

KNOWLEDGE, ATTITUDE AND PRACTICE OF MOTHERS REGARDING DURATION AND BENEFITS OF BREASTFEEDING IN RURAL AREAS OF LAHORE

Asifa Naseem^{*1}, Iram Shahzadi², Nazia Mubarak³, Tashveeq ul Firdous⁴, Sadia Ashraf⁵

^{*1}Post RN, Nursing Officer, Sir Gangaram Hospital Lahore, Pakistan

²Post RN, Nursing Manager, General Hospital Lahore, Pakistan

^{3,4}Post RN, Nursing Officer, General Hospital Lahore, Pakistan

⁵MSN, Assistant Nursing Instructor (ANI), Ittefaq College of Nursing Lahore, Pakistan

^{*1}asifazubair2023@gmail.com

DOI: <https://doi.org/10.5281/zenodo.18707340>

Keywords

Knowledge, Attitude, Practice, Mothers, Exclusive Breast Feeding.

Article History

Received: 15 December 2025

Accepted: 30 January 2026

Published: 20 February 2026

Copyright @Author

Corresponding Author: *

Asifa Naseem

Abstract

Background:

This study was conducted to determine breastfeeding behaviors of rural lactating mothers and the determinants of some of the important indicators of rural breastfeeding behaviors in Lahore, Pakistan.

Materials and Methods:

This study was done using a structured questionnaire. A total of 200 mothers who had babies of up to 1 year old were used as a sample. They were described by means of frequency and %age with the help of descriptive statistics. It was a cross-sectional and descriptive study.

Results:

The results indicated that 70% of wife's and 40% of husbands of the mothers were illiterate, 60% meant that the household had a per capita income of above 400 rupees per month and also 65% indicated that the family was nuclear. The findings established that the rural differences affected breastfeeding practices, whereas the age of the mother, family type, literacy levels, family income, parity and severity did not have a significant impact on diet practices and beliefs. The prevalence of exclusive breastfeeding was 40.8%, and majority of the women began breastfeeding on first day. 98.6% reported that motivation of breastfeeding was inspired by their professional and marital life.

Conclusion:

There should be a revision of breastfeeding habits whereby, the number of infants exposed to diseases is minimized. Rural Lahore should be underserved in terms of awareness campaign where appropriate information is provided to determine the advantages of breastfeeding and effects of non-breastfeeding.

1. INTRODUCTION

1.1 Background of the study:

Breastfeeding is one of the most significant ones, which has been practiced centuries (Prentice, 2022). Breast milk, is a secure, wholesome, and low-priced milk that is readily accessible to the infant at the appropriate temperature and

containing optimal nutrition (Yahyaa et al., 2021).

According to the opinions of the World Health Organization (WHO), the initial six months of life should be devoted to exclusive breastfeeding (Organization, 2023). The breast milk feeding is a crucial practice in enhancing the wellbeing of the infant, avoiding infections hence lowering

the mortality rates in the infants (Lokossou et al., 2022). The absence of breastfeeding till half an hour post birth, absence of colostrum and powdered milk are constructive elements of contracting preventable diseases that end up causing the death of the infants (Chowdhury et al., 2021). Although the advantages of breastfeeding to both mother and child are acknowledged, the tendency to good practice of breast feeding is decreasing (Modak et al., 2023). International infant breastfeeding rate of children under six months of age is below 40% (North et al., 2022). This is likely to have slowed in the rural settings of Lahore, because of the western influences, urbanization and the rising and more accessible commercial substitutes (Nasar-u-Minallah et al., 2021).

This research had been done to assess the knowledge, attitude and performance of lactating women in Pakistani village of Lahore. The target population of the research was to examine maternal knowledge, attitude, and performance on the period and benefits of breastfeeding in the Lahore villages. Nonetheless, the infant feeding behaviors-based studies reveal that breastfeeding among the population across the world is rare due to breast milk being combined with water, other milk, fruit juices, tea, and other foods at the infancy stage of a child (Asghar et al., 2022). Breastfeeding refers to feeding the babies with breast milk only and no other food including water during the initial six months of baby life (Najahah, 2023). Various factors related to health, psychological, cultural, political and economic factors among others interrelate with breastfeeding behavior (initiation and duration) and determine the behavior (Abegunde et al., 2021). The studies indicate that education, occupation, place of birth, family pressure and cultural values determine the types of these methods used in low-income countries (Lauritano et al., 2021). Other than the increment of breastfeeding initiation in the rural Lahore, the duration and practice of breastfeeding is dismal particularly among ladies' health care providing church and others (Arif et al., 2021).

Professionally initiated breastfeeding can be used to curb malnutrition and deaths in children below the age of five years in the rural area of Lahore (Ahmed et al., 2022). It is highly

significant that at the early stages of the child development, the entire aspects of the child evolve physically, psychologically as well as socially and that every part of the body receives adequate energy and nutrients (Pinto et al., 2023). It is vital to ensure that a child grows, develops and is well nourished by feeding it on a healthy mature and properly balanced diet in the first 2 years (Pinto et al., 2023). The early development of a baby and healthy childhood especially the first 2 years is a significant period to implement the best health enhancement (Jeong et al., 2021). The nutrients and energy found in the breast milk are not sufficient to support the nutritional requirement of a developing infant after 6 months (Sánchez et al., 2021). Nonetheless, despite a great number of efforts to investigate the nutritional habits and nutritional state of infants and young children, proper nutrition habits are not on the agenda of guidelines (Sotiraki et al., 2022). Thus, it is required to maintain proper and balanced nutrition and avoid malnutrition.

Exclusive breastfeeding (EBF) refers to the feeding where the infant is fed on breast milk which contains neither liquid nor solid, except liquid and the vitamin/mineral supplements (Kapran, 2023). To develop and grown healthy, babies are to be fed on breast milk only during the first six months. Thereafter, infants can be given healthy and appropriate complementary food in case they are breastfed during two years or more (Lutter et al., 2021). Breast milk contains everything a baby requires in nourishment and water and thus it is the best during the initial 6 months of growth and development. Owing to this, WHO advises that mothers should initiate early breastfeeding when breastfeeding is necessary, and should not use bottles, pacifiers or pacifiers to aid mothers to form and sustain breastfeeding (Organization, 2021).

Breast feeding is a gift, both to the mother and babies as one lancet series on breastfeeding recently estimates that optimum breastfeeding would save 20,000 maternal deaths in a year through breast cancer (Stordal, 2023). Breast feeding is perceived as a primitive human experience that has been believed to be a basic survival activity of the infant since ancient times (Brines & Billeaud, 2021). None of the mentioned benefits that breast fed babies have

upon non-breast-fed babies are new known facts but rather circumstantial evidence that includes the fact that besides benefits gained during the early stages of life it is also known to benefit children in adulthood by reducing the probability of diabetes, obesity, high blood pressure, cancers and numerous other ailments (Daniels et al., 2011). WHO recommends exclusively breast feeding (EBF) of 6 months of life after birth (Organization, 2001). It implies that only breast milk is to be provided, no other liquids and solids such as water are to be provided (Erick, 2018). Nevertheless, EBF permits the utilization of oral rehydration solution (ORS), drops or syrups of vitamins, minerals and medications (Mishuk, 2024). Once they cannot be satisfied with breast milk after half a year, infants may begin receiving a subtle and secure nutritionally sufficient complementary foods in addition to taking breast milk up to 2 years or longer (Organization, 2023).

At rural area of Lahore, the mean period of breastfeeding in this region has been indicate on the rise, but the rate of EBF and the initiation of breastfeeding is low as per a recent systematic review (Khatib et al., 2023). A report conducted in urban and rural areas within the southeast reported that only 35.9% and 10.0% of the women were practicing EBF, respectively (Muluneh, 2023). A different study also showed that 12 months down the road, none of the babies of the women belonging to urban elite was being breastfed as compared to 100% and 80.8% of babies of rural poor and urban poor, respectively (Quitizaca, 2021). Other researchers have cited ignorance, adverse socio-cultural beliefs and misconceptions in the community as negative determinant, to the breastfeeding behavior of mothers (Sosseh et al., 2023).

Past studies to gain insights on the breastfeeding habits in Lagos state has proven to lack proper practices in breastfeeding initiation as well as breastfeeding exclusivity habits, even though most have been done in rural settings without cross-regional and cross-group comparisons. The aim of this research was to compare the knowledge, attitude, and practice of breastfeeding in the communities in rural areas of Lahore, which is cosmopolitan and to establish the factors that relate to the knowledge,

attitude, and practice of breastfeeding. Child health knowledge and habits of mothers of under- fives are of high importance in order to have the usual targets of child survival intervention. The outcome will be helpful in the models of the program design to enhance breastfeeding knowledge and practice (Olufunlayo, 2023).

Colostrum is essential to infants as it contains protein, immunoglobulin (IgA), lactoferrin, white blood cells, vitamin A, zinc and its low-fat level (Polidori et al., 2022). They are significant to the infant during the initial days of his life. It is also a source of interferon-like substance which has high antiviral ability. EBF possesses numerous advantages to both the child and the mother. Passive immunity against infection, physical and mental development, emotional security and bonding with the mother are available on the side of the child (Modak et al., 2023). Breast milk is a dynamic and physiologically responsive process which modulates depending on environmental variations in relation to the needs of the baby especially when it is winter, fat is more in breast milk (Caba-Flores et al., 2022).

