

“A Study To Assess Knowledge, Attitude And Practice Of Early Initiation Of Breastfeeding In Mothers Who Delivered At Tertiary Care Centre”

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Abstract

Abstract:-

Objective:-

- To assess knowledge regarding early initiation of breastfeeding and attitude towards early initiation of breastfeeding and overall breastfeeding practices in mothers who delivered in tertiary care centre.
- To determine factors affecting practice of early initiation of breastfeeding in mothers who delivered in tertiary care centre.
- To estimate proportion of early initiation of breastfeeding among mothers delivered in tertiary care centre.
- To suggest measures for promoting early initiation of Breastfeeding.

Methods:-

It is a cross-sectional observational study conducted in Department of Obstetrics and Gynaecology, GMERS Medical College and Civil Hospital, Sola, Ahmedabad during May 2020 to October 2021 among Women who delivered vaginally or by caesarean. A face-to-face interview was conducted using a predesigned, standardized questionnaire regarding knowledge, attitude and practices of breastfeeding.

Results:-

68 % of women initiated breastfeeding within 1 hour of delivery. Maternal Age, sex of child , religion, area of residence, and type of delivery (vaginal or caesarean section) are the factors which determines initiation of breastfeeding and to be eliminated, while maternal educational status , maternal employment status , socioeconomic status , number of ANC visits and antenatal counselling are the factors which are associated with initiation of breastfeeding and to be improved.

Conclusion:-

Our study concluded that targeted and well-coordinated breastfeeding policies and interventions by healthcare workers, eliminating myths regarding prelacteal feeds and promotion of EIBF will improve early initiation of breastfeeding practices for all Indian mothers.

Keywords: Early initiation of breastfeeding EIBF

Introduction

Early initiation of breastfeeding (EIBF) is defined as the initiation of breastfeeding within 1 hour of birth. This is also the time when colostrum is secreted with its potential benefits¹. Breastfeeding is a unique, valuable feeding practice in infancy that is associated with lower neonatal mortality and prevents morbidities such as diarrhoea, pneumonia, neonatal sepsis and may reduce obesity and diabetes later in life.^{2,3,4,5.}

EIBF stimulates breast milk production, produces antibody protection for

the newborn and reduces postpartum maternal haemorrhage and its practice determines the successful establishment and longer duration of breastfeeding.^{6,7,8.}In view of the benefits of optimal breastfeeding, the World Health Organization and the United Nations Children's Fund (WHO/UNICEF)⁹ recommend early initiation of breastfeeding within the first hour of birth and exclusive breastfeeding (EBF) for the first 6 months of life, as well as continued breastfeeding until the child is 2 years of age.¹⁰

Several studies have shown that EIBF is associated with a lower risk of neonatal

1. ¹WHO. Indicators for assessing infant and young child feeding practices. conclusions of a consensus meeting held 6–8 November 2007. Washington D.C; 2010
2. ²Jones, G., Steketee, R. W., Black, R. E., Bhutta, Z. A. & Morris, S. S. How many child deaths can we prevent this year? *Lancet* **362**, 65–71 (2003).
3. ³Edmond, K. M. et al. Delayed breastfeeding initiation increases risk of neonatal mortality. *Pediatrics* **117**, e380–e386 (2006).
4. ⁴Gilmour, S. & Shibuya, K. Simple steps to equity in child survival. *BMC Med* **11**, 261 (2013).
5. ⁵Victora, C. G. et al. Breastfeeding in the 21st century: epidemiology, mechanisms, and lifelong effect. *Lancet* **387**, 475–490 (2016).

