBQ scores that were equal to or below the median were associated with generally favorable breastfeeding practices, whereas scores that were above the median were associated with generally negative breastfeeding behaviors. This strategy of dividing the BBQ score into two categories by using the median is a standard statistical methodology (Charafeddine et al., 2020).

جـامعـــة النجاح الوطنية

كليـــة الدراســـات العليـــا

العوامل النفسية والمواقف والسلوكيات حول الرضاعة الطبيعية الخالصة للنساء المرضعات: دراسة مقطعية

إعداد

إسراء مهدي محمود صوالحة

إشراف

د. عدنان سرحان

د. نهال ناطور

قدمت هذه الرسالة استكمالا لمتطلبات الحصول على درجة الماجستير في تمريض الصحة النفسية المجتمعية، من كلية الدراسات العليا، في جامعة النجاح الوطنية، نابلس- فلسطين.

2023

العوامل النفسية والمواقف والسلوكيات حول الرضاعة الطبيعية الخالصة للنساء المرضعات: دراسة مقطعية

إعداد
إسراء مهدي محمود صوالحة
إشراف
د. عدنان سرحان
د. نهال ناطور

الملخص

المقدمة: وفقًا لمنظمة الصحة العالمية الرضاعة الطبيعية الخالصة يمكنها إنقاذ حياة حوالي 220.000 طفل سنويًا. وتوصي المنظمة بالرضاعة الطبيعية الخالصة لحديثي الولادة خلال الأشهر الستة الأولى من حياتهم.

الأهداف: هدفت هذه الدراسة لتقييم كيفية تأثير العوامل النفسية والمواقف والسلوكيات تجاه الرضاعة الطبيعية الخالصة بين النساء المرضعات.

أسلوب البحث: أجريت دراسة كمية مقطعية في شمال فلسطين في عيادات صحة الأمومة والطفولة التابعة لوزارة الصحة الفلسطينية. استخدمت عينة ملائمة بين 368 مشاركة. وجمعت البيانات باستخدام استبيان يُعبئ ذاتيًا يشتمل على النسخة العربية من مقياس التوتر والقلق والاكتئاب، والنسخة العربية من مقياس سلوكيات الرضاعة الطبيعية. وحُللت البيانات باستخدام الحزمة الإحصائية للعلوم الاجتماعية الإصدار 24.

النتائج: استجابت 368 مشاركة لهذه الدراسة وتم ادارجهم. وبلغت معدلات انتشار كل من اكتئاب ما بعد الولادة والقلق والتوتر، 50.8%، و59.8%، و68.5% على التوالي. عمر الرضيع الحالي الذي يتراوح ما بين شهرين لأربعة أشهر كان له ارتباطًا كبيرًا بالإكتئاب تجاه الرضاعة الطبيعية الخالصة بين الأمهات المرضعات (P = 0.03, OR = 1.66, CI: 1.03, 2.67) وكذلك القلق (P = 0.00, OR = 2.12, CI = 1.33, 3.39). الأزواج الذين تتراوح أعمارهم بين 31 و40 عامًا، ومتوسط العمر 35.5 عامًا، كان

لديهم احتمالات أعلى للإصابة بالتوتر (P = 0.04, OR = 2.13, CI: 1.01, 4.49)، في حين أن الأمهات اللواتي يقل وزنهن عن 50 كجم كانت احتمالية الإصابة بالتوتر لديهن أعلى (P = 0.04, OR = 0.19, CI: 0.19, 0.95). وأيضًا،76.1% من المشاركات لديهنَّ معتقدات وسلوكيات سلبية تجاه الرضاعة الطبيعة الخالصة. كل من الدخل الشهري الذي يقل عن 500 دولار والمتراوح ما بين500 دولار و800 دولار، وعمر الأم المرضعة أقل من 18 عام، لديهما ارتباطًا كبيرًا مع المواقف والسلوكيات تجاه الرضاعة الطبيعية الخالصة، (P = 0.01, OR = 0.82, CI: 0.71, 0.95, P = 0.02, OR = 0.85, CI: 0.74, 0.98, P = 0.00, OR = 7.26, CI: 3.88, 13.60 على التوالي).

الملخص: كشفت هذه الدراسة وجود معدلات انتشار مرتفعة من المشكلات النفسية بعد الولاد بين الأمهات الفلسطينيات المرضعات، يرافقها مواقف وسلوكيات غير مفضلة تجاه الرضاعة الطبيعية الخالصة.

التوصيات: يُنصح بشدة بتطبيق كل من مقياس القلق والتوتر والاكتئاب واستبيان سلوكيات الرضاعة الطبيعية في عيادات وزارة الصحة الفلسطينية. ومن الضروري إجراء المزيد من الأبحاث لتحديد العوامل التي تسبب هذه النتائج المقلقة.

الكلمات المفتاحية: العوامل النفسية، التوتر، القلق، الاكتئاب، المواقف، السلوكيات، الرضاعة الطبيعية الخالصة، الرضاعة الطبيعية، فلسطين، نابلس.