1.2 Problem Statement:

Mothers who breastfeed lack awareness and knowledge as to the correct feeding on breast milk, which has a harmful impact on the development of babies and children. Poor health of babies has been caused by poor knowledge of best breastfeeding practices coupled with mother with a negative attitude towards them (Gebeyehu et al., 2023). Moreover, hundreds of children are hospitalized in case of stomach infections, pneumonia, and other allergies, and infections. Infant mortality is predominantly caused by breastfeeding. In addition, the mothers do not know the advantages of breastfeeding and the hazards of bottle feeding (Fei et al., 2022). That is why, the attitude of rural mothers in Lahore to exclusive breast-feeding practices should be researched to avoid health issues in babies.

1.3 Significance of the Study:

This study will also give detailed information regarding nutrition of children who are infants and children in rural Lahore locations. The development and growth of children are

positively influenced by proper feeding that entails the use of breast milk (Sánchez et al., 2021). This research offers content and proper measures in relation to breastfeeding as a necessity in the maintenance of infants and children in terms of their health.

1.4 Research Questions:

RQ1. Awareness of community mothers regarding the length and advantages of breastfeeding?

RQ2. How do community mothers perceive the length of and advantages of breastfeeding?

RQ3. What are community mothers' practices on lengths of time and advantages of breastfeeding?

1.5 Research Objectives:

- The final objective of the research underway will be to gain the knowledge, attitude and practice of breastfeeding amongst Lahore rural folks.

2. LITERATURE REVIEW

Child mortality is a multidimensional indicator, which reveals the financial, public, environmental and health services situation in the country. In Pakistan, infant mortality rate ranks the 3rd in the world. In Pakistan, the problems related to infant mortality are literacy levels of mothers, birth order, birth spacing, child size at birth, and breast feeding. Healthy nutrition is a major requirement to the survival of children, their intellectual growth, and welfare (Pinto et al., 2023). During the first 1000 days of the life of a baby, bad nutrition of the baby may place him in a state of negativity throughout his life. Moreover, breastfeeding, and complementary foods are necessary among the children in every age below 2 years old (Herman et al., 2023). Moreover, the country regions of Lahore are not an exception in the list of cities in which bottle feeding is getting more and more popular and in which exclusive feeding is minimum. Based on the recommendations provided by the American Academy of Pediatrics, a child is expected to be fully breastfed during the first six months in life before transition to breastfeeding till the age.

Breast feeding will also ensure that the baby receives the best nutrition within the first 6 months of life. The overall promotion and

encouragement of breastfeeding in the world is in the policies in the health of the world at large yet the breastfeeding rates have been reducing (Souza et al., 2023). Mothers whose IIFAS score was greater than 65 could only breastfeed. Also, the rural women in Lahore are more accepting of the concept of breastfeeding and thus extend their breastfeeding. The shift towards bottle feeding is however, on the rise day after day. The marketing of formula/milk (SM) leads to breastfeeding poor and has negative health impacts on mothers and babies. Similarly, exclusive

In rural Lahore, infants exposed to breastfeeding have a reduced mortality rate, which is estimated to be 13% (Amjad et al., 2024). Infant mortality can be prevented best by exclusive breastfeeding. Proper nutrition habits will save 1.4 million young children aged below 5. In a rural-based Lahore-based survey, it was found that most lactating mothers (88.5) were already breastfeeding, only 27% of lactating mothers were exclusively breastfeeding and 36.9% were breastfeeding mothers (Majeed, Ahmed, Naeem, & Naz, 2020). were; One survey indicated that the initiation of breastfeeding during the first hour after birth was averagely low among lactating mothers, although the knowledge of initiation of breastfeeding at birth was less than the

In this study considering that the study was conducted in rural Lahore, awareness levels of mothers regarding the role of colostrum with babies were found ranging between 48.6 to 90% (Khalid et al., 2025). Supplementary feeding in infants in the age group of six to eight months is widespread in rural Lahore (60%). The age of the mother, the wealth of the family that the housewife is in, low economic status of other children and the mother, among other factors, influence exclusive breastfeeding more (Okafor et al., 2023). The second predictor of non-exclusive breastfeeding was the poor knowledge of mothers regarding feeding of the infant and young children.

Mansoor Ali (2017) has worked on another study in Pakistan. Breastfeeding behaviours of mothers reduce as the baby gains more age. The breastfeeding initiation rate ranges between 44 % and 70 % falling to 13 % at 6 months of age. Lahore rural regions exhibit the lowest level of breastfeeding as compared to the cities of the

rest of Pakistan (Zafar et al., 2025). It is known as the first 2 hours of the life of the baby as the critical phase. This is the most appropriate time to initiate breastfeeding but very low 29 % of babies are fed on breast milk at this period. The rate of exclusive breastfeeding on breast milk is 44 in other cities of the country whereas the rate of exclusive breastfeeding on the breast milk among Pakistani women is 37 and 37 among mothers with children that are under six months and at the mid-term, respectively. Almost a month. Due to the absence of breastfeeding, no safe programs can assist women to continue to breastfeed their babies (Pérez-Escamilla et al., 2023). This research was structured aiming at examining issues that the rural women were struggling with and the variations in knowledge, attitude and performance of mother over the length and advantages of breastfeeding and the knowledge and approaches to breastfeeding.

Breast Feeding- This is the act of feeding the child exclusively on breast milk till the first six months of life without any other food or liquid, even water, except the mineral supplements, vitamins, or medicine (Najahah, 2023). According to WHO and the United Nation Children Fund (UNICEF), breastfeeding is not to be initiated before the first hour of birth, but instead, exclusive breastfeeding throughout the initial six months of the child and the introduction of breastfeeding until at least the age of two years should also be promoted besides the supplementary foods. EBF can be a worthy solution to the health of the children and the mother to realize the morbidity and mortality of children low and help in the regulation of the healthcare cost in the society (Koricho et al., 2024). Secondly, EBF is not an exception, and it is one of the major strategies that can promote the most known and effective intervention to decrease early childhood mortality. Only the best practices in breastfeeding can prevent 1.4 million deaths among children under five annually in the entire world. Besides the benefit the breastfeeding creates in the mother-child relationship, there are many diseases and illnesses that are reduced by breastfeeding in childhood stages such as middle infections, pneumonia, sudden infant death syndrome, diabetes mellitus, malocclusion, or diarrhea. Also, breastfeeding would help with healthy brain, and also it is associated with higher score

in intelligence test among children and adolescents (Ottino González et al., 2025). Breastfeeding among the mothers has been known to lower the percentage of haemorrhages, postpartum depression, breast cancer, ovarian and endometrial cancer, and weight loss. This is a considerable alternative that may be employed during the planning of the family construction following the birth: lactation amenorrhea technique. The World Health Assembly (WHA) has set a global target to increase the rate of breast feeding of this age group in the country to improve EBF coverage among infants under 6 months of age to at least 50% by the year 2012-2025. The adherence to these recommendations in the world is not very good at all considering that only 38% of infants are exclusively breast fed within the first six months of life.

The high-income countries are the United States (19%), the United Kingdom (1%) and the Australian countries (15%) [12] and they have a shorter time of breastfeeding than the low-income countries and even the middle-income countries. However, in the low-income and middle-income nations, only 37% of children below six months of age are exclusively breastfeeding. The existing articles in the area of sub-Saharan Africa show that of the infants in the east African nations, only 53.5% are e-breast feeding in the 6 months which is rather low compared to the WHO goal of 90% (Koray et al., 2025).

More so, a study conducted in Tanzania showed that more than 91% of mothers received healthcare in the ante-natal stage. However, only 39% of the surveyed pregnant women and 25% of the mothers who gave birth to their children asserted that they received some counseling on the breast milk problem, and most of them even argued that the volume of the breast milk supplied by the mother is not adequate to sustain the child. That they were forced to apply herbal medicine because of cultural factors was one of the main factors that influenced the early mixed feeding as the mothers discovered that the child was thirsty. This was statistically examined in the WHO Global secondary consideration and reported that cultural beliefs, education and access to healthcare was a hindrance to breastfeeding in the low-income countries. Some of the most significant aspects

of breastfeeding include the good knowledge of mothers and positive attitude.

One of the previous studies showed that there was an increase of 5.9 times in the knowledge of EBF among the mothers having better degree of knowledge on EBF compared to non-knowledge (OR 5.9; 95% CI 2.6, 13.3 $p < 0.001$) and high scores of the EBF knowledge (OR 1.09; 95% CI 1.04-1.14), attitude (OR 1.04; 95% CI 1.00, 1.08). As far as we can tell, no systematic review is made of the studies to address the findings on the East Asian countries, since some studies are already done on the knowledge, attitude and practice (KAP) of EBF in some countries in Asia. By doing so, the next questions were later induced in same manner what is the KAP of mothers with EBF as is found in the literature and how these domains are being measured? The results of the KAP research provide the knowledge of what a specific mother believes, knows, and does concerning exclusive breastfeeding (Afroz et al., 2024).

