

Indicator Sheet

EARLY INITIATION OF BREASTFEEDING

MoNITOR R

CONCEPT AND DEFINITION

Concept Breastfeeding is one of the most important preventive health measures for both mother and child. Early initiation of breastfeeding within the first hour of life is associated with reduced newborn mortality and morbidity, and protects the newborn from acquired infections (1). Early initiation of breastfeeding shortly after birth also improves the likelihood that mothers will be able to successfully initiate lactation, sustain exclusive breastfeeding over the long term, encounter fewer problems breastfeeding, and maintain optimal breastfeeding behaviours (2–4). To achieve optimal maternal and newborn health, breastfeeding should begin no later than one hour after birth concomitantly with skin-to-skin contact between mother and baby for bonding and maternal–infant stimulation, which facilitates suckling and an effective latch (5).

Definition The number of newborns who breastfed¹ within one hour of birth during a specified reference period is expressed as a percentage of the total number of live births in the same period (6).

Unit of measurement: Percentage (%)

Level of indicator use: Population-based at global, national and subnational (first or second administrative level)

Monitoring and evaluation framework: Outcome

Domain: Risk factors and behaviours

Continuum of care: Postnatal care

¹ Including expressed breast milk.

MEASUREMENT GUIDANCE

Data sources

There are two common data sources for this indicator:

- a. Routinely collected administrative data
- b. Population-based household surveys.

Routinely collected administrative data

Data from routinely collected and compiled administrative data sources will provide information as recorded in medical charts/records or registers and are entered into national and/or subnational health management information systems (HMIS).

Data from health information systems may collect information on early initiation of breastfeeding among all newborns born in a health facility. Routinely collected administrative data and health facility statistics are the preferred data source in settings with a high utilization of health facility services and data are recorded in a manner that ensures good data quality for both the public and private health sectors. The compiled data in the national HMIS or District Health Information System (DHIS2) should include data from both public and private health sectors, especially when the private sector is a substantial source of service provision to the population. In settings where utilization of health facilities is not high (e.g. settings with a high prevalence of births occurring at home), data may suffer from incompleteness if information about births occurring outside facilities is not captured. In addition, there are often challenges in accurately measuring the numerator and the denominator when routine HMIS data are used to measure this indicator.

Key source of data: Administrative data sources include health facility and health services data abstracted from obstetric and neonatal medical records, including health services registers. Relevant information is recorded about early initiation of breastfeeding among all newborns delivered at health facilities and are completed by health personnel on paper forms and/or through an electronic medical record. Data from paper or electronic sources are entered or abstracted into a database or registry and are compiled and analysed within the national and/or subnational HMIS. The Ministry of Health (MoH) and/or National Statistical Offices (NSO) are usually responsible for the reporting of this indicator.

Indicator and calculation: The indicator is calculated as the percentage of newborns breastfed within one hour of birth among live births in a health facility during a specified reference period.

Numerator: Number of newborns breastfed within one hour of birth in a health facility within a specified time period.

Denominator: Number of total live births in a health facility in a specified time period.

Frequency of measurement: The indicator can be calculated on an annual basis or may be tracked on a more frequent and ongoing basis (e.g. monthly, quarterly), depending on facility, subnational and national processes for data entry, compilation and analysis. As a guide, the recommended frequency of measurement based on reporting level is outlined below:

- *Facility level:* Monthly, quarterly, or as needed based on the country and/or facility need
- *Subnational (first and second administrative) level:* Monthly or quarterly
- *National level:* Annually (data can be aggregated to provide national-level data).

Disaggregation: By level of facility, location of facility and place of maternal residence (e.g. urban, rural), subnational administrative units (e.g. districts, provinces, regions), type of health personnel, intention to breastfeed, birthweight, gestational age and timing of breastfeeding.

Missing values: Missing values are usually not known or not reported.

Population-based household surveys

The main source of data for this indicator has been through population-based household surveys collected through nationally or subnationally representative and structured questionnaires, such as:

- Demographic Health Surveys (DHS) (7)
- Multiple Indicator Cluster Surveys (MICS) (8)
- Reproductive Health Surveys (RHS)
- Other household surveys with a similar methodological design.

Population-based household survey data are the preferred data source in settings where utilization of health facility services is not very high (e.g. settings with a high prevalence of births occurring at home) or where private health sector data are excluded from routinely collected administrative data sources.

Key source of data: Eligible women of reproductive age (15–49 years) are identified in the household survey for inclusion and interviewing using an individual women’s questionnaire. Women are considered eligible for a survey interview if they are either usual residents or visitors of the household who stayed there the night before the interview.