6. ⁶WHO et al. *Indicators for assessing infant and young child feeding practices*. (WHO, 2008).
7. ⁷Clemens, J. et al. Early initiation of breastfeeding and the risk of infant diarrhea in rural Egypt. *Pediatrics* **104**, e3 (1999).
8. ⁸Brandtzaeg, P. Mucosal immunity: integration between mother and the breast-fed infant. *Vaccine* **21**, 3382–3388 (2003).
9. ⁹WHO/UNICEF: GAPPD: ending preventable child deaths from pneumonia and diarrhoea by 2025. In. Geneva, Switzerland: WHO; 2013
10. ¹⁰WHO: Infant and young child feeding: Model Chapter for textbooks for medical students and allied health professionals. In. Geneva, Switzerland: WHO; 2009

mortality.^{11,12,13} A systematic review described that initiation of breastfeeding after 1 hour increases risk of neonatal mortality by 33%.¹⁴ Another study also reported that about 22% of neonatal deaths could be prevented if breastfeeding is started within an hour of birth.¹⁵

In 2019 Neonatal mortality rate was 21.7 per 1000 live birth in INDIA.¹⁶

In 2019 about 2.4 million newborns died globally during the first month of life (0–27 days).¹⁷ Target 3.2 of Goal 3 of Sustainable Developmental Goals is to end preventable deaths of newborns and children under 5 years of age with all countries aiming to reduce neonatal mortality to at least as low as 12 per 1,000 live births and under-5 mortality to at least as low as 25 per 1,000 live births by 2030.¹⁸

NFHS 4 (2015-2016) data suggests 41.6 % newborns were breastfed within 1 hour of birth (Urban - 42.8% and Rural 41.1%).

NFHS 5 (2019 -2020) phase 1 data suggest EIBF was done in 37.8 % newborns in Gujarat. An estimated 11.6% of infant deaths and 21.9 million disability-adjusted years could be prevented by large-scale breastfeeding promotion programmes.¹⁹ The global breastfeeding recommendations are to place all newborns in skin-to-skin contact with their mothers immediately after birth, to support the initiation of breastfeeding within 1 hour after birth (defined as early initiation of breast feeding or EIBF) and to exclusively breastfeed the child until 6 months of age.²⁰

Aim of this study is to assess knowledge, attitude and practice of early initiation of breastfeeding and overall

11. ¹¹Goldman, A. S. Modulation of the gastrointestinal tract of infants by human milk. Interfaces and interactions. An evolutionary perspective. *J Nutr* **130**, 426s–431s (2000).

12. ¹²Berde, A. S. & Yalcin, S. S. Determinants of early initiation of breastfeeding in Nigeria: a population-based study using the 2013 demographic and health survey data. *BMC Pregnancy Childbirth* **16**, 32 (2016).

13. ¹³NEOVITA Study Group. Timing of initiation, patterns of breastfeeding, and infant survival: prospective analysis of pooled data from three randomised trials. *Lancet Glob health* **4**, e266–275 (2016).

14. ¹⁴Smith ER, Hurt L, Chowdhury R, Sinha B, Fawzi W, Edmond KM, et al. Delayed breastfeeding initiation and infant survival: a systematic review and meta- analysis. *PLoS One*. 2017;12(7):1–16.

15. ¹⁵alive&thrive. Impact of early initiation of exclusive breastfeeding on newborn deaths. 2010.

16. ¹⁶. Neonatal mortality ,UNICEF data, data.unicef.org.

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17. ¹⁸Sustainable Developmental Goals, United Nations ,www. Undp.org

18. ¹⁹Doherty, T. et al. Early cessation of breastfeeding amongst women in South Africa: an area needing urgent attention to improve child health. *BMC Pediatr* **12**, 105 (2012).

breastfeeding practice in mothers, to find out proportion of early initiation of breastfeeding and also to determine the factors affecting early initiation of breast feeding in mothers who were delivered in tertiary care which can subsequently help in making policies to promote early initiation of breastfeeding.

MATERIAL AND METHOD

Study Design

It is a cross-sectional observational study.

Study Area

Department of Obstetrics and Gynaecology, GMERS Medical College and Civil Hospital, Sola, Ahmedabad.

Study Population

Women who delivered vaginally or by caesarean section in Department of Obstetrics and Gynaecology, GMERS Medical College and Hospital, Sola, Ahmedabad were included in this study.

Study Duration

May 2020 to October 2021

Sample Size Calculation

Sample size calculation was done based on the prevalence of EIBF according to NFHS 5 (2019-2020) phase 1 data which suggests 37.8% newborn in Gujarat were breastfed within 1 hour of birth.

Ethics Review

Ethical approval was taken from institutional ethical committee.