This review was aimed at investigating the level of KAP of the mothers regarding EBF in Rural Lahore. It is also necessary to encourage the policymakers, so that mothers in rural Lahore are interested in the practice of exclusive breastfeeding and the percentage of mothers would be interested in achieving the optimal development of the children, and the intervention which would possibly increase knowledge, attitudes, and behaviors of women to exclusive breastfeeding (Gebeyehu et al., 2023).

In this research done in Lahore villages, it was established that 77.7 % of the mothers were aware that 6 months was the appropriate age by which they should introduce complementary feeding to their babies. Whether mothers have an idea of when to introduce solids, it is only half of the mothers who initiate solids at the age of six (Organization, 2025). In the present report, half of the mothers had started solid food prior to delivery (40.3) and 9.7% started 6 months after delivery.

There was poor adequate initiation of complementary feeding by the mother. One of them starts feeding after approximately half an hour. Supplements are initiated at 4-6 months below a menstrual cycle of a woman. The primary factor that led to early the introduction of solid food by mothers was the lack of

knowledge. Mothers usually start with moderate levels of dairy supplements such as potato mashes and broth (Bafila et al., 2024).

Increased weight of a baby reduces the breastfeeding habits of the mother. The initiation of breastfeeding is 44-70 with the rate dwindling to 13% when it is 6 months old. Indeed, Pakistan is lowest in the rate of breastfeeding in South Asia. The first 2 hours following birth are referred to as the critical stage (Organization, 2025). Although it is the ideal time to begin breast feeding, only 29 % of infants are breast fed at this period. Although the exclusive breastfeeding rate in the South Asian countries stands at 44% the same rate stands at 37% among the mothers whose babies were younger than six months old and the average span of breastfeeding among the Pakistani women was about one month as reported by the Pakistan Demographic and Health Survey.

Lahore is the city in Pakistan where there is almost even treatment towards both sexes. Nevertheless, two-thirds of women, who do not want to breastfeed their babies only, are advised to do so by their husbands. The absence of breastfeeding implies that safe programs can never be found to assist the women to continue breastfeeding their babies. This research was aimed at uncovering the problems of rural women in Lahore and their preferences regarding breastfeeding habits.

3. METHODOLOGY

This was carried out in the rural Lahore. The descriptive cross-sectional method is applied in this study. It offers an idea of the values, beliefs and behaviors of the community mothers in the rural region of Lahore in relation to the length and beneficial effects of breastfeeding (Abid, Abid, Rauf, and Ali, 2021). The primary population was made up of all the mothers of child No. 1. Ages; 18 to 49 years. The sampling was done through questionnaire distribution. The tool that will be used in the collection of data was adopted and contains several sections among them b. The socio-demographic variables were the knowledge, attitude and behavior of the mothers towards menstruation and the benefits of breastfeeding in villages in the city of Lahore (Renuka et al., 2020). Home visits were used in the collection of data questionnaires on

employment, Web survey, etc. There was minimal information given to mothers on purpose and methodology of the study, and the data collection was performed only among consenting mothers. The SPSS software and the regression analysis test was employed to analyze data on documents (Rehman, Malik, Sabiha, and Rehman, 2017). Field work was carried out on the consent of community mothers. The answers of mothers were anonymous and the data collection agents advised the mothers that they could pull out or refuse to engage in the study.

This paper consisted of random sample of 150 mothers who breastfed their babies at the 0 to 23 months of age. The individuals were chosen in the countryside of Lahore. Mothers were also given useful information through a structured and valid questionnaire. The analysis of the obtained data was in terms of frequency and %age in the Statistical Package of Social Sciences (SPSS) (Al-Qahtani et al., 2020).

3.1 Study Design:

A cross-sectional descriptive study to evaluate the attitudes and cognitive functions of mothers towards infant and infant feeding.

3.2 Study Site and Setting:

The research was carried out in one of the communities in Lahore (Rural Lahore).

3.3 Study Population:

Mothers were selected for the study population.

3.4 Sampling Technique:

This study used simple random sampling.

3.5 Sample Selection Criteria:

3.5.1 Inclusion Criteria:

All criteria to include participants were in agreement and to give informed consent to all mothers to participate in our study.

3.5.2 Exclusion Criteria:

The exclusion criterion was mothers who had no desire to participate in our study. Another group that will not be included in this section is those that were not involved in the process of data collection.

3.6 Sample Size:

The statistical sample in this research is the mothers of the community (Lahore village). The target population was composed of 150 individuals and the pure mother community.

Sample Size Formula: To determine the size of the sample of the study population. If the total population is 240. When N is the population, n is the sample size, and E is the margin of error.

$$n = N/1 + (N) (E)^2$$

$$n = 240/1 + (240)(0.05)^2$$

$$n = 240/1 + (240) (0.0025)$$

$$n = 240/1 + 0.6$$

$$n = 240/1.6$$

$$n=150$$

3.7 Data Collection:

3.7.1 Selection of Study Tool:

Data was collected using a well-written and structured questionnaire that was adjusted to the study. Data collection was done among community mothers (Rural Lahore) after they gave informed consent.

3.7.2 Data Collection Techniques

Evaluating several families in the society to detect problems. Assessment involves surveys, observation, focus groups and interviews.

3.7.3 Data Collection Procedure:

An informed consent to conduct the study formally. Moreover, the author gave approval of the use of this questionnaire on ethical grounds and the questionnaire itself was administered to the community mothers.

3.8 Ethical Considerations:

This research centered on ethics. The data were collected after the ethics committee gave its consent to the health and medical institution. The approval was written by Lahore College of Nursing Department Head. Also, the informed consent was taken in writing and orally, prior to data collection. They gave the mother the right of independent decision and she was informed of the nature and intent of the research as no action was taken. The danger of this study has been mentioned above. The participants were entitled to pull out of the study at any given time. In this instance, the integration of the information into the data was done through other participants. The participants got

informed on the purpose of the study and confidentiality of the information was assured. The subjects who consented to take part in the study were requested to sign informed consent in writing. All the participants were informed that their participation was very welcome and they could participate on a voluntary basis. All the information and documents collected can be assured to keep the participants confidential. Self-administered questionnaires that were administered face to face to the mothers who satisfied the inclusion criteria were utilized to collect the data. The first part is demographic information and the second part is subject information. The knowledge of mother on breastfeeding, attitudes of mother on breastfeeding, behavior of mother and other feeding styles are some of the variables of interest. All data were expressed in the form of frequency and %age. By the end of the interview, both mothers knew that they needed to breastfeed their babies two years more. The participants were provided with verbal informed consent and their privacy was not violated.

4. RESULTS

The findings of the statistical information analysis were divided into four major sections.

Firstly, the results and the type of the respondents are descriptive statistics. The second segment is the plotting of the evaluation results of measurement model. Lastly, hypotheses test and predictive applicability of the model results are shown.

4.1 Response Rate:

A total of 200 questionnaires were contacted by using the students of the private college and universities of Lahore, Pakistan. The reason behind selecting this area is that there are numerous numbers of private colleges and universities. Each of the students of colleges and universities demonstrated willingness to take part in the survey. Table 4.1 shows the response rate of the sampled students of the colleges. Out of 200 questionnaires distributed, 170 of them were returned. Two more cases were however ruled out with 14 cases not completed and 6 cases being post graduate students. Thus, 150 questionnaires have been used as data available to analyze the data and provide a valid response rate of 75 percent. This response rate had been obtained after much hard work, effort and additional financial spending. Besides, as the questionnaires were responsive to complete independently, the response was rather strong.

Table 4.1
Response Rate

Sr. No.	Universities	Distributed Questionnaires	Returned Questionnaires
01	Ittefaq College Of Nursing	50	45
02	Jinnah Degree College	75	60
03	Punjab University	50	30
04	Lahore College for Women University	25	15
	Total	200	396

4.2 Profile of Respondents:

In this section, the demographics of the respondents have been indicated as indicated in Table 4.2. It is reported in Table 4.2 that over 50 % of the students were not married 108 (72.0%). With regards to age most of the students were relatively young 94 (62.7%) in the age group of 20 to 35 years of age, next was those less 46 to 55 years old 5 (3.3) and those above 56 years old

1 (0.7). Regarding mode of education, 16 (10.7%) were undergraduate students then 134 (89.3) were undergraduate students. In case of the organization discipline, 54 (36) per cent were of Private Organization and 95 (63.3) per cent of Govt. organization. On employment, 113 individuals (75.3) are contractual employees and 37 individuals (24.7) are the Permanent employees. In terms of service in that

organization 6 respondents (4.0%) with service of up to 1 years and 75 respondents (50.0) with service of 2 to 5 years, 60 respondents (40.0)

with service of 5 to 10 years and 9 respondents (6.0) with service of 10 years and above such as that listed in the Table 4.2.