All eligible and interviewed women (between 15 and 49 years old) who had a live birth during a specified reference period, typically 2–5 years prior to the time of interview, are asked “*Did you ever breastfeed (NAME)?*”, where “name” refers to the name of the live birth the individual woman had during the same reference period. The woman is to indicate whether she ever breastfed her last live birth, even if the child died very young. If the child was ever breastfed, she is then asked “*How long after birth did you first put (NAME) to the breast?*” For the early breastfeeding indicator calculation, the woman must report that the baby was put to the breast either immediately after birth or within the first hour after delivery.

The MoH and NSO typically conduct household surveys and compile, analyse and report the results for this indicator in collaboration with the survey programme (e.g., DHS, MICS, RHS) and funding agency.

Indicator definition and calculation: Individual women of reproductive age (15–49 years old) are asked about early breastfeeding initiation irrespective of the delivery location and child’s current living status (dead or alive) and are for the most recent live birth that they had during a specified reference period, which is typically 2–5 years before the time of the survey completion. The definition is as follows: The percentage of newborns who were breastfed within one hour of birth in the two (or five) years prior to survey completion. The indicator consists of the following numerator and denominator:

Numerator: Number of newborns breastfed within the first hour of birth.

Denominator: Total number of live births.

Frequency of measurement: Household surveys are typically conducted every 3–5 years.

Disaggregation at population level: Place of delivery (private or public health facility, community), mode of delivery, place of residence (e.g. urban, rural), sex of live birth, birth order, socioeconomic status (e.g. education level, wealth quintile), age of woman at the time of delivery, births attended by skilled health personnel, timing of first antenatal care, and timing (within two days) and location of postnatal health check.

Missing values: Included in the distribution as “don’t know” or missing.

INTERPRETATION AND USE

Interpretation

Early initiation of breastfeeding measures the length of time after birth when the mother initiated breastfeeding, regardless of absence or presence of breast milk. Provision of mother’s breast milk, or expressed breast milk, to newborns within one hour of birth is referred to as “early initiation of breastfeeding” and ensures that the infant receives the colostrum, or “first milk”, which is rich in protective factors (3). It is an indication of the coverage of one of the essential interventions immediately after birth that can both improve maternal health and reduce newborn mortality and morbidity and protect newborns from acquiring infections (1, 4).

At national and subnational levels, it is recommended to use household survey data, which will provide representative population-based coverage estimates. At the facility level, it is recommended to use HMIS data to improve quality of care among live births in health facilities. Additionally, HMIS data can be aggregated to higher levels to provide more frequent reporting.

Monitoring this indicator will demonstrate the programme efforts for protecting, promoting and supporting breastfeeding in facilities providing maternity and newborn services, which is also a reflection of provisions recommended for essential interventions immediately after birth. With that, it should be noted that the early initiation of breastfeeding indicator is part of essential newborn care, but cannot be used as a proxy on its own for essential newborn care (5).

Common challenges

Data collected from administrative and other routine data systems

Administrative data may suffer from poor quality such as irregularities in report generation, data duplication and inconsistencies (9).

Reporting challenges exist at the facility level given data quality issues, including incomplete, inaccurate and lack of timely data due to insufficient capacity in the health system or inadequate system design.

Many HMIS databases or registries are event-based and only include breastfeeding information for women who delivered a live birth at a health facility. In some instances, the denominator may include births or deliveries by women of an unspecified age range and may also include both live births and stillbirths. As this often only represents those women who present to health facilities for deliveries, it does not capture the number of pregnancies and total percentage of early initiation of breastfeeding within the total population. These differences in definitions compromise the ability to compare data between countries.

Administrative data should be interpreted with caution in settings where data quality is poor and the percentage of births at public and private sector health facilities is low, or where data from the private health sector are not compiled within the HMIS reporting.

In settings where routine HMIS data lack information on pregnancies and/or births or deliveries that occur outside the public sector – for example, in homes or in private sector facilities – the total number of births in the HMIS should not serve to estimate the denominator for this indicator. Where data on the total numbers of live births for the entire population for the denominator are unavailable, evaluators can calculate total estimated live births using census data for the total population and crude birth rates in a specified area (total expected live births = estimated population x the total crude birth rate).

Data collected through household surveys

Women may not be able to accurately recall details around childbirth when data are collected through household surveys (10). There is also a time lag as the recall period is up to 2–5 years before the survey data were collected.

The most commonly reported denominator is the number of women with a live birth in the years preceding the survey, which acts as a proxy for the number of pregnant women. This indicator is prone to survivor bias in that only those women who are alive at the time of the interview would be included and underestimates the total number of newborns who initiated breastfeeding within the first hour.

In these surveys, women are asked about their most recent live birth, and when, if at all, their newborn's health was checked following delivery. This should include both live births that were delivered at home and those delivered in a health facility. However, older iterations of household surveys may only obtain this information for births at home and should be taken into consideration when reviewing older data.

Validation studies

Technical work to improve the specificity of breastfeeding indicators (both early initiation and exclusive breastfeeding) will be beneficial, along with further evaluation of the usefulness of breastfeeding tracer indicators in measuring essential newborn care. Additional validation works are underway.