Method of Data Collection

Women who delivered vaginally or by caesarean section in Department of Obstetrics and Gynaecology, GMERS Medical College and Hospital, Sola, Ahmedabad and who fall in

the inclusion criteria were selected for study before the discharge from hospital. Informed consent was taken. A face-to-face interview was conducted using a predesigned, standardized questionnaire regarding knowledge, attitude and practices of breastfeeding.

The questionnaire included data about maternal age, parity, type of delivery, education, employment status, socioeconomic status, religion, residence, sex of the child, time of initiation of breastfeeding and questions regarding knowledge, attitude and practice of breastfeeding.

Health education was given to all the mothers who were interviewed regarding the advantages of breastfeeding.

Inclusion Criteria

Women who delivered a live baby at term by vaginal route or caesarean section and whose baby was given to mothers in immediate postpartum period in Department of Obstetrics and Gynaecology, GMERS Medical College and Hospital, Sola were included in study.

Exclusion Criteria

- Women with conditions where breastfeeding is contraindicated i.e. untreated active Tuberculosis, Psychosis, Cancer.
- Women who delivered IUD fetus.
- Women with complicated delivery.
- Women with baby who required neonatal resuscitation and NICU admission in immediate postpartum period.
- Women with Baby having Gross Congenital anomaly.

Statistical Analysis

The information was collected and analyzed using Microsoft Excel and Epi Info 7 software. Descriptive statistics like mean, frequency and

percentages of various parameters were calculated, Chi-Square test was used to deduce the association and correlation between Early initiation of breastfeeding with different attributes and p values were calculated. The p

value <0.05 was considered significant and p value <0.01 was considered highly significant.

Results and Observation:-

TABLE 1 : KNOWLEDGE REGARDING TECHNIQUE OF BREASTFEEDING (Multiple Responses)

Knowledge regarding technique of breastfeeding	Number of women (n=600)
Nipple and most of areola should be inside The mouth	558 (93%)
Burping after feeds	576 (96%)
Knows placing the fingers between the gums and areola to release the suction after breastfeeding	210 (35%)
Complete emptying of one breast followed by other	240 (40%)
Complete emptying of both breast	210 (35%)
Knows about cleanliness of breast and handwashing before feeds.	294 (49%)

TABLE 2: KNOWLEDGE REGARDING BENEFITS OF BREASTFEEDING AND KNOWLEDGE REGARDING RECENT TRENDS IN BREASTFEEDING (Multiple Responses)

Knowledge regarding benefits of Breastfeeding and knowledge regarding recent trends in breastfeeding	Number of women (n=600)
Knowledge about early initiation of breastfeeding and its benefits	360 (60%)
Child remains healthy	570 (95%)
More nutritious and hygienic	540 (90%)
Gives natural immunity	72 (12%)
Lactational amenorrhoea	240 (40%)
Mother milk is best milk	540 (90%)
Benefits of skin to skin contact	60 (10%)
Breast milk is pure and cost nothing	552 (92 %)
Improves growth and development	570 (95%)
Prevents from allergy	6 (1%)
Knowledge of milk bank	0 (0%)
Knowledge of surrogate mothers and wet nursing	0 (0%)
Knowledge of feeding of twin babies	6 (1%)
Knowledge of fore milk and hind milk	24 (4 %)
Knowledge of breast shield and nipple shield	0 (0%)
Knowledge of formula milk	318 (53%)