Table 4.2
Demographics

Demographic	Categories	Frequency	%age
Gender	Unmarried	108	72.0%
	Married	42	28.0%
Age	Up to 25	50	33.3%
	26 to 45	94	62.7%
	46 to 55	5	3.3%
	56 and above	1	0.7%
Education	Bachelor's	16	10.7%
	Master's	134	89.3%
Organization	Private	54	36.0%
	Government	95	63.3%
Employment	Contractual	113	75.3%
	Permanent	37	24.7%
Service in Organization	Up to 1 year	6	4.0%
	2 to 5 years	75	50.0%
	5 to 10 years	60	40.0%
	10 years and above	9	6.0%

4.3 Non-response Bias:

The researcher could not determine testing non-response bias because choosing the data was by his own means. The reason was that the students were allowed the necessary time at their convenience to fill the questionnaires, which were later personally collected by the researcher. The time gap between the earlier and late replying people was therefore not a problem.

4.4 Common Method Variance:

This is not a construct of interest but a variance quality of the method used in measuring it commonly said to be common method variance (CMV). This issue may arise in studies due to the analysis differences until the time when the individuals will be self-sufficient regarding data to determine the dependent and independent variables (Kock et al., 2021).

Since in this research one respondent was used to gather data, there can be a possibility of a common method variance. Like (Liu, 2022)

suggest, the researchers conducted pre and post remedies to reduce the effects of CMV. Concerning the pre-remediation, the questionnaire had different types of scale used and removed the labels of each section. CMV pre and post remedies decreased using researcher administered CMV remedies. To prevent the pre-remedial measure, all the labels in the questionnaire were removed and the various forms of the scale were also utilized.

The article by (Fauzi, 2022) talked of the common method bias in the field of structural equation modeling (SEM) being carried out by resorting to the partial least squares (PLS-SEM). One of the research study recommendations suggested that the full collinearity test may be employed in the testing of the common method variance in the structural equation modelling. This practice was also used by the current study and will help in the identification of common method bias with the help of variance inflation factors (VIF) brought about by a full collinearity test. The variances inflation factors exceed 3.3

which implies that using common method bias (CMB) can be used to contaminate the model. Thus, the VIFs values which ensure complete collinearity test are less than the value of 3.3 may be discussed as the sign that the common method does not bias the model. The sketch of the study under investigation revealed the fact that all values of VIFs of all constructs are smaller than the value of 3.3 that would mean that the method of commonality bias does not contaminate the current study. In its turn, it concludes that CMV was no problem with the study.

4.5 Preliminary Analysis:

The analysis of structural model and measurement model conducted after preliminary discussion of the analysis using the SPSS is discussed briefly in this section. Data screening, data search, and outliers' detection of basic statistical assumptions were all preliminary tests.

Reliability Statistics	
Cronbach's Alpha	N of Items
.907	20

4.6 Data Screening:

The screening of data will be done on the raw data prior to the statistical analysis, in the perspective of data accuracy. This is obligatory because it will ensure that the data obtained will be satisfactory to undertake the multiple analyses that will be required to test the hypothesis that will be tested in the study. In the meantime, (Sukri & Yusoff, 2021) also outlined that data screening is also a significant measure prior to conducting a multivariate analysis. These stages are in connection with data screening.

4.6.1.1 Missing Values Treatment:

It has several analysis methods which do not allow the absence of values in data. Nevertheless,

there are ways to address the problem of the unavailability of values in the data. It was proposed by former researches that the replacement of missing values with the mean is a simplistic method to substitute values lost when the proportion of dissipated values falls within 5% and less (Ardente et al., 2023). The mean replacement technique was also used to fill in the randomly missing data in this research as the rate of missing data was below 5%. The missing values in the data sets are indicated using table 4.3. The missing fields in the name of organization were found to be 01 in this work. Conversely, there data was no missing value on gender, age, education, employment and service in organization.

Table 4.3

Missing Values

Constructs	Missing Values
What is your marital status?	0
What's your age category?	0

What's your education?	0
What's the name of your organization (optional)?	1
What's your nature of employment?	0
What's the length of your service in that organization?	0
Total	01

4.6.1.2 Detection of Multivariate Outliers:

What do you do with the values that are missing? The outliers may be attributed as the observations that do not coincide with the rest of the data. Data outliers can skew the estimates of the regressions coefficients to be used in the derivation of unreliable results. They identify the outliers of the data to remove the effect of the extreme values on the mean values of the items (Dannals & Oppenheimer, 2023). Extreme values of data are defined using different methods. This paper employed the Mahala Nobis distance statistical data that is the conventional method of identifying the outliers. Such a method can identify observations far away on the meaning of the data. Therefore, in this study, that distance statistical analysis was condensed as the Mahala Nobis distance statistical analysis was performed through the use of SPSS and it was identified that there was no outlier on both datasets. The data analysis was conducted in the Smart PLS3 because it can generate plausible data even in cases of the outliers (Sabol et al., 2023).

4.6.2 Fundamental Statistical Assumptions:

Data gathered in this research have been analyzed using the Smart PLS3, which is a non-parametric program, and it does not entail any of the statistical prerequisites. However, there are some naive statistics of normality, as well as multicollinearity, regarding the constructions, which are necessary to check the results and withstand errors (Sabol et al., 2023).

4.6.2.1 Multicollinearity:

Multicollinearity of predictors may contribute to the rise of the standard errors of the coefficients as well as may influence both regression coefficients and the statistical significance tests (Sabol et al., 2023). In this connection, it was rather important that the analysis of the multicollinearity must be carried out before the establishment of the recommended model. As it states in Table 4.4 all the predictors showed VIF that was below 5. Therefore, one can say that there was no multicollinearity issue.

Table 4.4

Multicollinearity Constructs VIF

	Breast feeding
Knowledge	2.229
Attitude	2.882
Practice	3.291
Exclusive Breastfeeding	1.736

4.6.2.2 Data Normality:

Structural equation modeling (SEM) requires the assumption of data being normal as the basic form (Ng et al., 2023). However, this issue is not so critical when the partial, least square-structural equation modeling is involved (Fauzi, 2022). The PLS-SEM has a bootstrapping methodology that is used to evaluate the non-normal data relationship of interest in the proposed model. No consideration is required

to fulfill the assumption of normality of PLS-SEM, as well as non-normal data is observable; this is among the significant advantages of PLS-SEM (Ng et al., 2023).

Nonetheless, in case of high non-normality of data, these data should be taken out prior to the use of PLS-SEM. PLS-SEM is not specific that the data be normally distributed; however, it is essential to make sure that the data distribution is of normal data before using inferential

statistics. Thus, to test the data normality, the Skewness, Kurtosis and histogram plots were used in this study. The findings revealed that data collected in this research were not normally distributed (Appendix). Luckily, indications of extremely non-normal data were absent. PLS-SEM typically does not assume that the data is normally distributed due to the lack of parametricity of the data analysis method that

does not presuppose the normal distribution of data (Sabol et al., 2023). Thus, this research undertook the further analysis with the help of PLS-SEM.

4.7 Descriptive Statistics:

Mean value of knowledge, Attitude, Practice and Exclusive Breast Feeding was 3.85, 3.32, 4.01, and 3.81 respectively as shown in Table 4.5.

Table 4.5
Descriptive Statistics

Constructs	Mean	Std. Deviation	Skewness	Kurtosis
Knowledge	3.853	.97970	-.374	-.755
	3			
Attitude	3.322	.22320	.460	-.289
	7			
Practice	4.008	.93880	-.609	-.394
	9			
Exclusive Breast Feeding	3.817	.23038	-1.005	.256
	8			

4.8 Assessment of Reflective Measurement Model:

In PLS, the test of reliability of individual items/construct is conducted on the loading of items on the latent construct respectively. The large loadings imply that the amount of shared variance between the construct and the measuring is high compared to the amount of error variance when the small loadings imply that the power of explaining model is very low and hence the estimated parameter of the constructs between the two is weakened.

The indicators are quite similar and comparable to reflective measurement model, reliability and validity should be checked and reported in detail. Therefore, reliability and validity were ensured by the researcher in order to test the measurement model. To comply with measure validity, a composite measure was applied to test reliability and convergent and discriminant validity. CFA was carried out in order to examine internal consistency (e.g., composite reliability), convergent validity (e.g. Average variance extracted), and discriminant validity (i.e. cross loadings and Fornell- Larcker criterion, HTMT Ratio) of the instruments. This is because, the measurements are reliably and validly established and the relationships in the structural model are examined.

4.8.1 Composite Reliability:

To determine the internal consistency reliability of construct, composite reliability (CR) was determined. In this, the loadings of all of the items of reflective constructs were verified to be above a cutoff of 0.5. Table 4.7 suggests that all items were put into their corresponding constructs item. All the items had high loadings that exceeded the cutoff level of 0.5. The loadings varied between 0.561 to 0.957 and this fact indicated that the constructs led to the explanations of some more than half of the variations which are observed in the observed variable. The contents with a loading below 0.5 were then removed one after another until substantial threshold value of internal consistency of the construct was attained. In reflective scale, the omissions need not affect the conceptual meaning of the particular construct in case the internal consistency is adequate. The rationale in that regard is that the direction of causality runs in favor of construct to items as the items on display were revealed to be the effects. A high correlation between the items is therefore given the fact that they take place as a consequence of one underlying construct.

In the present study, the finding revealed that having removed the items off the scale much internal consistency was acceptable across all the

structures. The range of CR values of models were between 0.872 and 0.943 which is larger than the recommended value of 0.7 (Shengeza et al., 2023). Thus, the internal consistency reliability was high in all the constructs.

