

Evaluating the Knowledge and Correct Breastfeeding Practices in Postpartum Period of Generation-Z Mothers in A Selected Barangay in Tondo, Manila

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Abstract - Breastfeeding is fundamental for mother-child bonding, promotes infant health, and is essential for both physical and emotional well-being. Previous studies have shown disparities in breastfeeding rates stem from factors such as limited access to education, initiation, and support, especially towards young adult mothers—risking misconceptions and improper techniques hindering successful breastfeeding routines, which this research sheds light on. This study assessed 70 Generation Z mothers' breastfeeding knowledge and practices through an expert-validated survey adapted from Kok et al.'s (2021) "Determination of Knowledge and Correct Breastfeeding Practices of Mothers in Early Postpartum Period." The survey consisted of 32 knowledge-based items and 8 self-assessment items measuring correct practices. Results show that 54.3% of these mothers' level of knowledge is "Proficient." In addition, significant differences ($p < .05$) in the scores of the respondents were identified based on educational attainment and desire or planned pregnancy. Knowledge translates to better practices, as a significant moderate positive relationship ($r = .401^{**}$) between knowledge and postpartum breastfeeding practices was found. The researchers advocated the implementation of accessible and regular seminars, including professional lectures, to be administered by healthcare experts in government health. Correspondingly, researchers took a small leap to more proficient Gen. Z mothers by initiating a seminar concerning breastfeeding that featured lectures by a health professional within the conducted research locale—in response to the study's urge to implement the necessary steps vital to improve motherhood and childcare that transcends through families in the Philippines.

Keywords - Breastfeeding, Gen. Z Mothers, Knowledge, Practices, Postpartum Period, Maternal and Child Health, Manila, Healthcare Initiatives

Introduction

Breastfeeding is a fundamental human activity vital to mother and child health and to all societies (Guyer & Millward, 2012; Vijayalakshmi and Susheela, D., 2015). In order to promote optimal development and wellness for infants, the World Health Organization (WHO) and the United Nations Children's Fund (UNICEF) advise that exclusively breastfeeding must be initiated.

The paper focuses on measuring the knowledge and breastfeeding practices of Generation Z mothers concerning the 3rd, 10th, and 17th Sustainable Development Goals (SDGs) initiated by the UN to achieve global targets by 2030 related to "Good Health and Well-being," "Reduced Inequalities," and "Partnerships for the Goals." This aligns with Ambisyon Natin 2040's goals of eliminating health inequalities and disparities. The present study focuses on developing better breastfeeding practices among adolescent mothers to lower infection and malnutrition risks for both mothers and newborns—empowering young adult mothers and providing parenting knowledge and skills.

Enacted in 1986, Executive Order No. 51, otherwise known as "The Philippine Milk Code," aims to further restrict the promotion of substitutes, provide clearer product labeling, and safeguard the rights of mothers to breastfeed in public spaces. Alongside this was Republic Act No. 11148, also referred to as the "Kalusugan at Nutrisyon ng Mag Nanay Act," implemented in 2018, which prioritizes the needs of children, infants, pregnant mothers, and adolescent females. Its objective goal is to ensure nutrition for people of all ages and eliminate hunger and food insecurity.

The research aims to advocate for an underserved part of society, especially women. It identifies issues young adult mothers face regarding breastfeeding and overall infant health to promote knowledge and awareness. The exploration of breastfeeding among Generation Z mothers is timely given early pregnancies and a lack of family planning knowledge is prevalent. The research focused on one barangay in Manila, allowing a comprehensive understanding of challenges and opportunities specific to the community to enable targeted support. Ultimately, the findings could significantly influence policies by providing insights into interventions tailored to Generation Z mothers' needs, thus improving maternal and child health outcomes.

To further understand these challenges and position, the researchers surveyed Generation Z mothers in Barangay 123 in Tondo, Manila. The study aims to identify how culture and environment influences young adult mothers' attitudes and beliefs about breastfeeding, as well as examine challenges like a lack of information and support that young adult mothers face in making informed choices about their health and their babies' well-being.

Scope and Delimitation

This study encompasses only mothers aged 18 to 26 who are currently engaged in breastfeeding their infants. Participation is voluntary and limited to mothers who provided their approval by signing an informed consent form. Those who do not consent and are outside this age bracket are not included in the study. Compared to older mothers, young women may breastfeed less frequently, as shown in studies by Govender et al. (2019) and Mangeli et al. (2017). Reasons for this include a lack of parenting preparedness and reliance on social support systems that do not support breastfeeding. Furthermore, any medical conditions experienced by the mothers during the study period will not be considered. These variables could, however, interfere with the evaluation of the mothers' breastfeeding knowledge and practices, which is the primary focus. Additionally, the personal reasons for the pregnancy and any interference with breastfeeding evaluations are excluded.

Materials and Methods

Research Design

The study utilizes a non-experimental descriptive design with a comparative approach, concentrating on the observation and analysis of the breastfeeding context among Generation Z mothers in the early postpartum period. The selected design is geared towards describing phenomena rather than establishing causal relationships (Jarde et al., 2012). This design enables discreet observation and documentation of breastfeeding behaviors in their natural setting.

Research Locale

The researchers conducted a survey at Barangay 123 in Mariones Tondo, Manila, situated in a densely populated urban area characterized as one of the depressed areas of Tondo and inhabited by residents with diverse socioeconomic statuses. This locale serves as a strategic setting for the investigation into the breastfeeding knowledge and practices of young adult mothers during the early postpartum period.

Sampling Design

The researchers utilize a random sampling technique, offering each participant an equal chance of inclusion, ensuring an unbiased representation of the population (Sharma, 2017). This chosen sampling design ensures an unbiased, fair, and equal probability representation of the population.

Instrumentation

The study uses a structured questionnaire with 32 knowledge-based items and 8 self-assessment items measuring correct practices adapted from Kok, G., Konukbay, D., Simsek, S., & Karadag, F. S. (2021) research paper titled "Determination of Knowledge and Correct Breastfeeding Practices of Mothers in Early Postpartum Period." The questionnaire offers binary responses to measure knowledge on breastfeeding and a Likert scale to evaluate correct practices.

Data Gathering

This study gathered data through answering distributed survey-questionnaires to the young adult mothers in Barangay 123 in Tondo, Manila, followed by a seminar led by a qualified midwife. The seminar served as an educational platform and included live demonstrations related to the "Breastfeeding Knowledge and Practices Assessment."

Statistical Treatment

The study uses Excel and Statistical Package for the Social Sciences (SPSS) for data organization and analysis. Frequency distributions summarize demographics and survey responses, providing insight into breastfeeding knowledge levels (Field, 2013). ANOVA is used for comparisons involving multiple demographic groups (Pace, 2012), while the Kruskal Wallis test is used for non-parametric comparisons involving multiple groups (McKight & Najab, 2010).

Results

Demographic Profile

Age. The study concentrated on young adult mothers in Tondo, Manila, and data was gathered within the specific barangay. The age distribution among the 70 respondents was as follows: 15 (21.4%) were between the ages of 18 and 19, 11 (15.7%) were between the ages of 20 and 21, 16 (22.9%) were between the ages of 22 and 23, and 28 (40.0%) were between the ages of 24 and 26.