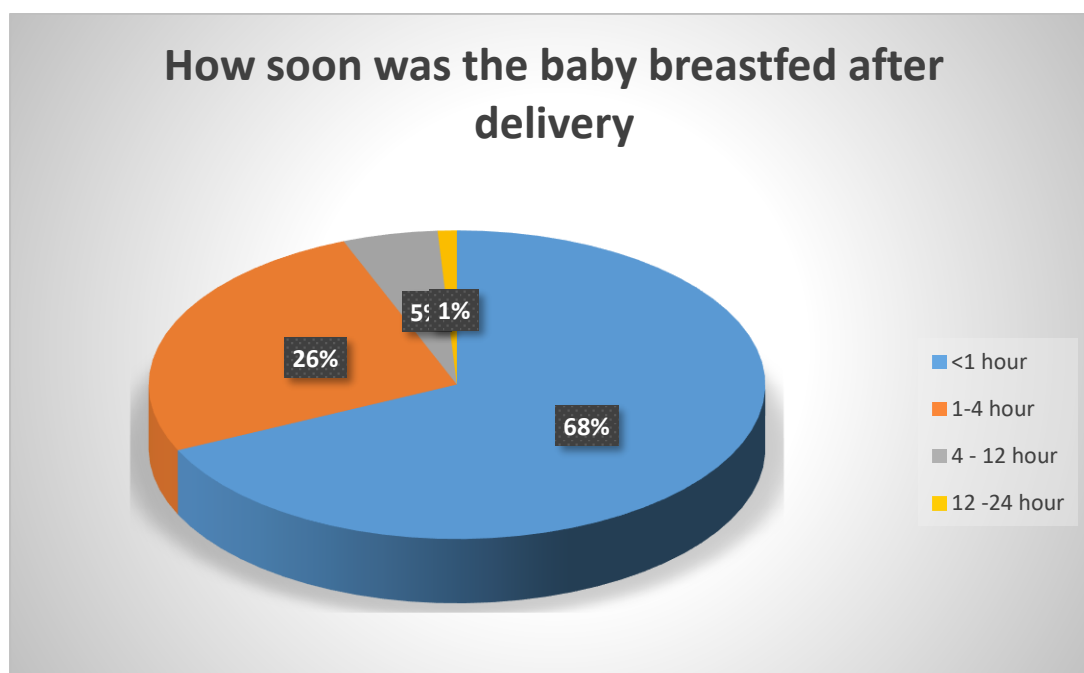
TABLE 3: ATTITUDE TOWARDS BREASTFEEDING

Attitude towards breastfeeding	Number of patients (n=600)
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Breastfeeding leads to loss of figure	72 (12%)
Breastfeeding is old fashioned	24(4%)
Breast milk is best milk	540 (90%)
Breastfeeding fosters close bond between mother and child	550 (91.7%)
Breastfeeding is embarrassing in public	360 (60%)
Breastfeeding prevents going to work	216 (36%)

TABLE 4 :HOW SOON WAS THE BABY BREASTFED AFTER DELIVERY

How soon was the baby breastfed after delivery	Number of Patients
<1 hour	408 (68 %)
1-4 hour	156 (26%)
4 - 12 hour	30 (5%)
12 -24 hour	6 (1%)
Total	600 (100%)

**Figure 7 : How soon was the baby breastfed after delivery****TABLE 9 : COMPARISION OF EDUCATIONAL STATUS OF WOMEN AND EIBF**

Educational Status	EIBF	Breastfeeding after 1 hour of delivery	Total	P value
Informal Education	6(33.3%)	12(66.7%)	18 (100%)	< 0.00001
Primary School	46(47.9 %)	50(52.1 %)	96 (100%)	
Middle School	146(78.5%)	40(21.5%)	186 (100%)	
High School	187(67.7%)	89(32.3%)	276 (100%)	
Graduate	23 (95.9%)	1(4.1%)	24 (100%)	
Total	408(68 %)	192(32%)	600 (100%)	