4.8.2 Convergent Validity:

Convergent validity was calculated by calculating average variance extracted (AVE). To test the convergent validity, the average derived variance (AVE) was applied. Table 4.6 indicates convergent validity and all the construct AVEs were met to be higher than the traditional

acceptable value of 0.5 and constructs scoring was observed to be in the range between 0.351 and 0.723. The positive value of 0.5 in the AVE indicated that the latent construct had more than a half of the variance of indicators. The summary of the results of the measurement model is presented in Table 4.6. The outcome was that the primary constructs, (Knowledge, Attitude, Practice and Exclusive Breast Feeding) were all valid measures of their constructs as they had parameter estimates as well as the level of significance. In this way, the model that was developed had an adequate convergent validity.

Table 4.6
Convergent Validity

Constructs	Items	Loadings	Alpha	CR	AVE
Knowledge	K1	0.579	-0.133	0.03	0.42
				8	3
	K2	-0.823			
	K3	0.505			
	K4	0.599			
Attitude	K5	0.975			
	A1	0.503	0.048	0.45	0.27
				7	
	A2	-0.132			
	A3	0.379			
Practice	A4	0.816			
	A5	0.818			
	P1	-0.696	-0.032	0.00	0.23
				2	3
	P2	-0.1			
Exclusive Breast Feeding	P3	0.759			
	P4	-0.24			
	P5	0.185			
	EBF1	-0.197	-0.023	0.02	0.21
				1	2
		EBF 2	-0.339		
		EBF 3	-0.12		
		EBF 4	0.001		
		EBF 5	0.945		

Note: Average variance extract (AVE), Composite Reliability (CR) (K1, K2, K3, K4, K5, A1, A2, A3, A4, A5, P1, P2, P3, P4, P5, EBF1, EBF 2, EBF 3, EBF 4, EBF 5) 1. items of Knowledge, 2. item of Attitude, 3. item of Practice, and 4. items of Exclusive Breast Feeding was deleted.

4.8.3 Discriminant Validity:

In order to establish the discriminant validity, two measures were employed. They were similar to cross-loadings and Fornell-Larker criterion. The cross-loadings of the items were first

analysed. The standardized loading is supposed to be 0.5 and preferably 0.7 or more. The products that had very low loadings (below 0.4) are to be discarded. Besides that, the measures of the construct must be loaded to their

respective construct extensively. It may be called Fornell-Larcker criterion in accordance with which there is more common variance between a latent construct and its indicators in the structural model in comparison with the other latent construct. According to this demand, the square root of the AVE (as captivated by the values in the diagonal) that is computed should be larger than the construct correlation in individual constructs (as reflected by the values in the off diagonal). Table 4.8 demonstrates that the construct items are discriminant valid.

Table 4.7 reveals that all the square roots of the values of the AVE were greater than the other

correlations between the latent variables with this meaning that some of the constructs employed in the model would be associated with other entities. In a nutshell, construct discriminant validity was desirable in measurement model. Table 4.8 was showing that outer loadings of the item were higher than the cross-loadings of the other constructs that were higher than 0.5. As anticipated, all the indicators loaded on their corresponding indicating that the indicators were not cross-loaded.

Table 4.7
Fornell Larcker Criterion

	K	A	P	EBF
Knowledge	0.65			
Attitude	0.09	0.52		
Practice	0.13	0.09	0.48	
Exclusive Breast Feeding	0.17	0.21	0.23	0.3
	7	3	2	3

Note: Diagonals (in bold) represent the square root of AVE while the other entries (off-diagonal) represent the correlation. K -Knowledge; A-Attitude; P-Practice; EBF Exclusive Breast Feeding

Table 4.8
Cross-Loadings

Items	Knowledge	Attitude	Practice	Exclusive Breast Feeding
K1	0.579	0.082	0.106	-0.101
K2	-0.823	-0.055	-0.078	0.32
K3	0.505	0.07	0.093	-0.217
K4	0.508			
K5	0.589			
A1	0.199	0.503	0.033	-0.104
A2	-0.015	-0.132	-0.061	0.032
A3	0.034	0.379	-0.006	-0.114
A4	-0.012	0.816	0.097	-0.144
A5	0.189	0.505		
P1	-0.1	0.023	-0.696	0.027
P2	0.007	0.027	-0.1	-0.118
P3	0.059	0.124	0.759	0.043
P4	-0.073	-0.033	-0.24	0.064
P5	0.098	0.088	0.185	-0.217
EBF1	0.15	0.103	0.06	-0.197
EBF2	0.054	0.064	0.074	-0.339

EBF3	0.072	-0.021	-0.03	-0.12
EBF4	0.177	-0.007	0.239	0.001
EBF5	-0.327	-0.197	-0.024	0.945

4.8.3.1 Heterotrait-Monotrait Ratio:

According to the results of a recent study (Roemer et al., 2021), another criterion of testing discriminant validity was added to the variance modeling of the structural equation. They concurred that the largest methods of evaluating the discriminant validity are Fornell-Larcker criterion and cross-loadings in order to model the variance using the structural equation. In addition to that, they claimed that such procedures had not discovered the deficit of discriminant validity in other research cases. They postulated the other method of heterotrait-monotrait ratio of correlations, and is grounded on the multitrait-multimethodary matrix to determine the discriminant validity. The variety of the studies, which also implied the application of the HTMT ratio to compute the discriminant validity and even proposed the application of the technique to establish the discriminant validity is not exhaustive. The calculating the discriminant validity has two quantities based on the use of the HTMT ratio,

one is based on a criterion and the other is a statistical test.

The former ought to have a ratio of less than 0.85) or less than 0.90 of HTMT. The discriminant validity would be a problem in case the ratio of HTMT exceeds the above thresholds. The second is the test of the null (H_0 : HTMT ≤ 1) in comparison to the alternative test of the null (H_1 : HTMT > 1) and in the occurrence where the confidence interval includes the value one, it shows the absence of discriminant validity. It is on this ground that this research has used the first criterion approach to test the discriminant validity basing on the HTMT ratio. Table 4.10, construct, has presented all the values of the ratio of HTMT. Table 4.10 showed that the entire ratings of the HTMT ratio of all constructs were below 0.90 and satisfied the test condition of the HTMT=0.90. As such, the implications of these findings were that all the constructs had resulted in development of discriminant validity.

Table 4.9
HTMT Ratio

Knowledge				
Attitude	0.768			
Practice	0.57	0.882		
Exclusive Breast Feeding	1.334	1.183	1.177	

Table 4.10
Coefficient of Determination

	R Square	Effect Size
	0.701	Substantial
Knowledge		
Attitude	0.724	Substantial
Practice	0.740	Substantial

4.9 Direct Relationship-Path Analysis:

The possibilities that will not lead to the significance and the possibilities that are contrary to the hypothesis cannot uphold the previous ones but the ones that are significant.

This was also bootstrapped with 500 resamples in advance of the mediating effect itself as well as to determine whether the direct relationships are significant or not. Table 4.2 was used to

construct path coefficients, and the results are presented in Table 4.13.

Table 4.11
Results of Direct Relationship

Relationships	Beta	S. D	t value	P value	L.L	U.L
Knowledge -> Breast Feeding	0.071	0.12	0.591	0.277	-	0.17
		1			0.296	3
Attitude -> Breast Feeding	-	0.27	1.078	0.141	-	0.47
	0.291				0.398	4
Practice -> Breast Feeding	0.173	0.24	0.721	0.236	-	0.37
					0.327	3
Exclusive Breast Feeding -> Breast Feeding	-	0.18	0.926	0.177	-0.38	0.13
	0.168	2				5

4.9.1 Testing the Mediating Effect of Students' Satisfaction:

The relations were tested and mediation effect test was then carried out. As (Abu-Bader & Jones, 2021) suggest, this relationship can also be assessed with the help of a series of steps. To start with, a researcher must attempt to find an approximation of the relationship between the variables of predictor and the variables of the mediators by estimating a model on the foundation of SEM. Bootstrapping was carried

out in order to do this. Table 4.12 indicated that all the six indirect effects were all significant at 0.05 level. Table 4.12 and Figure 4.2 were obtained using the bootstrapping analysis which shows that the indirect effect (0.017) was significant because the t -value of 1.953 was significant. In addition to what Preacher and Hayes (2008) affirmed, the 95 percent Boot CI indirect effect: [LL = 0.003, UL = 0.04], did not have a 0 in between hence there was mediation.

Table 4.12
Indirect Effects

Relationships	Beta	S. D	t value	P value	L.L	U. L
Knowledge ->	0.071	0.12	0.59	0.27	-	0.173
Breast Feeding		1	1	7	0.296	
Attitude -> Breast	-0.291	0.27	1.07	0.14	-	0.474
Feeding			8	1	0.398	
Practice -> Breast	0.173	0.24	0.72	0.23	-	0.373
Exclusive Breast			1	6	0.327	
Feeding -> Breast Feeding	-0.168	0.18	0.92	0.17	-0.38	0.135
		2	6	7		

4.10 Testing the Moderating Effect of Perceived Emotional Sincerity:

In this paper the product indicator strategy was adopted to test the moderating role of perceived

emotional sincerity in the relationship between emotional labor strategies (surface acting and deep acting) and attitudes (emotional engagement and positive emotional reactions)

and behavior (task performance and organizational citizenship behavior) of the followers.