Age	Frequency	Percent
18-19	15	21.4
20-21	11	15.7
22-23	16	22.9
24-26	28	40.0
Total	70	100.0

Table 1: Demographic profile of the respondents based on age

Educational Attainment. The Gen. Z mothers in Tondo, Manila, with their educational attainment, are a key demographic. Among the 70 respondents, 42 (60.0%) completed basic education, 21 (30.0%) completed tertiary education, and 7 (10.0%) pursued non-formal alternative education.

Educational Attainment	Frequency	Percent
Basic Education	42	60.0
Tertiary Education	21	30.0
Non-formal/ Alternative Education	7	10.0
Total	70	100.0

Table 2: Demographic profile of the respondents based on educational attainment

Employment Status. The employment status of Gen. Z mothers is also part of the demographics of the study. 3 (4.3%) of the 70 respondents were employed, 8 (11.4%) were self-employed, and the vast majority, 59 (84.3%), were unemployed.

Employment Status	Frequency	Percent
Employed	3	4.3
Self Employed	8	11.4
Unemployed	59	84.3
Total	70	100.0

Table 3: Demographic profile of the respondents based on employment status

Parity Status. This research examined the parity status of Gen. Z mothers. Out of the 70 respondents, 25 (35.7%) were first-time mothers, the majority, accounting for 29 (41.4%), had their second baby, and 16 (22.9%) had their third baby or more.

Parity Status	Frequency	Percent
First	25	35.7
Second	29	41.4
Third (and so)	16	22.9
Total	70	100.0

Table 4: Demographic profile of the respondents based on parity status

Miscarriage Experience. This study included information on whether Gen. Z mothers have any miscarriage experience. All 70 respondents answered the survey, and 8 (11.4%) of the respondents had experienced miscarriage, while 62 (88.6%) of them had not experienced any.

Miscarriage Experience	Frequency	Percent
Yes	8	11.4
No	62	88.6
Total	70	100.0

Table 5: Demographic profile of the respondents based on miscarriage experience

Type of Delivery. The survey, conducted among Gen. Z in Tondo, Manila, revealed that the majority, accounting for 84.3%, underwent vaginal delivery, while 15.7% opted for caesarian delivery among the 70 respondents.

Type of Delivery	Frequency	Percent
Vaginal	59	84.3
Caesarian	11	15.7
Total	70	100.0

Table 6: Demographic profile of the respondents based on type of delivery

Desire for Pregnancy. In the demographic profile of Gen. Z mothers in Tondo, Manila, the results indicated that over half of the respondents 34 (48.6%) reported unexpected births. On the other hand, 36 (51.4%) young adult mothers deliberately planned their pregnancy.

Desire for Pregnancy	Frequency	Percent
Planned	36	51.4
Unexpected	34	48.6
Total	70	100.0

Table 7: Demographic profile of the respondents based on desire for pregnancy

Received Antenatal Care. It is revealed that 25 (35.7%) did not get prenatal care, whereas 45 (64.3%) did. This emphasizes a sizable proportion of Gen. Z mothers who may not have received vital prenatal health treatments.

Received Antenatal Care	Frequency	Percent
Yes	45	64.3
No	25	35.7
Total	70	100.0

Table 8: Demographic profile of the respondents based on received antenatal care

Received Info on Breastfeeding from Health Professionals During Antenatal Care. Out of 70 young adult mothers, 22 (31.4%) did not get breastfeeding information from health professionals during prenatal care, whereas 48 (68.6%) received information. This suggests that a significant number of mothers may not have received critical breastfeeding advice during the prenatal period.

Received Info on Breastfeeding from Health Professionals During Antenatal Care	Frequency	Percent
Yes	48	68.6
No	22	31.4
Total	70	100.0

Table 9: Demographic profile of the respondents based on received information on breastfeeding from health professionals during antenatal care

Initiated Breastfeeding Within the First 30 Minutes After Delivery. According to the survey, 63 (90.0%) mothers started nursing their newborns within the first 30 minutes of birth, while 7 (10.0%) did not nurse their babies during this critical period. These findings show a favorable development at the beginning of early breastfeeding, highlighting the relevance of appropriate breastfeeding practices for maternal-infant health.

Initiated Breastfeeding Within the First 30 Minutes After Delivery	Frequency	Percent
Yes	63	90.0
No	7	10.0
Total	70	100.0

Table 10: Demographic profile of the respondents based on initiated breastfeeding within the first 30minutes after delivery

Knowledge on Breastfeeding

In the data collected, 32 (45.7%) young adult mothers possess “Approaching Proficiency” based on their knowledge on breastfeeding, while 38 (54.3%) of mothers are “Proficient” on their knowledge about breastfeeding. This suggests a positive trend in breastfeeding knowledge in this population, but there is still room for improvement, particularly among those approaching breastfeeding proficiency.

Knowledge On Breastfeeding	Frequency	Percent
Beginner	0	0.0
Developing	0	0.0
Approaching Proficiency	32	45.7
Proficient	38	54.3
Advance	0	0.0
Total	70	100.0

Table 11: Level of knowledge on breastfeeding

As shown in Table 12, respondents highly endorsed several beneficial breastfeeding knowledge. The majority (95.71%) agreed that colostrum is important for infant nutrition and development. Additionally, over 90% agreed that exclusive breastfeeding (EBF) for the first six months aids infant development (94.29%) and helps establish the emotional bond between mother and baby (88.57%). Nearly all respondents (91.43%) understood that breastmilk supply increases with frequent breastfeeding. Most (87.14%) also believed adequate fluid intake and a balanced maternal diet supported breastmilk production. In contrast, several statements were largely disagreed with. Only 14.29% thought breastfeeding should stop in instances of nipple retraction. Approximately 40%

disagreed that breastmilk cannot be safely stored in refrigerators. The claim gaining the least support was that pumped milk not consumed by the baby is wasted, with just 35.71% of the respondents agreed with.

Statement	Sum	Percent
[Newborns should be given water before their mother's milk.]	62	88.57
[Exclusive breastfeeding during the first six months of life is the best nutrition to maintain healthy development of the infants.]	66	94.29
[Mother should not breastfeed in case of nipple retraction.]	10	14.29
[Colostrum must be given to the infant.]	67	95.71
[Sufficient liquid intake and a balanced diet increase the amount of breastmilk.]	61	87.14
[Breastfeeding helps establish an emotional link between the mother and the infant.]	62	88.57
[The amount of breastmilk increases as the infant is breastfed.]	64	91.43
[Breastfeeding mothers should not use medications without consulting the physician.]	59	84.29
[Breast milk cannot be stored in the refrigerator.]	41	58.57
[Pumped breast milk that is not consumed by the infant is wasted.]	25	35.71
Breastfeeding should start within 30 minutes after delivery.	56	80.00
[Breast milk that is pumped out should be given using a spoon.]	12	17.14
[Breastfeeding should start from the last breast used from previous feeding.]	41	58.57
[Mother should wait for the infant to wake up before breastfeeding.]	33	47.14
[Supplementary food may be used right after delivery.]	39	55.71
[Breast milk does not meet the water demand of the infant in the first six months after delivery.]	43	61.43
[If the infant suckles the nipple and the surrounding areola, nipple retraction may be prevented.]	15	21.43
[Pumped breast milk should be heated after being taken out from the refrigerator.]	53	75.71
[Small breasts produce less breast milk.]	42	60.00
[Formula milk is better than breast milk.]	57	81.43
[A bra that fits too tightly should be used by breastfeeding mothers.]	62	88.57
[Newborns should be breastfed when the infant cries or at least every two hours.]	60	85.71
[Avoid breastfeeding when the infant is ill.]	60	85.71
[The psychological status of the mother is affected by breastfeeding.]	21	30.00
[Breastfeeding should continue until two years of age.]	64	91.43
[Breastfeeding at night increases breast milk supply.]	13	18.57
[If the infant refuses to eat supplementary food at stage six months, the mother should not force the infant and try to gradually re-introduce.]	21	30.00
[Formula feeding should start instantly if the infant refuses breastfeeding after delivery.]	51	72.86
[Sucking reflex in babies is associated with increased milk production in mothers.]	50	71.43
[Breastmilk can be heated safely in the microwave.]	53	75.71
[It is healthy for babies to ingest breast milk from mothers who are not their own.]	52	74.29
[Breast milk is an effective cure for sore eyes.]	23	32.86