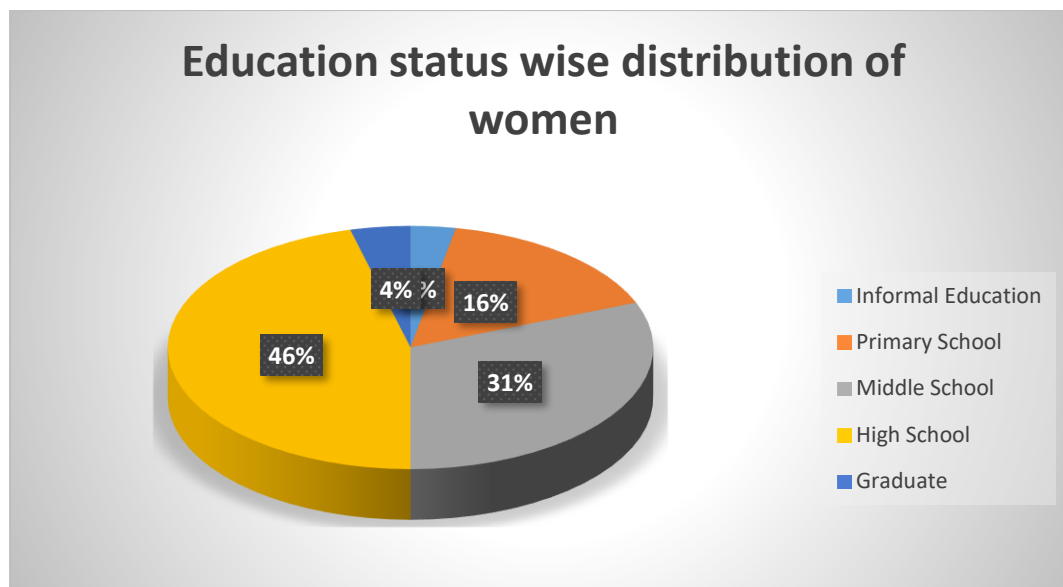


Figure 15 : Education status wise distribution of women

DISCUSSION:

In present study 68 % women started breastfeeding within 1 hour of delivery which

19. ²¹WHO. Breastfeeding counselling: a training course. Trainer's guide (Session 3: How breastfeeding works); and Overhead figures (Figure 3/1). Geneva: World Health Organization; 1993. (WHO/CDR/93.4 and WHO/CDR/93.6)

20. ²²Senanayake P, O'Connor E, Ogbo FA. National and rural-urban prevalence and determinants of early initiation of breastfeeding in India. BMC Public Health. 2019 Jul 8;19(1):896. doi: 10.1186/s12889-019-7246-7. PMID: 31286907; PMCID: PMC6615079.

is comparable to study of Ali et al²¹. Percentage of EIBF practice in present study was higher than study of Senanayake P et al²², Precious et al²³ and Sakib MS et al²⁴ because present study

21. Precious A Duodu, Henry O Duah, Veronica M Dzomeku, Adwoa B Boamah Mensah, Josephine Aboagye Mensah, Ernest Darkwah, Pascal Agbadi, Consistency of the determinants of early initiation of breastfeeding in Ghana: insights from four Demographic and Health Survey datasets, International Health, Volume 13, Issue 1, January 2021

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²⁴Sakib MS, Ripon Rouf ASM, Tanny TF. Determinants of early initiation of breastfeeding practices of newborns in Bangladesh: Evidence from

is conducted in tertiary care hospital with constant counselling and support of healthcare workers and more prevalent antenatal counselling regarding breastfeeding.

Percentage of male and female child breastfed within 1 hour shows large difference compare to other study because sex discrimination is still prevalent in lower socioeconomic classes in India and majority of patients coming to our institute belongs to lower socioeconomic class. In this study association between sex of child and initiation of breastfeeding was statistically significant (P value < 0.00001) , which is also seen in study of Ali et al²⁵ , Sakib MS et al²² and Liben et al²⁶.

Percentage of EIBF is higher among women

Bangladesh Demographic and Health Survey. *Nutr Metab Insights* [Internet]. 2021;14:11786388211054676.

Available from: <http://dx.doi.org/10.1177/11786388211054677>

²⁵ Ali F, Mgongo M, Mamseri R, George JM, Mboya IB, Msuya SE. Prevalence of and factors associated with early initiation of breastfeeding among women with children aged < 24 months in Kilimanjaro region, northern Tanzania: a community-based cross-sectional study. *Int Breastfeed J* [Internet]. 2020;15(1):80. Available from: <http://dx.doi.org/10.1186/s13006-020-00322-8>

from Urban area. This can be explained because the women who live in urban places might have access to different information sources on breastfeeding including media and more frequent antenatal visit with more qualified healthcare worker. On the other hand rural mothers might not have access to such information sources and less contact with qualified health worker. Association between place of residence and initiation of breastfeeding is statistically significant (P value - < 0.00001). Same association was found in study of Senanayake P et al²⁷ and in study of Liben et al²⁴.