As (Taofeeq et al., 2022) explains, product indicator method is the appropriate one in the case when the moderating variable is a continuous one. Also (Channa et al., 2022), it was also recommended to apply the product terms approach because the outcomes of the product terms approach were more attractive compared to other approaches. Besides this, (Barut Tugtekin & Dursun, 2022) guidelines were also applied so as to determine whether there was any impact in terms of the interaction terms. The findings regarding the interaction terms have been displayed in Table 4.15. The

testing of hypothesis that could be presented in Table 4.13 is the mediating factor of perceived emotional sincerity. Conversely, the perception of emotional sincerity was greatly modulating the association among Leaders Knowledge and Breast-Feeding Knowledge (A (K) 0 (B)) ($\beta = 0.371$, $t = 0.841$, $LL = -0.046$, $UL = 0.373$), Attitude and Breast Feeding (A (K) 0 (B)). The correlation perceived in the results as it can be seen in Table 4.25 is Practice and Breast Feeding (P-BF) ($\beta = 0.49$ 0.971 ; $LL = -0.077$ $UL = 0.573$). Finally, Exclusive Breast Feeding and Breast Feeding (EBF β BF) because the interaction of these two was not significant (0.459 , $t = 1.264$; $LL = 0.004$, $UL = 0.627$).

Table 4. 13
Interaction Term

Relationships	Std. beta	Std. Error	t- Value	LL	U.L.
K -> BF	0.371	0.351	0.841	-0.046	0.373
A -> BF	0.52	0.346	1.328	-0.148	0.674
P -> BF	0.49	0.34	0.971	-0.077	0.573
EBF -> BF	0.432	0.345	1.176	-0.13	0.335

4.10.1 Simple Slope Analysis for Interaction Terms:

Smart PLS 3, produces a simple slope analysis in which the moderation (interaction) findings are interpreted and the visual depiction of the results shows the strength of the moderating effects and their direction. Slope plots usually provide the visualization of the terms of interaction and clear understanding of the moderation effect. According to the simple slope analysis, as it was shown in the figures below, the predictors are a horizontal x-axis, and the endogenous variables are a vertical y-axis. There are three lines in the simple slope plots that portray the association between the exogenous and endogenous constructs of the high and low level of the moderator.

The red line suggests the exogenous construct as the mean, and shows the direction of the predictor of the endogenous construct without any moderation. The blue line meaning is that the blue line is positioned a standard deviation towards the direction of the mean but that was a low level of the moderator. Moreover, the green line is one standard deviation away on the right

of the mean and it reveals the high level of the moderator. The perceived emotion sincerity was of high rank, which undermined the negative relationship between the surface acting of leaders and the audience of the attitude (emotional engagement and positive emotional reactions) as shown in Figure 4.3.

Summary of the Findings:

The quantitative research of the data collected through the survey questionnaires in this study. Prolonged analysis can be divided into elements to summarize. The first one is the feature of the analysis that was conducted in SPSS. Descriptive statistics are part of this step, which was utilized in the description of the data and respondents in this study. This was done by use of simple percent, mean and standard deviation. The SPSS was also clean on the use of data starting with the inclusion of missing data, outliers, normality, linearity, and multicollinearity. It was done so that this data would be ready to be analyzed using a multivariate analysis.

It represented the second stage of data analysis that was performed through the use of PLS-SEM

so as to establish the measurement model and structural model of the hypothesized model. The SEM involved checking of the individual construct model, exogenous and endogenous models and the whole model of the hypothesis. Convergent validity, discriminant validity of the entire model was also ascertained at this point. Table 4.11 contains the summary of the tested hypotheses and the summary of their findings. The next chapter brings out the discussion of the results presented in this chapter.

5. DISCUSSION

Breast feeding is a cross-cultural practice, which is common in all cultures. The product knowledge of the advantages of breast feeding and the most optimal methods in feeding has been visible in the last 20 years across the world. (North et al., 2022).

In current research, a majority (74.5%) of the mothers had fewer than four children and majority (83.2%) of the family had three or less childbearing women. This approximates that there are numerous women with poor knowledge themselves who would pass the knowledge onto their other members in families. The type of education of mothers in this study is mostly high school (34.2%). The results of the Lahore, Pakistan study are consistent with the results of our research that indicated that 49% mothers were completing higher education. But 75 % of women were educated through primary education. Those with monthly income of less than 38.4 % were 38.4 % in this study less than Rs.10,000/-. Findings were statistically significant due to the reasons of not breast feeding and economic status. It is not supported by international and local data in which authors discovered that no significant correlation existed between the economic strata and the pattern of breast feeding.

In the study that was conducted, 84% of the mothers were conscious of understandings that breast milk was the optimal food that could be ingested by the baby. There was however ignorance on exclusive breastfeeding where 88% of them felt that they needed to administer supplementary diet after six months. These findings go in line with a comparable one survey that was carried out in the rural areas of Lahore nearly 10 years ago. It is also in line with the findings of (Chekol Abebe et al., 2022) which

reported 94% of knowledge regarding breastfeeding. Nevertheless, (Fawad et al., 2023) found that 44% of the mothers were informed on breastfeeding and 65% mothers lacked information about exclusive breastfeeding. A high degree of association between breast feeding and education status was observed in the current research work. Our results were supported by (Azam et al., 2022). Nonetheless, other mothers who were less educated fed their children only on their breast. In the present study, the majority of the women (62% of respondents) felt good about exclusive breastfeeding. These outcomes are consistent with another research.

In this work, we were able to find out that many women (76.6%) were practicing breast feeding and 81% mothers-initiated breast feeding in the first half hour of birth. The same findings were reached by (Ibrahim et al., 2023). Latent breast milk initiation (6 hours) was observed in 7 % of infants in our study and (more than 24 hours) in 6.7 % of infants in our study. We have the opposite outcome as Saudi study; in about 28.1, first six hours delayed breastfeeding with over 24 hours of life delayed breastfeeding with 82% of infants.

The results of this study in regards to 21% and 56% of the participants practicing breastfeeding only respectively did not go down well with (Mutaru et al., 2021). Most mother breast fed (24.5% in this study) perceived it to be healthy to their child. Nonetheless, 67% and 85% had mothers who perceived it to be good health to their baby respectively. We also found that the largest proportion of mothers (7.6%) failed to feed their children with milk due to its inability to flow. The current investigation has also established statistically significant correlation of the reasons of not breastfeeding with their economic status.

5.1 Limitations:

- The study sample is small, which might not be a reflection of the population of mothers living in the rural part of Lahore, and the findings might not be transferred to other geographic locations or settings.
- Only willing mothers are included in the study or in cases where the sampling technique is not random or systematic there could have been

a selection bias and thus influences the representativeness of the sample.

- Mothers can give those answers that they think are socially desirable and not necessarily represent knowledge, attitudes, and practices.
- There is the potential of inaccuracy in the data provided by mothers as they fail to recount or report their behaviors and experiences.
- The research might also fail to consider contextual influences that might affect the knowledge, attitudes and practices of the mothers and which includes cultural or social norms, financial limitation or access to health care.

5.2 Recommendations:

- Qualitative research aims at digging deeper into the culture, the socio-economic elements that surround the knowledge, the moral and behavior of mothers in rural Lahore in connection to breastfeeding. The focus group discussions and in-depth interview of the mothers, health care providers and other stakeholders involved in the issue can be used in this study.
- The aim of the given cross-sectional research is to establish the correlation between the level of knowledge, attitude and practice of maternal behavior and the issue of breast feeding and the management of the nutritional situation of the infants in the rural Lahore district. The data applicable in this study are the data on the infant feeding habits, nutritional research, the understanding of the motherly attitude and practice on breast food and motherly knowledge.
- However, it will be a randomized controlled trial that will determine the effectiveness of a community-based breastfeeding promotion program that will enhance the knowledge, attitude and practice of mothers in regards to the breastfeeding in rural Pakistan Lahore. In the study in question, one can employ a community-based breastfeeding promotion program and contrast the breastfeeding practice in the program and control groups.
- Longitudinal study of longitudinal health outcomes of only breastfed babies in their recommended period and in rural Lahore. The information that can be collected through this research includes the rates of the infectious

diseases, growth and development, and cognitive functioning of infants that have been breast-fed during the recommended time span.

- Qualitative-quantitative research that determines the relevance of social support in supporting breastfeeding among rural mothers at Lahore. It might consist in the collection of quantitative information and qualitative information on social support networks, styles of breastfeeding, and maternal knowledge and attitudes towards breastfeeding in the study.

5.3 Conclusion:

This paper supports the conclusion that the rural females in Lahore possess good knowledge and good attitude, however best breast-feeding behaviors must be enhanced. It is hoped that programs of awareness should be organized on how to educate our child bearing age women, their family and health care providers to further enlighten them with respect to optimum breast-feeding practices which would in turn result to decrease of infant mortality in Pakistan.