Table 12: Breastfeeding knowledge of the respondents

Practices on Breastfeeding

The results showed that most mothers, comprising 49 (70%) respondents, reported having excellent breastfeeding practices in line with recommended guidelines. Meanwhile, 18 (25.7%) mothers classified their practices as very good. Only 2 (2.9%) mothers described their practices as good, while none reported fair practices. Surprisingly, just 1 (1.4%) respondent considered her breastfeeding to be poor. Overall, the data indicates that the vast majority of young adult mothers practiced breastfeeding appropriately according to standards, with excellent or very good practices reported by a great proportion at 70% and 25.7%, respectively.

Breastfeeding Practices	Frequency	Percent
Poor	1	1.4
Fair	0	0.0
Good	2	2.9
Very Good	18	25.7

Excellent	49	70.0
Total	70	100.0

Table 13: Self-assessment levels of breastfeeding practices among young mothers

Assessing young adult mothers' ability to demonstrate key recommended breastfeeding practices. Overall, the average practice mean was 4.37 with a standard deviation of 0.63, which was qualitatively interpreted as excellent. Specifically, practices such as washing hands, cleansing the nipples, establishing eye contact with the baby, and positioning obtained weighted means over 4.5, indicating an excellent level of demonstration. Stimulating the suckling reflex, inserting the areola into the baby's mouth, and breastfeeding on the same breast for 15-20 minutes achieved very good ratings. Employing ways to prevent abdominal colic was also rated as excellent, with a mean of 4.34. These results demonstrate that the young adult mothers successfully performed and understood the best practices for breastfeeding as outlined by the standards.

Statement	Weighted Mean	Standard Deviation	Qualitative Interpretation
[Washing hands]	4.70	0.69	Excellent
[Cleansing the nipples]	4.59	0.83	Excellent
[Stimulating the suckling reflex of the infant]	3.96	1.31	Very Good
[Inserting the areola into the mouth of the infant]	3.96	1.48	Very Good
[Breastfeeding using the same breast for at least 15-20 minutes]	4.13	1.32	Very Good
[Establishing eye contact with the baby during breastfeeding]	4.57	0.88	Excellent
[Correct position while breastfeeding]	4.69	0.75	Excellent
[Employing correct ways to prevent abdominal colic]	4.34	1.19	Excellent
Practices Mean	4.37	0.63	Excellent

Table 14: Mean scores and interpretation of young mothers demonstrated breastfeeding practices

The study further examined the frequency of the 70 young adult mothers carrying out recommended breastfeeding practices. For practices washing hands and maintaining correct positioning, over 75% of mothers reported always engaging in them. Establishing eye contact and cleansing nipples were always performed by a majority of 72.86% and 74.29%, respectively. Over half the mothers always stimulated suckling reflexes, inserted areolas properly, and breastfed for 15-20 minutes on each breast. Meanwhile, preventing abdominal colic and maintaining the same breast were always done by 71.43% and 60%, respectively. Few mothers reported never engaging in practices, with rates ranging from 0 to 12.86%. Most others sometimes, frequently, or rarely carry them out. The other socio-economic and health service uptake factors did not clearly impact differences in their demonstrated knowledge.

Statement		Never	Rarely	Sometimes	Frequently	Always
[Washing hands]	Frequency	0	2	3	9	56
	Percent	0.00	2.86	4.29	12.86	80.00
[Cleansing the nipples]	Frequency	0	4	3	11	52
	Percent	0.00	5.71	4.29	15.71	74.29
[Stimulating the suckling reflex of the infant]	Frequency	6	5	10	14	35
	Percent	8.57	7.14	14.29	20.00	50.00
[Inserting the areola into the mouth of the infant]	Frequency	9	6	5	9	41
	Percent	12.86	8.57	7.14	12.86	58.57
[Breastfeeding using the same breast for at least 15-20 minutes]	Frequency	6	5	5	12	42
	Percent	8.57	7.14	7.14	17.14	60.00
[Establishing eye contact with the baby during breastfeeding]	Frequency	2	1	3	13	51
	Percent	2.86	1.43	4.29	18.57	72.86
[Correct position while breastfeeding]	Frequency	1	1	3	9	56
	Percent	1.43	1.43	4.29	12.86	80.00
[Employing correct ways to prevent abdominal colic]	Frequency	3	6	5	6	50
	Percent	4.29	8.57	7.14	8.57	71.43

Table 15: Frequency of recommended breastfeeding practices among young mothers

Demographic Profiles on Expressed Breastfeeding Knowledge

Table 16 evaluated several socio-demographic variables; only educational attainment and desire for pregnancy were found to have a significant difference in knowledge levels, with p-values of 0.033 and 0.048, respectively. Meanwhile, age, employment status, parity status, miscarriage experience, type of delivery, receiving antenatal care, receiving breastfeeding information during antenatal care visits, and initiating breastfeeding within 30 minutes of delivery did not significantly influence breastfeeding knowledge, as their p-values ranged from 0.063 to 0.750. This indicates that among the grouping variables considered, only

educational background and desire for pregnancy bore notable correlations to variations in breastfeeding insights of the young adult mothers.

Grouping Variable	p-value	Qualitative Interpretation
Age	.109	<i>No Significant Difference</i>
Educational Attainment	.033	<i>Significant Difference</i>
Employment Status	.464	<i>No Significant Difference</i>
Parity Status	.063	<i>No Significant Difference</i>
Miscarriage Experience	.185	<i>No Significant Difference</i>
Type of Delivery	.630	<i>No Significant Difference</i>
Desire for Pregnancy	.048	<i>Significant Difference</i>
Received Antenatal Care	.216	<i>No Significant Difference</i>
Received Info on Breastfeeding from Health Professionals During Antenatal Care	.110	<i>No Significant Difference</i>
Initiated Breastfeeding Within the First 30 Minutes After Delivery	.750	<i>No Significant Difference</i>

Table 16: Comparison of breastfeeding knowledge among young mothers based on socio-demographic profile

Demographic Profiles on Expressed Breastfeeding Practices

Table 17 examines the relationship between various demographic and breastfeeding factors and mothers' breastfeeding practices. Analysis found that employment status, parity status, miscarriage experience, and desire for pregnancy were significantly correlated with practices suggesting these factors influence breastfeeding behaviors. However, other factors showed no significant differences, including age, education level, delivery method, and antenatal care at .320, information received from healthcare providers during antenatal care, and breastfeeding initiation within 30 minutes of birth. This implies that these demographic characteristics do not meaningfully impact practices.