In present study percentage of EIBF was almost same between primipara and multipara. In this study association between Parity and initiation

²⁶ Liben ML, Yesuf EM. Determinants of early initiation of breastfeeding in Amibara district, Northeastern Ethiopia: a community based cross-sectional study. *Int Breastfeed J* [Internet]. 2016;11(1):7. Available from: <http://dx.doi.org/10.1186/s13006-016-0067-8>

²⁷ Senanayake P, O'Connor E, Ogbo FA. National and rural-urban prevalence and determinants of early initiation of breastfeeding in India. *BMC Public Health* [Internet]. 2019;19(1). Available from: <http://dx.doi.org/10.1186/s12889-019-7246-7>

of breastfeeding is NOT statistically significant (P value - 0.955) , while in study of Sakib MS et al²² and Liben et al²⁴ the researchers found significant association between initiation of breastfeeding and parity. It indicates higher postnatal support and counselling regarding breastfeeding initiation irrespective of previous experience of breastfeeding of woman in present study.

Association between religion of women and initiation of breastfeeding is statistically significant (P value - <0.00001). Study done by

Sakib MS et al²² in Bangladesh also found association between initiation of breastfeeding and Religion.

In this study percentage of EIBF was higher among working woman and association between employment status of mother and initiation of breastfeeding is statistically significant (P value - 0.011189). Possible reason being that the working woman has more opportunities to get information regarding breastfeeding as she has more contacts with people and access to media at workplace with compare to non working housewives. While study done by Ali et al²³ and Senanayake P et al²⁵ found no significant association between employment status of woman and initiation of breastfeeding.

In this study percentage of EIBF was higher (74.8 %) among women who were counseled regarding breastfeeding in antenatal period and association between Antenatal counseling regarding breastfeeding and initiation of breastfeeding is statistically significant (P value - < 0.00001).Results indicate that during antenatal period women are more concerned and receptive regarding baby's well being. Ali et al²³ also found association between antenatal counseling and initiation of breastfeeding.

In present study percentage of EIBF was higher among women who delivered vaginally than caesarean delivery and association between

type of delivery and initiation of breastfeeding is statistically significant (P value - < 0.00001). Postoperative pain and residual effect of anesthesia prevents EIBF in women with caesarean section. Senanayake P et al²⁵ and Liben et al²⁴ also found delayed initiation of breastfeeding among women with caesarean delivery.

CONCLUSION:

Majority of women had good **knowledge** about overall breastfeeding practices and benefits of **early initiation of breastfeeding** most probably due to counseling regarding breastfeeding in antenatal period by healthcare workers starting from grass root level including Anganwadi worker, Auxiliary Nurse Midwife(ANM), Accredited Social Health Activist (ASHA) , Nursing staff and Medical staff and also due to positive change in attitude of women and relatives toward breastfeeding.

Our study concluded that targeted and well-coordinated breastfeeding policies and interventions by healthcare workers , eliminating myths regarding prelacteal feeds and promotion of EIBF will improve early initiation of breastfeeding practices for all Indian mothers.

References:

1. WHO. Indicators for assessing infant and young child feeding practices. conclusions of a consensus meeting held 6–8 November 2007. Washington D.C; 2010
2. Jones, G., Steketee, R. W., Black, R. E., Bhutta, Z. A. & Morris, S. S. How many child deaths can we prevent this year? *Lancet* **362**, 65–71 (2003).
3. Edmond, K. M. et al. Delayed breastfeeding initiation increases risk of neonatal mortality. *Pediatrics* **117**, e380–e386 (2006).