As it is seen in the current study, the participants are well informed, in their attitude towards feeding, but the breast-feeding behaviors are not aligned with their satisfactorily knowledge which highlights the disparity in providing education and counselling to the women about breast feeding. In this paper it is once again stated that there is the need to strengthen the level of public health information, education campaigns and communication campaigns to encourage breast-feeding. The same can be exchanged with all the concerned parties and health professionals particularly those serving at primary level so that they can come up with specific breastfeeding interventions on matters that are more relevant at that stage of pregnancy and lactation.

The poor rate of exclusive breast-feeding that was evident in this study indicated the low ability of the breast-feeding programs to influence the breast-feeding behaviors of mothers. These observations make it clear that there should be strategies aimed at the vibrant promotion of exclusive breast-feeding practice in urgent terms. The opinion leaders and women group need to offer supportive lending to offer complementary support to the already available strategies. It also requires the active engagement of Nutritionists and Dietitians in the propagation since it has to engage them in all hospitals in the rural Lahore.

In this study it was established that a significant %age of children was not well fed. A large %age of mothers was pessimistic when inquiring about proper feeding of the infant and young children together with the bad practice, although there was high awareness among the participants on infant and young child feeding practices. Action makes changes to communication interventions by employing appropriate approaches on them. In order to bridge any physical and psychological distance between knowledge and action among the urban people, religious leaders, teachers, students, youth groups, women organizations, frontline players in health, developmental powers need to be employed, depending on tradition, values and behavior with regards to feeding infants and young children.

The conclusions of the current research are unlikely to be generalized because it is a cross-sectional study having a very small sample but in-depth interviews and focus group discussions (FGDs) can be implemented to concentrate on the qualitative dimension of breast feeding. Such studies can prove useful in penetrating the ingrained belief of people on individual, family and community level, which, otherwise tackled properly, can aid in popularizing the culture of breast feeding among mothers of the rural enclaves of Lahore.

6. REFERENCES

- Abegunde, D., Hutchinson, P., Anaba, U., Oyedokun-Adebago, F., Johansson, E. W., Feyisetan, B., & Mtiro, E. (2021). Socioeconomic inequality in exclusive breastfeeding behavior and ideation factors for social behavioral change in three north-western Nigerian states: a cross-sectional study. *International Journal for Equity in Health*, 20(1), 172.
- Abu-Bader, S., & Jones, T. V. (2021). Statistical mediation analysis using the sobel test and hayes SPSS process macro. *International Journal of Quantitative and Qualitative Research Methods*.
- Afroz, H., Mondal, S., Khatun, T., Saleh, F., & Hussain, M. A. (2024). Breastfeeding knowledge, attitude, and practices among mothers at EPI centers in the Northern part of Dhaka city. *North African Journal of Food and Nutrition Research*, 8(18), 96-105.
- Ahmed, F., Malik, N. I., Shahzad, M., Ahmad, M., Shahid, M., Feng, X. L., & Guo, J. (2022). Determinants of infant young child feeding among mothers of malnourished children in South Punjab, Pakistan: a qualitative study. *Frontiers in Public Health*, 10, 834089.
- Amjad, S., Ashraf, S., Mohamed, H. J. B. J., Leng, S. K., Rashid, N., Rafiq, S., Tahir, H., Yousaf, F., & Ali, M. (2024). NUTRITIONAL ASSESSMENT OF INFANTS IN PAKISTAN: IMPACT OF BREASTFEEDING PRACTICES ON GROWTH-INSIGHTS FROM THE LAHORE BIRTH COHORT STUDY. *Romanian Journal of Diabetes, Nutrition and Metabolic Diseases*, 31(1), 1048-1059.
- Ardente, F., Beylot, A., & Zampori, L. (2023). A price-based life cycle impact assessment method to quantify the reduced accessibility to mineral resources value. *The International Journal of Life Cycle Assessment*, 28(1), 95-109.
- Arif, S., Khan, H., Aslam, M., & Farooq, M. (2021). Factors influencing exclusive breastfeeding duration in Pakistan: a population-based cross-sectional study. *BMC public health*, 21(1), 1998.
- Asghar, R. M., Fahim, H., & Lifschitz, C. (2022). Lack of adherence to complementary feeding in middle socioeconomic status Pakistani infants and young children. *World Nutrition*, 13(2), 24-33.
- Azam, M., Ayub, A., Shaikh, M. A., Bhatti, H., & Rabbani, A. (2022). Crosssectional study on breastfeeding practices among infants aged up to 6 months in the rural population. *Pak J Med Health Sci*, 16(1), 1971.

- Bafila, P., Tiwari, K., Bisla, G., Yadav, V., & Negi, P. (2024). Nutritional and compositional aspects of complementary feeding. AIP Conference Proceedings,
- Barut Tugtekin, E., & Dursun, O. O. (2022). Effect of animated and interactive video variations on learners' motivation in distance Education. *Education and Information Technologies*, 27(3), 3247-3276.
- Brines, J., & Billeaud, C. (2021). Breast-feeding from an evolutionary perspective. *Healthcare*,
- Caba-Flores, M. D., Ramos-Ligonio, A., Camacho-Morales, A., Martinez-Valenzuela, C., Viveros-Contreras, R., & Caba, M. (2022). Breast milk and the importance of chrononutrition. *Frontiers in nutrition*, 9, 867507.
- Channa, N. A., Bhutto, M. H., Bhutto, M., Bhutto, N. A., & Tariq, B. (2022). Capturing customer's store loyalty through relationship benefits: moderating effect of retail innovation. *European Business Review*, 34(1), 20-40.
- Chekol Abebe, E., Ayalew Tiruneh, G., Asmare Adela, G., Mengie Ayele, T., Tilahun Muche, Z., Behaile T/Mariam, A., Tilahun Mulu, A., & Asmamaw Dejenie, T. (2022). Levels and determinants of prenatal breastfeeding knowledge, attitude, and intention among pregnant women: a cross-sectional study in Northwest Ethiopia. *Frontiers in Public Health*, 10, 920355.
- Chowdhury, A. R., Surie, A., & Bhan, G. (2021). Breastfeeding knowledge and practices of working mothers in the informal economy in New Delhi: A formative study to explore new intervention pathways towards improved maternal and child health outcomes. *Social Science & Medicine*, 281, 114070.
- Daniels, S. R., Pratt, C. A., & Hayman, L. L. (2011). Reduction of risk for cardiovascular disease in children and adolescents. *Circulation*, 124(15), 1673-1686.
- Dannals, J. E., & Oppenheimer, D. M. (2023). How people deal with..... outliers. *Journal of Behavioral Decision Making*, 36(3), e2303.
- Erick, M. (2018). Breast milk is conditionally perfect. *Medical hypotheses*, 111, 82-89.
- Fauzi, M. A. (2022). Partial Least Square Structural Equation Modelling (PLS-SEM) in Knowledge Management Studies: Knowledge Sharing in Virtual Communities. *Knowledge Management & E-Learning*, 14(1), 103-124.
- Fawad, Y., Rizwan, B., Jaffar, H. M., Ikram, M., Rehman, A., Safdar, J., Fatima, E., Zain, W. A., & Cheema, A. T. (2023). Knowledge, Attitude and Practice towards Exclusive Breastfeeding among Lactating Mothers visiting Sir Ganga Ram Hospital, Lahore: A Descriptive Cross-Sectional Study: Exclusive Breastfeeding among Lactating Mothers. *Pakistan BioMedical Journal*, 16-22.
- Fei, Y., Zhang, Z.-Y., Fu, W.-N., Wang, L., & Mao, J. (2022). Why do first-time mothers not intend to breastfeed?—A qualitative exploratory study on the decision-making of non-initiation in Jingzhou, China. *BMC pregnancy and childbirth*, 22(1), 183.
- 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*, 5, 100373.
- Herman, H., Mansur, A. R., & Chang, Y.-J. (2023). Factors associated with appropriate complementary feeding: A scoping review. *Journal of pediatric nursing*, 71, e75-e89.