Grouping Variable	p-value	Qualitative Interpretation
Age	.010	<i>No Significant Difference</i>
Educational Attainment	.053	<i>No Significant Difference</i>
Employment Status	.013	<i>Significant Difference</i>
Parity Status	.010	<i>Significant Difference</i>
Miscarriage Experience	.006	<i>Significant Difference</i>
Type of Delivery	.807	<i>No Significant Difference</i>
Desire for Pregnancy	.006	<i>Significant Difference</i>
Received Antenatal Care	.320	<i>No Significant Difference</i>
Received Info on Breastfeeding from Health Professionals During Antenatal Care	.934	<i>No Significant Difference</i>
Initiated Breastfeeding Within the First 30 Minutes After Delivery	.447	<i>No Significant Difference</i>

Table 17: Comparison of breastfeeding practices among young mothers based on socio-demographic profile.

Relationship between Maternal Understanding and Demonstrated Behaviors

Lastly, a statistical correlation analysis was conducted between the two variables. The analysis yielded an r-value of 0.401, which was significant at the 0.01 level. Based on the r-value obtained, it can be inferred that there is a moderately positive correlation between breastfeeding knowledge and practices among young adult mothers. Specifically, higher levels of knowledge are generally associated with better breastfeeding practices. The moderate correlation signifies that while breastfeeding knowledge influences practices to some extent, other factors may also impact the way mothers implement their breastfeeding-related insights.

Variable 1	Variable 2	r-value	Verbal Interpretation
Knowledge on Breastfeeding	Breastfeeding Practices	.401**	<i>Significant Moderate Positive Correlation</i>

Table 18: Correlation between breastfeeding knowledge and practices among young mothers

Discussion

The UP-Population Institute (2021) indicates that more than 386,000 (6.8%) of Filipino girls between the ages of 15 and 19, have begun childbearing; two of the study's age groups are 18 and 19 which is part of the study demographic bracket. There has been a significant rise in the number of young adult mothers, which implies that the number of young adult women who breastfeed has also increased. This is concerning given their lack of knowledge with breastfeeding. Table 1 shows that forty percent of the research's respondents are in their mid-twenties, which supports the findings of a study by Del Carmen Suárez-Cotelo et al. (2019) that found older women scored higher on the knowledge questionnaire about breastfeeding. Similar findings were also discovered in a study by Ayesha et al. (2021), which claims that young adult mothers' average breastfeeding duration was lower than that of older mothers' due to lack of experience or knowledge.

According to Bertin, Perugi, Dani, et al.'s (2003) study, education leads to a better understanding of the relationship between breastfeeding and its duration. A variety of factors, including maternal education, are likely to influence breastfeeding patterns. Based on the data acquired, 42 (60.0%) of respondents completed basic education, as shown in Table 2. This finding emphasizes the significance of the mother's education as an important factor in influencing their breastfeeding knowledge and practices.

As for Table 3, a study conducted by Khaliq et al. (2017) claims that there is a significant difference between breastfeeding knowledge and practices among employed and unemployed mothers. The majority of the study's respondents are unemployed, which supports the finding that employment status is related to breastfeeding knowledge.

On the other hand, the breastfeeding practices results are justified by the studies of Khaliq et al. (2017) and Setegn et al. (2012).

Concurrently, the results of the study on the parity status of young adult mothers, including 35.7% first-time mothers, are consistent with the results of Benova et al. (2020), who agreed that 95.7% of children born to mothers who were 18 years old at the time of birth were more likely to continue breastfeeding after one year. The parity distribution in the study, with 41.4% having a second child, correlates with the figures reported by the same study, who established constant breastfeeding rates up to the second year of life. It emphasizes maternal age that correlates with parity status influences on breastfeeding outcomes and the complexity of young adult mothers' practices.

The study by Cuenca D. (2022) emphasizes the psychological impact of pregnancy loss, including miscarriage—emphasizing that people often suffer from worry, stress, and symptoms of depression after such experiences. According to the study by Lau C. (2001), lactational insufficiency is usually associated with stress, which includes variables such as premature birth, medical problems in the baby, and the mother's lifestyle. Regarding the results of the study on young adult mothers' miscarriage experiences, based on Table 5, the finding that 8 (11.4%) of respondents experienced a miscarriage is consistent with the larger literature on the psychological issues associated with pregnancy loss. Understanding the incidence of miscarriage in research participants increases awareness of potential emotional and physiological aspects that may impact care and provides useful information for managing lactation-related issues in this specific population.

The results of the study show that 84.3% of young women surveyed in Tondo, Manila, underwent vaginal birth and 15.7% chose cesarean section, which is consistent with previous studies showing a negative association between cesarean section and breastfeeding practices. Similar relationships were reported by Karlström et al. (2013). (Kitsantas & Palla, 2017), Chen et al. (2018), and Tracz et al. (2021), suggesting that cesarean delivery may hinder the initiation and maintenance of exclusive breastfeeding (EBF). The findings of Tracz et al. (2021) on the lower likelihood of inducing and maintaining EBF during cesarean delivery provide further insight. The prevalence of different modes of delivery among new mothers in Tondo stimulates reflection on potential challenges they may face in initiating and continuing breastfeeding and provides valuable insights for tailored support and interventions by healthcare providers and community policymakers.

In the study by Institute of Medicine (1995) in which it is stated that the intendedness of pregnancy itself is related to a variety of outcomes for both the child (such as birthweight and cognitive development) and parents (such as educational achievement) in which has great effect with breastfeeding. A number of investigators have studied whether children born as a result of unintended pregnancies (both mistimed and unwanted) are at greater risk of various poor outcomes, such as low birthweight, than are children born as a result of intended pregnancies. An evaluation on Gen Z postpartum mothers' breastfeeding knowledge and practices in Tondo, Manila found that 51.4% reported consciously planned pregnancies, while 48.6% reported unexpected births. This contrasts previous literature that unintended pregnancies can influence breastfeeding and developmental outcomes.

In Table 8, the study's emphasis on the positive impact of prenatal care on breastfeeding behavior is consistent with the results of work with young women in Tondo, Manila. While the study points to a possible gap in the availability of prenatal care, it also shows that a significant majority of 45 (64.3%) received prenatal care. This link highlights the importance of prenatal care in influencing breastfeeding behavior and maternal understanding. According to Gebeyehu et al. (2023), prenatal care is an important platform for women to obtain information from health professionals to influence their understanding of breastfeeding and proper practices. Recognizing disparities in access to prenatal care among young adult mothers in Tondo is critical for health professionals and policymakers to address disparities, adapt interventions, and improve overall maternal and child health outcomes in the community.

As shown, 22 (31.4%) of young adult mothers lack information about prenatal breastfeeding from health professionals during antenatal care, which is consistent with research emphasizing the association between low education and breastfeeding difficulties. As reported by Yilak et al. (2020) and Kehinde et al. (2023), comprehensive prenatal education is crucial for effective breastfeeding. Laksono et al. (2019) found urban-rural inequalities in Indonesia and showed that more exclusive breastfeeding (EBF) occurs in urban regions due to increased knowledge. Overall, these results highlight the importance of increasing prenatal breastfeeding guidance from health care providers to promote maternal and newborn well-being.