Published technical work to improve the specificity of this indicator has been conducted via the following:

Publications

Blanc AK, Diaz C, McCarthy KJ, Berdichevsky K. Measuring progress in maternal and newborn health care in Mexico: validating indicators of health system contact and quality of care. *BMC Pregnancy Childbirth*. 2016;16(1):255 (<https://doi.org/10.1186/s12884-016-1047-0>, accessed 22 October 2020).

Blanc AK, Warren C, McCarthy, KJ, Kimani J, Ndwiga C, RamaRao S. Assessing the validity of indicators of the quality of maternal and newborn health care in Kenya. *J Glob Health*. 2016;6(1):010405 (<http://www.jogh.org/documents/issue201601/jogh-06-010405.pdf>, accessed 22 October).

McCarthy KJ, Blanc AK, Warren CE, Mdawida B. Women's recall of maternal and newborn interventions received in the postnatal period: a validity study in Kenya and Swaziland. *J Glob Health*. 2018;8(1):010605 (<http://jogh.org/documents/issue201801/jogh-08-010605.pdf>, accessed 22 October 2020).

McCarthy KJ, Blanc AK, Warren CE, Kimani J, Mdawida B, Ndwidga C. Can surveys of women accurately track indicators of maternal and newborn care? A validity and reliability study in Kenya. *J Glob Health*. 2016;6(2):020502 (<https://dx.doi.org/10.7189/jogh.06.020502>, accessed 22 October 2020).

Munos MK, Stanton CK, Bryce J, the Core Group for Improvement Coverage Measurement for MNCH. Improving coverage measurement for reproductive, maternal, neonatal and child health: gaps and opportunities. *J Glob Health*. 2017;7(1):010801 (<https://dx.doi.org/10.7189/jogh.07.010801>, accessed 22 October 2020).

Sitrin D, Perin J, Vaz LM, Carvajal-Aguirre L, Khan SM, Fishel J, Amouzou A. Evidence from household surveys for measuring coverage of newborn care practices. *J Glob Health*. 2017;7(2):020503 (<https://dx.doi.org/10.7189/jogh.07.020503>, accessed 22 October 2020).

Stanton CK, Rawlins B, Drake M, dos Anjos M, Cantor D, Chongo L, et al. Measuring coverage in MNCH: testing the validity of women's self-report of key maternal and newborn health interventions during the peripartum period in Mozambique. *PLoS One*. 2013;8(5):e60694 (<https://doi.org/10.1371/journal.pone.0060694>, accessed 22 October 2020).

Willey B, Waiswa P, Kajjo D, Munos M, Akuze J, Allen E, Marchant T. Linking data sources for measurement of effective coverage in maternal and newborn health: what do we learn from individual- vs ecological-linking methods? *J Glob Health*. 2018;8(1):010601 (<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5823029/>, accessed 22 October 2020).

GLOBAL MONITORING

The United Nations Children’s Fund (UNICEF) maintains databases for global monitoring and reporting on infant and young children feeding indicators, including the percentage of newborns who were breastfed within the first hour of life. UNICEF obtains data from nationally representative household surveys or routinely collected administrative data/services statistics. Before data can be included in the global databases, UNICEF undertakes a process of data verification that includes correspondence with field offices to clarify any questions regarding the reported statistics. More information about the global databases for early initiation of breastfeeding can be found at: <https://data.unicef.org/topic/nutrition/infant-and-young-child-feeding/>.

Key initiatives

Countdown to 2030 – Women’s, Children’s and Adolescents’ Health: <http://countdown2030.org/>

Every Newborn Action Plan (ENAP): http://apps.who.int/iris/bitstream/10665/127938/1/9789241507448_eng.pdf

Global Reference List of 100 Core Health Indicators (plus health-related SDGs), 2018: <https://www.who.int/healthinfo/indicators/2018/en/>

Global Strategy for Women’s, Children’s and Adolescents’ Health (2016–2030): <http://www.who.int/life-course/partners/global-strategy/en/>

WHO–UNICEF Global Breastfeeding Collective: <https://www.who.int/nutrition/topics/global-breastfeeding-collective/en/>

ADDITIONAL RESOURCES

UNICEF Data: Monitoring the Situation of Children and Women: Newborn care: <https://data.unicef.org/topic/maternal-health/newborn-care/>

Multiple Indicator Cluster Surveys (MICS): <http://mics.unicef.org>

The DHS Program: <http://www.dhsprogram.com/>

MEASURE Evaluation: Family Planning and Reproductive Health Indicators Database: Percent of children born in the last 24 months who were put to the breast within one hour of birth: https://www.measureevaluation.org/prh/rh_indicators/womens-health/bf/proportion-of-children-born-in-the-last-24-months

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