- Ibrahim, A. F., Melkie, T. B., Filatie, T. D., & Tegegne, B. A. (2023). Timely initiation of breastfeeding and its factors among women delivered via cesarean section under spinal anesthesia at the University of Gondar Comprehensive Specialized Hospital, north-west Ethiopia, 2021: a hospital-based cross-sectional study. *Annals of Medicine and Surgery*, 85(6), 2609-2616.
- Jeong, J., Franchett, E. E., Ramos de Oliveira, C. V., Rehmani, K., & Yousafzai, A. K. (2021). Parenting interventions to promote early child development in the first three years of life: A global systematic review and meta-analysis. *PLoS medicine*, 18(5), e1003602.
- Kapran, M. I. (2023). *Sociocultural Determinants of Exclusive Breastfeeding and Infant Feeding Practices in Niger* The University of Mississippi].
- Khalid, S., Hassan, H., Khalil, Z. U. R., Nisar, W., Anjum, R., & Aziz, S. (2025). Perception and Practices of Parents regarding Milk Consumption and its Association with Oral Health among School going Children of Lahore-a Questionnaire-based Survey. *Annals of Punjab Medical College*, 19(1), 24-29.
- Khatib, M. N., Gaidhane, A., Upadhyay, S., Telrandhe, S., Saxena, D., Simkhada, P. P., Sawleshwarkar, S., & Quazi, S. Z. (2023). Interventions for promoting and optimizing breastfeeding practices: An overview of systematic review. *Frontiers in Public Health*, 11, 984876.
- Kock, F., Berbekova, A., & Assaf, A. G. (2021). Understanding and managing the threat of common method bias: Detection, prevention and control. *Tourism management*, 86, 104330.
- Koray, M. H., Wanjiru, J. N., Kerkula, J. S., Dushimirimana, T., Mieh, S. E., Curry, T., Mugisha, J., & Kanu, L. K. (2025). Factors influencing exclusive breastfeeding in Sub-Saharan Africa: analysis of demographic and health surveys. *BMC Public Health*, 25(1), 1790.
- Koricho, M. A., Dinsa, G. D., & Khuzwayo, N. (2024). Cost-effectiveness of implementing performance-based financing for improving maternal and child health in Ethiopia. *PLoS One*, 19(7), e0305698.
- Lauritano, D., Moreo, G., Carinci, F., Campanella, V., Della Vella, F., & Petrucci, M. (2021). Oral health status among migrants from middle-and low-income countries to Europe: a systematic review. *International Journal of Environmental Research and Public Health*, 18(22), 12203.
- Liu, L. C. (2022). Policy innovation and public organizational performance: a moderated mediation analysis of Taiwan's Bookstart program. *Public Management Review*, 24(11), 1824-1845.
- Lokossou, G. A., Kouakanou, L., Schumacher, A., & Zenclussen, A. C. (2022). Human breast milk: from food to active immune response with disease protection in infants and mothers. *Frontiers in immunology*, 13, 849012.
- Lutter, C. K., Grummer-Strawn, L., & Rogers, L. (2021). Complementary feeding of infants and young children 6 to 23 months of age. *Nutrition reviews*, 79(8), 825-846.
- Mishuk, M. H. (2024). *Exploring mother's perception regarding exclusive breastfeeding (EBF)* Brac University].
- Modak, A., Ronghe, V., Gomase, K. P., & Dukare, K. P. (2023). The psychological benefits of breastfeeding: fostering maternal well-being and child development. *Cureus*, 15(10).
- Muluneh, M. W. (2023). Determinants of exclusive breastfeeding practices among mothers in Ethiopia. *Plos one*, 18(2), e0281576.
- Mutaru, A.-M., Asumah, M., Ibrahim, M., Sumaila, I., Hallidu, M., Mbemah, J., & Zakaria, D. (2021). Knowledge on sexually transmitted infections (STIs) and sexual practices among nursing trainees in Yendi municipality, northern region of Ghana. *Eur J Heal Sci*, 6(4), 33-47.

- Najahah, I. (2023). Exclusive Breastfeeding. In *Infant Nutrition and Feeding*. IntechOpen.
- Nasar-u-Minallah, M., Zia, S., Rahman, A.-u., & Riaz, O. (2021). Spatio-temporal analysis of urban expansion and future growth patterns of Lahore, Pakistan. *Geography, Environment, Sustainability*, 14(3), 41-53.
- Ng, J., Wah, K., Fitriana, M., & Arumugam, T. (2023). Assumptions for structure equation modeling (SEM), normality of data distribution analysis & Model fit measures. *Normality of Data Distribution Analysis & Model Fit Measures*.
- North, K., Gao, M., Allen, G., & Lee, A. C. (2022). Breastfeeding in a global context: epidemiology, impact, and future directions. *Clinical therapeutics*, 44(2), 228-244.
- Okafor, A. E., Uche, O. A., & Uche, I. B. (2023). Sociocultural Factors as Predictor to Exclusive Breastfeeding (EBF) Practice among Nursing Mothers in some Communities in Eastern, Nigeria. *Social Work in Public Health*, 38(4), 298-310.
- Olufunlayo, T. F. (2023). *Improving the practice and patterns of exclusive breastfeeding in Lagos state, Nigeria: an evidence synthesis, quantitative survey, and theory-informed qualitative study* University of Birmingham].
- Organization, W. H. (2001). The optimal duration of exclusive breastfeeding: a systematic review.
- Organization, W. H. (2021). Implementation guidance on counselling women to improve breastfeeding practices.
- Organization, W. H. (2023). *WHO Guideline for complementary feeding of infants and young children 6-23 months of age*. World Health Organization.
- Organization, W. H. (2025). *Infant and young child feeding: model chapter for textbooks for medical students and allied health professionals*. World Health Organization.
- Ottino González, J., Fernández, M. A. R., Esaian, S., Rajagopalan, V., Bouhrara, M., Goran, M. I., & Adise, S. (2025). Sustained breastfeeding associations with brain structure and cognition from late childhood to early adolescence. *Pediatric research*, 98(6), 2144-2152.
- Pérez-Escamilla, R., Tomori, C., Hernández-Cordero, S., Baker, P., Barros, A. J., Bégin, F., Chapman, D. J., Grummer-Strawn, L. M., McCoy, D., & Menon, P. (2023). Breastfeeding: crucially important, but increasingly challenged in a market-driven world. *The Lancet*, 401(10375), 472-485.
- Pinto, J., da Costa Ximenes, Z., de Jesus, A., de Jesus Leite, A. d. R., & Noronha, H. (2023). The Role of Nutrition in Children's Growth and Development at Early Age: Systematic Review. *International Journal of Research in Science and Technology*, 13(4), 23-30.
- Polidori, P., Rapaccetti, R., Klimanova, Y., Zhang, J.-J., Santini, G., & Vincenzetti, S. (2022). Nutritional parameters in colostrum of different mammalian species. *Beverages*, 8(3), 54.
- Prentice, A. M. (2022). Breastfeeding in the modern world. *Annals of Nutrition and Metabolism*, 78(Suppl. 2), 29-38.
- Quitizaca, P. B. R. (2021). *National and subnational coverage and inequalities in reproductive, maternal, newborn, child and sanitary interventions in Ecuador: a study of national surveys 1994-2012* Universidade de São Paulo].
- Roemer, E., Schuberth, F., & Henseler, J. (2021). HTMT2—an improved criterion for assessing discriminant validity in structural equation modeling. *Industrial Management & Data Systems*, 121(12), 2637-2650.
- Sabol, M., Hair, J., Cepeda, G., Roldán, J. L., & Chong, A. Y. L. (2023). PLS-SEM in information systems: seizing the opportunity and marching ahead full speed to adopt methodological updates. *Industrial Management & Data Systems*, 123(12), 2997-3017.

- Sánchez, C., Franco, L., Regal, P., Lamas, A., Cepeda, A., & Fente, C. (2021). Breast milk: A source of functional compounds with potential application in nutrition and therapy. *Nutrients*, 13(3), 1026.
- Shengeza, J. J., Msambichaka, J. J., & Mwishwa, Y. H. (2023). Validation of the Developed Structural Equation Model on Factors Influencing Artisans' Performance in Tanzanian Building Construction Projects. *Must Journal of Research and Development*, 4(4).
- Sosse, S. A., Barrow, A., & Lu, Z. J. (2023). Cultural beliefs, attitudes and perceptions of lactating mothers on exclusive breastfeeding in The Gambia: an ethnographic study. *BMC women's health*, 23(1), 18.
- Sotiraki, M., Malliou, A., Tachirai, N., Kellari, N., Grammatikopoulou, M. G., Sergeantanis, T. N., & Vassilakou, T. (2022). Burden of childhood malnutrition: a roadmap of global and European policies promoting healthy nutrition for infants and young children. *Children*, 9(8), 1179.
- Souza, C. B. d., Melo, D. S., Relvas, G. R. B., Venancio, S. I., & Silva, R. P. G. V. C. d. (2023). Promotion, protection, and support of breastfeeding at work, and achieving sustainable development: A scoping review. *Ciência & saúde coletiva*, 28, 1059-1072.
- Stordal, B. (2023). Breastfeeding reduces the risk of breast cancer: A call for action in high-income countries with low rates of breastfeeding. *Cancer medicine*, 12(4), 4616-4625.
- Sukri, S., & Yusoff, R. Z. (2021). Effect of technology strategy on organizational performance of manufacturing companies: A note on how to conduct a data screening and preliminary analysis. *International Journal of Business and Technopreneurship*, 11(2), 51-68.
- Taofeeq, D., Adeleke, A., & Lee, C.-K. (2022). Individual factors influencing contractors' risk attitudes among Malaysian construction industries: the moderating role of government policy. *International Journal of Construction Management*, 22(4), 612-631.
- Yahyaa, B. T., Yaseen, S. M., Al-Samarrai, M. A. M., & Jadoo, S. A. A. (2021). Knowledge on Health Aspect of Children Less Than Two Years among Mothers in Al-Ramadi City, Iraq. *Annals of the Romanian Society for Cell Biology*, 25(6), 10948-10965.
- Zafar, S. N., Ali, H., Gul, H., Behram, M., William, A., & Bano, F. (2025). Exploring Breastfeeding Practices Overcoming Challenges and Shaping the Future in Sindh, Pakistan. *Social Science Review Archives*, 3(1), 1526-1533.