4. Gilmour, S. & Shibuya, K. Simple steps to equity in child survival. *BMC Med* **11**, 261 (2013).
5. Victora, C. G. et al. Breastfeeding in the 21st century: epidemiology, mechanisms, and lifelong effect. *Lancet* **387**, 475–490 (2016).
6. WHO et al. Indicators for assessing infant and young child feeding practices. (WHO, 2008).
7. Clemens, J. et al. Early initiation of breastfeeding and the risk of infant diarrhea in rural Egypt. *Pediatrics* **104**, e3 (1999).
8. Brandtzaeg, P. Mucosal immunity: integration between mother and the breast-fed infant. *Vaccine* **21**, 3382–3388 (2003).
9. WHO/UNICEF: GAPPD: ending preventable child deaths from pneumonia and diarrhoea by 2025. In. Geneva, Switzerland: WHO; 2013
10. WHO: Infant and young child feeding: Model Chapter for textbooks for medical students and allied health professionals. In. Geneva, Switzerland: WHO; 2009
11. Goldman, A. S. Modulation of the gastrointestinal tract of infants by human milk. Interfaces and interactions. An evolutionary perspective. *J Nutr* **130**, 426s–431s (2000).
12. Berde, A. S. & Yalcin, S. S. Determinants of early initiation of breastfeeding in Nigeria: a population-based study using the 2013 demographic and health survey data. *BMC Pregnancy Childbirth* **16**, 32 (2016).
13. NEOVITA Study Group. Timing of initiation, patterns of breastfeeding, and infant survival: prospective analysis of pooled data from three randomised trials. *Lancet Glob health* **4**, e266–275 (2016).
14. Smith ER, Hurt L, Chowdhury R, Sinha B, Fawzi W, Edmond KM, et al. Delayed breastfeeding initiation and infant survival: a systematic review and meta-analysis. *PLoS One*. 2017;12(7):1–16.
15. alive&thrive. Impact of early initiation of exclusive breastfeeding on newborn deaths. 2010.
16. . Neonatal mortality ,UNICEF data, data.unicef.org.
17. Sustainable Developmental Goals, United Nations ,www. Undp.org
18. Doherty, T. et al. Early cessation of breastfeeding amongst women in South Africa: an area needing urgent attention to improve child health. *BMC Pediatr* **12**, 105 (2012).
19. WHO. Breastfeeding counselling: a training course. Trainer's guide (Session 3: How breastfeeding works); and Overhead figures (Figure 3/1). Geneva: World Health Organization; 1993. (WHO/CDR/93.4 and WHO/CDR/93.6)
20. Senanayake P, O'Connor E, Ogbo FA. National and rural-urban prevalence and determinants of early initiation of breastfeeding in India. *BMC Public Health*. 2019 Jul 8;19(1):896. doi:

- 10.1186/s12889-019-7246-7. PMID: 31286907; PMCID: PMC6615079.
21. Precious A Duodu, Henry O Duah, Veronica M Dzomeku, Adwoa B Boamah Mensah, Josephine Aboagye Mensah, Ernest Darkwah, Pascal Agbadi, Consistency of the determinants of early initiation of breastfeeding in Ghana: insights from four Demographic and Health Survey datasets, *International Health*, Volume 13, Issue 1, January 2021
 22. Sakib MS, Ripon Rouf ASM, Tanny TF. Determinants of early initiation of breastfeeding practices of newborns in Bangladesh: Evidence from Bangladesh Demographic and Health Survey. *Nutr Metab Insights* [Internet]. 2021;14:11786388211054676. Available from: <http://dx.doi.org/10.1177/11786388211054677>
 23. Ali F, Mgongo M, Mamseri R, George JM, Mboya IB, Msuya SE. Prevalence of and factors associated with early initiation of breastfeeding among women with children aged < 24 months in Kilimanjaro region, northern Tanzania: a community-based cross-sectional study. *Int Breastfeed J* [Internet]. 2020;15(1):80. Available from: <http://dx.doi.org/10.1186/s13006-020-00322-8>
 24. Liben ML, Yesuf EM. Determinants of early initiation of breastfeeding in Amibara district, Northeastern Ethiopia: a community based cross-sectional study. *Int Breastfeed J* [Internet]. 2016;11(1):7. Available from: <http://dx.doi.org/10.1186/s13006-016-0067-8>
 25. Senanayake P, O'Connor E, Ogbo FA. National and rural-urban prevalence and determinants of early initiation of breastfeeding in India. *BMC Public Health* [Internet]. 2019;19(1). Available from: <http://dx.doi.org/10.1186/s12889-019-7246-7>