It is revealed that 90.0% of mothers started breastfeeding within the first 30 minutes after birth, which is consistent with the results of the study by Seid (2014). The large number of mothers in the study who started breastfeeding early suggests a positive trend in breastfeeding habits. According to Seid's research, prior knowledge about breastfeeding has a major impact on proper breastfeeding practices, with mothers who have such information being much more likely to breastfeed healthily. The connection between the findings of this research and Seid's highlights the importance of breastfeeding education in supporting good health behaviors for mother and child in the critical early postpartum period.

Sultana et al. (2022) found that while 397 Bangladeshi mothers had favorable knowledge of exclusive breastfeeding (EBF) benefits, only 62% exclusively breastfed, below WHO recommendations. This aligns with findings in Manila, Philippines where over half of mothers had "Proficient" breastfeeding knowledge, as shown in Table 11, but exclusive practices did not fully meet WHO guidelines. Both studies showed knowledge of recommendations did not necessarily translate to optimal exclusive breastfeeding behavior for 6 months as recommended. Consistent results across geographic locations suggest improving rates requires addressing barriers beyond knowledge by enhancing support for nursing mothers to help knowledge translate to WHO-aligned exclusive breastfeeding practices. In the Bertino et al. (2012) study, the mean IIFAS (Iowa Infant Feeding Attitude Scale) score among Italian mothers (67.16 ± 6.91) is higher than in other studies, owing to mothers' improved knowledge of nursing. When utilizing the IIFAS, keep in mind that the survey's findings may indicate the cognitive component of one's mindset or mother's breastfeeding knowledge as opposed to the nursing attitude itself. The survey included information about mother socio-demographic, biomedical, and hospital-related variables, as well as concerns regarding parental support and maternal mental state, including present breastfeeding knowledge. To study the kind of breastfeeding used, mothers were questioned by phone at 1, 3, 6, and 12 months postpartum, utilizing the twenty-four hours recall approach and WHO standards.

Several pieces of literature support important findings from the study, as indicated in Table 12. Colostrum must be given to infants because it provides crucial immunity, growth factors, and disease protection that antibodies cannot replicate (Kebede et al., 2023; Abie & Goshu, 2019). Demonstrating the respondents' understanding of colostrum's unique and irreplaceable health benefits for newborns. Exclusive breastfeeding for six months is optimal, as breastmilk uniquely provides balanced nutrition and anti-inflammatory properties, promoting infant and maternal health, as stated by Hossain et al. (2018). The positive correlation between frequency of breastfeeding and milk production is well-established, as suckling triggers the release of hormones regulating supply, according to studies (Natalia et al., 2022; Faulkner, 2019). This finding informs the respondents' recognition that frequent breastfeeding supports adequate milk production. Continuing breastfeeding until two years is recommended due to cognitive, socioemotional, and health benefits for children and mothers (Doma et al., 2021; Islam et al., 2018). Early introduction of fluids and water before breastmilk can negatively impact breastfeeding duration and the infant's nutrition, immunity, and health (Suzan et al., 2023). The findings from this present study are consistent with the previous literature. Their awareness reflects empirical evidence that EBF confers evidence-based recommendations for optimal infant health outcomes.

The present study revealed "Excellent" breastfeeding practice, indicated in Table 13, attributed to online education or support access and programs emphasizing advantages and community support. This interpretation differs from that of Randhawa et al. (2019) who found Indian women's knowledge unchanged despite advances with low early breastfeeding and supplementation rates. Similarly, Bhandari et al. (2019), found breastfeeding universally practiced by Indian mothers, but EBF was lower and stopped earlier due to lack of time from employment as the most prevalent reason for not exclusively nursing and initiating supplemental foods early. This contrasts with the current study conducted in Tondo, which revealed high levels of knowledge and excellent caregiving practices. Both the current study and previous literature highlight the need to promote conservative practices by informing women and creating supportive work environments to encourage exclusive and longer-term breastfeeding.

The high rate of proper handwashing observed in the current study corroborates with Nguyen et al.'s (2021) finding that promoting hand hygiene can reduce diarrhea transmission during close contact. This finding is consistent with that of Greenland et al. (2013), who observed that handwashing occurred only after obvious soiling rather than consistently, as some pregnant women in the same study also reported disturbed usual hygiene habits and lowered handwashing frequency during pregnancy. Several other studies showed dismally low compliance with proper breastfeeding positioning: 45.2% in Vadodara, India, and 25.8% in Areka, Ethiopia (Davra et al., 2022; Degefa et al., 2019). This was attributed to a lack of knowledge, a misunderstanding of roles, or a lack of community support, as highlighted by Samaniego et al. (2022). The current study noted that 80% employed proper positioning, indicating a commitment to safety. This high rate may be attributed to unemployed respondents having time for demonstrations through home visits. Additionally, over half practicing breast cleaning reflects attention to hygiene, though further efforts can increase this practice in line with Costa (1989), who found it significantly reduces bacteria over washing alone. Emphasizing eye contact's developmental role from birth (Jacobzon et al., 2022), this aligns with 72.86% of participants acknowledging its importance. Managing colic, which affects 20% of newborns Daelamans S. et al. (2018), with recommended strategies as 71.43% highlighted responsiveness to infant needs as shown in Tables 14 and 15.

Ekambaram et al. (2010) and Jasny et al. (2019) both reported that mothers aged 31-35 demonstrated the highest breastfeeding knowledge scores, showing older mothers knew more about benefits. Similarly, Habibi et al. (2018) and Kang et al. (2015) found educational level was positively correlated with breastfeeding knowledge, with better educated mothers more likely to engage in and continue breastfeeding. However, the present study found no significant differences in breastfeeding knowledge based on age or employment status, possibly because the majority of the respondents were aged 24-26 and most were unemployed, both groups exhibiting sufficient knowledge (Karanci & Yenil, 2014; Khaliq et al., 2017). While some studies report links between breastfeeding and miscarriage risk, the current literature is limited and inconclusive due to limitations such as small sample sizes and an inability to control for changes in breastfeeding duration and intensity (Molitoris, 2019; Nikolaidou et al., 2022; Salvetti et al., 2021).

As shown in Table 17, the study found that age showed no significant difference in breastfeeding knowledge, contrary to prior studies that found lower knowledge in younger mothers (Jones et al., 2011; Australian Institute of Health and Welfare, 2011). Level of educational attainment was positively related to knowledge, consistent with research showing variations by level of education (Laksono et al., 2021). The majority-initiated breastfeeding within 30 minutes, aligned with the literature emphasizing its importance for neonatal health (Patyal et al., 2021). However, nearly one-third lacked awareness of avoiding pump waste, indicating a need for improved education on practical breastfeeding skills. Employment status showed no difference, despite evidence that it impacts exclusive duration due to limited maternity leave (Karanci & Yenil, 2014; Setegn et al., 2012). Higher knowledge among unemployed mothers may potentially offset barriers faced by employed mothers. Most received antenatal care or breastfeeding information without disparity, though variations in the quality or content of the information provided could still influence knowledge attainment (Lima dos Santos S. et al., 2023; Wardani & Utomo, 2022). The impacts of miscarriage require explanation, as the literature examining this relationship is limited (Molitoris, 2019; Fertl et al., 2009).

Conclusion

The overall assessment of the respondent's breastfeeding knowledge is proficient, while the breastfeeding practices indicate an excellent result. Notably, Jones et al. (2011) established a correlation between maternal age and breastfeeding knowledge, revealing a tendency for younger mothers to be less inclined toward exclusive breastfeeding (EBF) compared to their older counterparts. The study highlights that age does not exhibit a discernible relationship between knowledge and practices, as respondents of various ages display sufficient knowledge. Conversely, educational attainment plays a role in breastfeeding knowledge but lacks a substantial impact on practices, given the consistent adherence to correct positions and hygiene practices. Meanwhile, employment status, while not affecting breastfeeding knowledge, significantly influences practices, with unemployed mothers dedicating more time to a consistent breastfeeding routine. Furthermore, while miscarriage does not directly influence knowledge, it has a substantial effect on breastfeeding practices, indicating that mothers who have experienced such loss have a heightened sensitivity for their infants' well-being. The type of delivery has no effect on either knowledge or practices. The intriguing alignment between a mother's desire for pregnancy and breastfeeding practices and knowledge emphasizes the necessity of considering socioeconomic, demographic, and cultural aspects in a thorough analysis of these connections. Familial support and involvement also have a great effect on developing a healthy breastfeeding practice. It is also important to consider the impact of mental health on developing breastfeeding practice.

Recommendations

The researchers strongly recommend a multi-sector strategy for breastfeeding promotion. Local government units should facilitate personalized discussions between mothers and healthcare professionals, emphasizing that programs or any initiatives conducted should be in the mothers' first language for better understanding. Local government officials must implement strategic ways to encourage Gen. Z mothers to attend antenatal checkups; providing breakfast or a well-planned program that offers prizes. For a sense of community, the officials can initiate and encourage the mother in joining peer groups for support and knowledge sharing. Furthermore, family members play an important role that extends beyond physical support; mothers require emotional aid as well, which contributes to Mythreduce stress and so improve breastfeeding outcomes. On a societal level, workplaces are recommended to hold seminars for both employers and their breastfeeding employees, educating them on balancing breastfeeding and work duties, as well as a flexible schedule that accommodates breastfeeding mothers. Thus, creating a supportive and inclusive environment. Moreover, while the type of delivery does not show a discernible effect, the intriguing alignment between a mother's desire for pregnancy and breastfeeding practices and knowledge emphasizes the need for a holistic approach. Healthcare professionals should consider socioeconomic, demographic, and cultural factors in designing comprehensive breastfeeding support programs to cater to the diverse needs and preferences of mothers. Additionally, curating a more effective filing and recording system within health centers will assure that Gen. Z mothers receive and attend to all their needs. Health care professionals should actively engage with expectant mothers for them to provide support and information, fostering a deeper understanding of the importance of exclusive breastfeeding. Globally, we have the responsibility to spread public awareness through media campaigns by debunking myths and misconceptions about breastfeeding and the foundational impact of advanced knowledge on the practice. Furthermore, using technology for disseminating breastfeeding information through online forums and social media platforms will be advantageous because these platforms are capable of reaching a large audience. Consider incorporating visually appealing graphics, infographics, and video content to enhance the effectiveness of these initiatives for people are visual learners and find it best learning through visual representation. Albeit recommendations scrape the very surface of depths of solution to the ongoing problems mothers,

particularly young adult mothers' experiences especially towards breastfeeding that affects their offspring. Yet, the researchers firmly advocates that through the initiation there is progress that will soon lead to gradual significant changes for women, children, and family.

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References

- A Walk in the Tondo Slums. (n.d.). Samaritan's Purse. <https://www.samaritanspurse.org/article/a-walk-in-the-tondo-slums/>
- Abie, B. M., & Goshu, Y. A. (2019). Early initiation of breastfeeding and colostrum feeding among mothers of children aged less than 24 months in Debre Tabor, northwest Ethiopia: a cross-sectional study. *BMC Research Notes*, 12(1). <https://doi.org/10.1186/s13104-019-4094-6>
- Australian Institute of Health and Welfare (2011). 2010 Australian National Infant Feeding Survey: indicator results. Canberra: AIHW.
- Ayesha, U., Mamun, A. S. M. A., Sayem, M. A., & Hossain, G. (2021). Factors associated with duration of breastfeeding in Bangladesh: evidence from Bangladesh demographic and health survey 2014. *BMC Public Health*, 21(1). <https://doi.org/10.1186/s12889-021-11804-7>
- Benova, L., Siddiqi, M., Abejirinde, I. O. O., & Badejo, O. (2020). Time trends and determinants of breastfeeding practices among adolescents and young women in Nigeria, 2003-2018. *BMJ global health*, 5(8), e002516
- Bertin G, Perugi S, Dani C, et al. Maternal education and the incidence and duration of breast feeding: a prospective study. *J Pediatr Gastroenterol Nutr*. 2003;37(4):447-452.
- Bertino, E., Varalda, A., Magnetti, F., Di Nicola, P., Cester, E., Occhi, L., Perathoner, C., Soldi, A., & Prandi, G. (2012). Is breastfeeding duration influenced by maternal attitude and knowledge? A longitudinal study during the first year of life. *Journal of Maternal-fetal & Neonatal Medicine*, 25(sup3), 32-36. <https://doi.org/10.3109/14767058.2012.712341>

Bhandari, M., Manandhar, P., & Tamrakar, D. (2019). Practice of Breastfeeding and its Barriers among Women Working in Tertiary Level Hospitals. *Journal of Nepal Medical Association*, 57(215). <https://doi.org/10.31729/jnma.4035>

Chen J, Xin T, Gaoshan J, Li Q, Zou K, Tan S, et al. (2018). The association between work related factors and breastfeeding practices among Chinese working mothers: a mixed-method approach. *Int Breastfeed J*. 2019;14(1):28.

Costa, K. M. (1989). A Comparison of Colony Counts of Breast Milk Using Two Methods of Breast Cleansing. *Journal of Obstetric, Gynecologic & Neonatal Nursing*, 18(3), 231-236. <https://doi.org/10.1111/j.1552-6909.1989.tb00484.x>

Cuenca, D. (2022). Pregnancy loss: Consequences for mental health <https://doi.org/10.3389/fgwh.2022.1032212>
Daelamans S. Peeters L. Hauser B. Vandenplas Y. (2018) Recent advances in understanding and managing infantile colic <https://doi.org/10.12688/2Ff1000research.14940.1>

Davra, K., Chavda, P., Pandya, C., Dave, D., & Mehta, K. (2022, May). Breastfeeding position and attachment practices among lactating mothers: An urban community-based cross-sectional study from Vadodara city in western India. *Clinical Epidemiology and Global Health*, 15, 101009. <https://doi.org/10.1016/j.cegh.2022.101009>

Degefa, N., Tariku, B., Bancha, T., Amana, G., Hajo, A., Kusse, Y., Zerihun, E., & Aschalew, Z. (2019, April 7). Breast Feeding Practice: Positioning and Attachment during Breast Feeding among Lactating Mothers Visiting Health Facility in Areka Town, Southern Ethiopia. *International Journal of Pediatrics*, 2019, 1-6. <https://doi.org/10.1155/2019/8969432>

Del Carmen Suárez-Cotelo, M., Movilla-Fernández, M., Pita-García, P., Arias, B. F., & Novio, S. (2019). Breastfeeding knowledge and relation to prevalence. *Revista Da Escola De Enfermagem Da Usp*, 53. <https://doi.org/10.1590/s1980-220x2018004503433>

Dietrich Leurer, M., & Misskey, E. (2015, October 23). The Psychosocial and Emotional Experience of Breastfeeding. *Global Qualitative Nursing Research*, 2, 233339361561165. <https://doi.org/10.1177/2333393615611654>

Doma, H., Tran, T., Tran, T., Hanieh, S., Tran, H., Nguyen, T. T., Biggs, B., & Fisher, J. (2021b). Continuing breastfeeding for at least two years after birth in rural Vietnam: prevalence and psychosocial characteristics. *International Breastfeeding Journal*, 16(1). <https://doi.org/10.1186/s13006-021-00427-8>

Ekambaram, M., B, V. B., & Ahamed, M. a. P. (2010). Knowledge, attitude and practice of breastfeeding among postnatal mothers. *Current Pediatric Research*, 14(2), 119–124. <https://www.alliedacademies.org/articles/knowledge-attitude-and-practice-of-breastfeeding-among-postnatal-mothers.pdf>

Faulkner, K. R. (2019). Modeling milk production in the lactation period and the effect of feeding frequency on milk production. University of British Columbia. <https://doi.org/10.14288/1.0380624>

Fertl, K. I., Bergner, A., Beyer, R., Klapp, B. F., & Rauchfuss, M. (2009, January). Levels and effects of different forms of anxiety during pregnancy after a prior miscarriage. *European Journal of Obstetrics & Gynecology and Reproductive Biology*, 142(1), 23-29. <https://doi.org/10.1016/j.ejogrb.2008.09.009>

Field, A. (2013, January 24). *Discovering Statistics Using IBM SPSS Statistics*. SAGE Publications Limited.

Gebeyehu, N. A., Tegegne, K. D., Shewangashaw, N. E., Biset, G., Abebaw, N., & Tilahun, L. (2023). Knowledge, attitude, practice, and determinants of exclusive breastfeeding among women in Ethiopia: Systematic review and meta-analysis. *Public Health in Practice*, 100373.

Govender, D., Naidoo, S., & Taylor, M. (2019, July 11). Knowledge, attitudes, and peer influences related to pregnancy, sexual and reproductive health among adolescents using maternal health services in Ugu, KwaZulu-Natal, South Africa. *BMC Public Health*, 19(1). <https://doi.org/10.1186/s12889-019-7242-y>

Greenland, K., Iradati, E., Ati, A., Maskoen, Y. Y., & Aunger, R. (2013, September 11). The context and practice of handwashing among new mothers in Serang, Indonesia: a formative research study. *BMC Public Health*, 13(1). <https://doi.org/10.1186/1471-2458-13-830>

Guyer, Julie & Millward, Lynne & Berger, Israel. (2012). Mothers' breastfeeding experiences and implications for professionals. *British Journal of Midwifery*. 20. 724-733. [10.12968/bjom.2012.20.10.724](https://doi.org/10.12968/bjom.2012.20.10.724).

Habibi, M., Laamri, F. Z., Ashayeri, H., Doukkali, L., Mrabet, M., & Barkat, A. (2018). The impact of maternal socio-demographic characteristics on breastfeeding knowledge and practices: An experience from Casablanca, Morocco. *International Journal of Pediatrics and Adolescent Medicine*, 5(2), 39-48. <https://doi.org/10.1016/j.ijpam.2018.01.003>

Hossain, M., Islam, A., Kamarul, T., & Hossain, G. (2018). Exclusive breastfeeding practice during first six months of an infant's life in Bangladesh: a country based cross-sectional study. *BMC Pediatrics*, 18(1). <https://doi.org/10.1186/s12887-018-1076-0>
 Institute of Medicine (US) Committee on Unintended Pregnancy, Brown, S. S., & Eisenberg, L. (Eds.). (1995). *The Best Intentions: Unintended Pregnancy and the Well-Being of Children and Families*. National Academies Press (US).

Islam, G. M. R., Igarashi, I., & Kawabuchi, K. (2018). Inequality and mother's age as determinants of breastfeeding continuation in Bangladesh. *Tohoku Journal of Experimental Medicine*, 246(1), 15-25. <https://doi.org/10.1620/tjem.246.15>

Jacobzon, A., Engström, Å., Lindberg, B. et al. Mothers' strategies for creating positive breastfeeding experiences: a critical incident study from Northern Sweden. *Int Breastfeed J* 17, 35 (2022)

Jarde, A., Losilla, J., & Vives, J. (2012). Methodological quality assessment tools of non-experimental studies: a systematic review. *Anales De Psicología*, 28(2), 617-628. <https://doi.org/10.6018/analesps.28.2.148911>

Jasny, E., Amor, H., & Baali, A. (2019). Mothers' knowledge and intentions of breastfeeding in Marrakech, Morocco. *Archives De Pédiatrie*, 26(5), 285-289. <https://doi.org/10.1016/j.arcped.2019.05.007>

Jones, J. R., Kogan, M. D., Singh, G. K., Dee, D. L., & Grummer-Strawn, L. M. (2011, December 1). Factors Associated With Exclusive Breastfeeding in the United States. *Pediatrics*, 128(6), 1117-1125. <https://doi.org/10.1542/peds.2011-0841>

K Wambach, B Spencer (2019) Breastfeeding and human lactation

Kang, N. M., Choi, Y. J., Hyun, T., & Lee, J. E. (2015). Associations of Breastfeeding Knowledge, Attitude and Interest with Breastfeeding Duration: A Cross-sectional Web-based Study. *Journal of Korean Academy of Nursing*, 45(3), 449. <https://doi.org/10.4040/jkan.2015.45.3.449>

Karanci, G., & Yenil, K. (2014). Breastfeeding Knowledge among Working Pregnant Women in Turkey. *Workplace Health & Safety*, 62(4), 143-148. <https://doi.org/10.1177/216507991406200403>

Karlström, A., Lindgren, H., & Hildingsson, I. (2013, January 15). Maternal and infant outcome after caesarean section without recorded medical indication: findings from a Swedish case-control study. *BJOG: An International Journal of Obstetrics & Gynaecology*, 120(4), 479-486. <https://doi.org/10.1111/1471-0528.12129>

Kebede, N., Alemu, G., & Cherie, N. (2023). Colostrum feeding practice and its associated factors among postnatal mothers who attend at health facility, Ethiopia. *Journal of Neonatal Nursing*, 29(6), 875-880. <https://doi.org/10.1016/j.jnn.2023.03.006>

Kehinde, J., O'donnell, C., & Grealish, A. (2023). The effectiveness of prenatal breastfeeding education on breastfeeding uptake postpartum: A systematic review. *Midwifery*, 118, 103579.

Khaliq, A., Qamar, M., Hussaini, S. A., Azam, K., Zehra, N., Hussain, M., & Jaliawala, H. A. (2017). Assessment of knowledge and practices about breastfeeding and weaning among working and non-working mothers. *J Pak Med Assoc*, 67(3), 332-8.

Kok, Gulsah & Konukbay, Dilek & Simsek, Sedanur & Ferda, Saadet & Karadag, Marmara & Mah, & Sok, & Beylikduzu, & Ogretim, Doktor. (2023). Determination of Knowledge and Correct Breastfeeding Practices of Mothers in Early Postpartum Period. 3-1784.

Laksono, A. D., Wulandari, R. D., & Soedirham, O. (2019). Urban and rural disparities in hospital utilization among Indonesian adults. *Iranian Journal of Public Health*, 48(2), 247.

Laksono, A. D., Wulandari, R. D., Ibad, M., & Kusriani, I. (2021). The effects of mother's education on achieving exclusive breastfeeding in Indonesia. *BMC Public Health*, 21(1), 1-6.

Lau, C. (2001, February). Effects of Stress on Lactation. *Pediatric Clinics of North America*, 48(1), 221-234. [https://doi.org/10.1016/s0031-3955\(05\)70296-0](https://doi.org/10.1016/s0031-3955(05)70296-0)

Lima dos Santos, S. P., Azulay Chertok, I., & Haile, Z. T. (2023). Influence of the Quality of Antenatal Care on Early Breastfeeding Initiation and Exclusive Breastfeeding Among Haitian Women. *Journal of Obstetric, Gynecologic & Neonatal Nursing*, 52(4), 296-308. <https://doi.org/10.1016/j.jogn.2023.03.005>

Mangeli, M., Rayyani, M., Cheraghi, M. A., & Tirgari, B. (2017). Exploring the Challenges of Adolescent Mothers from Their Life Experiences in the Transition to Motherhood: A Qualitative Study. *Journal of family & reproductive health*, 11(3), 165-173.

McKight, P. E., & Najab, J. (2010, January 30). Kruskal-Wallis Test. *The Corsini Encyclopedia of Psychology*, 1-1. <https://doi.org/10.1002/9780470479216.corpsy0491>

Molitoris, J. (2019). Breast-feeding during pregnancy and the risk of miscarriage. *Perspectives on Sexual and Reproductive Health*, 51(3), 153–163. <https://doi.org/10.1363/psrh.12120>

Natalia, R., Rustina, Y., & Efendi, D. (2022, October). Combining breastfeeding education and support to improve breastmilk production, frequency of breastmilk expression, and partial breastfeeding in low-birth-weight infants. *Journal of Neonatal Nursing*, 28(5), 356-360. <https://doi.org/10.1016/j.jnn.2021.08.015>

Nguyen, T. Y. C., Fagbayigbo, B. O., Cissé, G., Redi, N., Fuhriemann, S., Okedi, J., Schindler, C., Rössli, M., Armitage, N. P., Carden, K., & Dalvie, M. A. (2021, June 4). Diarrhoea among Children Aged under Five Years and Risk Factors in Informal Settlements: A Cross-Sectional Study in Cape Town, South Africa. *International Journal of Environmental Research and Public Health*, 18(11), 6043. <https://doi.org/10.3390/ijerph18116043>

Nikolaidou, E., Antoniou, E., Sarella, A., Iliadou, M., Orovou, E., & Dagla, M. (2022, June 28). The Effect of Type of Delivery on Female Postpartum Sexual Functioning: A Systematic Review. *Healthcare*, 10(7), 1212. <https://doi.org/10.3390/healthcare10071212>

Pace, L. (2012). One-Way Analysis of Variance. *Beginning R*, 139-147. https://doi.org/10.1007/978-1-4302-4555-1_10
 Patyal, N., Sheoran, P., Sarin, J., Singh, J., Jesika, K., Kumar, J., Banyal, K., Chauhan, K., Tanwar, K., Siani, K., & Kaur, K. (2021, June 23). A Quality Improvement Initiative: Improving First-hour Breastfeeding Initiation Rate among Healthy Newborns. *Pediatric Quality & Safety*, 6(4), e433. <https://doi.org/10.1097/pq9.0000000000000433>

PH sees dramatic decline in teen childbearing. (2022, October 13). UP Population Institute. <https://www.uppi.upd.edu.ph/news/2022/PH-sees-dramatic-decline-in-teen-childbearing>

Randhawa, A., Balgir, R., Chaudhary, N., Gill, B., Singh, A., & Garg, V. (2019). A population-based cross-sectional study to determine the practices of breastfeeding among the lactating mothers of Patiala city. *Journal of Family Medicine and Primary Care*, 8(10), 3207. https://doi.org/10.4103/jfmpe.jfmpe_549_19

Salveti, M. D. G., Lauretti, L. G., Muniz, R. C., Dias, T. Y. S. F., Oliveira, A. A. D. G. D., & Gouveia, L. M. R. (2021). Characteristics of pregnant women at risk and relationship with type of delivery and complications. *Revista Brasileira De Enfermagem*, 74(4). <https://doi.org/10.1590/0034-7167-2020-0319>

Samaniego, J. A. R., Maramag, C. C., Castro, M. C., Zambrano, P., Nguyen, T. T., Datu-Sanguyo, J., Cashin, J., Mathisen, R., & Weissman, A. (2022, September 1). Implementation and Effectiveness of Policies Adopted to Enable Breastfeeding in the Philippines Are Limited by Structural and Individual Barriers. *International Journal of Environmental Research and Public Health*, 19(17), 10938. <https://doi.org/10.3390/ijerph191710938>

Seid, A. M. (2014). Vaginal Delivery and Maternal Knowledge on Correct Breastfeeding Initiation Time as Predictors of Early Breastfeeding Initiation: Lesson from a Community-Based Cross-Sectional Study. *ISRN Epidemiology (Online)*, 2014, 1-6. <https://doi.org/10.1155/2014/904609>

Setegn, T., Belachew, T., Gerbaba, M., Deribe, K., Deribew, A., & Biadgilign, S. (2012). Factors associated with exclusive breastfeeding practices among mothers in Goba district, south east Ethiopia: a cross-sectional study. *International Breastfeeding Journal*, 7(1). <https://doi.org/10.1186/1746-4358-7-17>

Sharma, G. (2017). Pros and cons of different sampling techniques. *International Journal of Applied Research*, 3(7), 749-752. <https://www.allresearchjournal.com/archives/2017/vol3issue7/PartK/3-7-69-542.pdf>

Sultana, M., Dhar, S., Hasan, T., Shill, L. C., Purba, N. H., Chowdhury, A. I., & Shuvo, S. D. (2022, October). Knowledge, attitudes, and predictors of exclusive breastfeeding practice among lactating mothers in Noakhali, Bangladesh. *Heliyon*, 8(10), e1 1069. <https://doi.org/10.1016/j.heliyon.2022.e11069>

Suzan, Z. K., Kaya, O., Kolukısa, T., Koyuncu, O., Tecik, S., & Cinar, N. (2023, June 30). Water consumption in 0- 6-month-old healthy infants and effective factors: A systematic review. *Biomédica*, 43(2), 181-199. <https://doi.org/10.7705/biomedica.6745>

Tracz, J., Gajewska, D., & Myszkowska-Ryciak, J. (2021, October 19). The Association between the Type of Delivery and Factors Associated with Exclusive Breastfeeding Practice among Polish Women-A Cross-Sectional Study. *International Journal of Environmental Research and Public Health*, 18(20), 10987. <https://doi.org/10.3390/ijerph182010987>

Vijayalakshmi, P., Susheela, T., & Mythili, D. (2015). Knowledge, attitudes, and breast feeding practices of postnatal mothers: A cross sectional survey. *International journal of health sciences*, 9(4), 364-374.

Wardani, A., F., and Utomo, A., I. (2022) Meta-analysis: Relationship between Antenatal Care Visits and Exclusive Breastfeeding. *Journal of Health Promotion and Behavior*, 7(1), 9-17. 10.26911/thejhp.2022.07.01.02

Yilak, G., Gebretsadik, W., Tadesse, H., Debalkie, M., & Bante, A. (2020). Prevalence of ineffective breastfeeding technique and associated factors among lactating mothers attending public health facilities of South Ari district, Southern Ethiopia. *PloS one*, 15(2), e0228863.