American Journal of Biomedical Science & Research

www.biomedgrid.com

ISSN: 2642-1747

Research Article

Breastfeeding Assessment Tool; Preliminary Report on A Breastfeeding Domains-Based Examination Scoring System: The Eregie Breastfeeding Assessment Tool Examination Score (EBATES)

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To Cite This Article: *Charles Osayande Eregie*. Breastfeeding Assessment Tool; Preliminary Report on A Breastfeeding Domains-Based Examination Scoring System: The Eregie Breastfeeding Assessment Tool Examination Score (EBATES). Am J Biomed Sci & Res. 2024 23(5) AJBSR.MS.ID.003111,* DOI: 10.34297/AJBSR.2024.23.003111

Received: August 03, 2024; **Published:** August 13, 2024

Abstract

Several 'Breastfeeding Assessment Tools' exist but they individually or collectively, in some clusters, have a plethora of differential deficits and encumbrances in their Quality of Breastfeeding Assessments. The LATCH Score is attractive for being an 'Objective Scoring Scheme' but lacks reasonable 'Breastfeeding Domains Coverage' while the WHO/ UNICEF B-R-E-A-S-T-Feed Observation Form which reportedly has a fairly reasonable coverage lacks the objectivity of an 'Objective Scoring Scheme'. The new Eregie Breastfeeding Assessment Tool Examination Score (EBATES) is an innovative Intervention to disentangle this 'Programmatic Knot' in Breastfeeding, and Breastfeeding Assessment, as a component of Optimal Infant and Young Child Feeding (OIYCF).

Keywords: Breastfeeding, Breastfeeding assessment, Breastfeeding domains, Breastfeeding assessment tool, Eregie BREAST Score, Eregie Breastfeeding Assessment Tool Examination Score, LATCH Score

Abbreviations: BAS: Breastfeeding Assessment Score; BEET: Breastfeeding Evaluation and Education Tool; BFHI: Baby-Friendly Hospital Initiative; EBF: Exclusive Breastfeeding; EBATES: Eregie Breastfeeding Assessment Tool Examination Score; EBS: Eregie BREAST Score; IBFAT: Infant Breastfeeding Assessment Tool; NOMAS: Neonatal Oral-Motor Assessment Scale; OIYCF: Optimal Infant and Young Child Feeding; SAIB: Systematic Assessment of the Infant at Breast.

Introduction

Breastfeeding and Exclusive Breastfeeding (EBF) confer a plethora of benefits on the Baby-Mother Dyad with short-term and long-term Survival, Health, Nutritional, Growth and Developmental, Psychological, Economic and Genomic-Epigenetic implications [1-5]. From Genomics-Epigenetics perspectives, Breastmilk is more than Food and Breastfeeding is more than Feeding with Nutrigenomics-Nutrigenetics and Nutritional Epigenetics shaping the Baby-Mother Dyadic Holistic Trajectory [1,2]. Only proper practice of Breastfeeding assures the Baby-Mother Dyad derive the numerous benefits of this feeding Intervention. It is, therefore, necessary to examine the Breastfeeding Practice to be sure the skills and techniques are appropriately deployed for 'Successful Breastfeeding' to optimize the benefits to the Baby-Mother Dyad. A proper Breastfeeding Assessment or Examination will be consistent with being the first 'Programmatic Step' of an appropriate 'Triple-A Process' in addressing 'Breastfeeding Difficulties': Assessment, Analysis and Action in that Programmatic Order [6]. There are several Breastfeeding Assessment Tools, but they have different comparative Advantages and Disadvantages and Applicability and Limitations bordering on Breastfeeding Domains covered, Breastfeeding Outcomes evaluated and Objectivity and Quality of Assessment7. There is no 'Gold Standard'8 as a 'Breastfeeding Assessment Tool' and, with comparative differential strengths and weaknesses, more research are advocated to improve on the value of new 'Breastfeeding Assessment Tools [7,8]. This Preliminary Report disposes a New Breastfeeding Domains-based Assessment Tool as an 'Objective Scoring System': The Eregie Breastfeeding Assessment Tool Examination Score (EBATES).

Breastfeeding Domains and Breastfeeding Assessment

The essence of Breastfeeding Assessment is to facilitate the identification of specific aspects of the feeding process, if encumbered by some difficulties, in order to be able to deploy Interventions that will be useful for addressing the identified specific aspects: The 'Breastfeeding Domains' [7,8]. Some 'Breastfeeding Domains' identified include, among others: Baby's behaviour, Mother's behaviour, Positioning, Attachment, Effective feeding, Health of the breast, Health of the baby and Mother's perception of the feed [8]. Also, other 'Domains Covered' include: Simplicity, Acceptability, Cost, Time, Sensitivity and Specificity, Community Relevance, Hospital Relevance, Developed and Developing Locale-applicability, Skilled and Unskilled Worker-Usefulness among others [7,8]. There reportedly appears to be agreement on the ubiquitous inclusion of 'Attachment' and 'Effective feeding' as determinant 'Breastfeeding Domains' that should be evaluated in 'Breastfeeding Assessment' [8]. Several evaluated 'Breastfeeding Assessment Tools' do not cover many important 'Breastfeeding Domains' and are, therefore, limited in their applicability and usefulness [9].

Breastfeeding Assessment Tools

Predicated on the recognized 'Breastfeeding Domains', there are several 'Breastfeeding Assessment Tools' of which a few are reflected in this Communication: WHO/UNICEF BFHI Forms [10,11], CARE Training Packages [12], Breastfeeding Assessment Score (BAS) [13], Breastfeeding Evaluation and Education Tool (BEET) [14], Infant Breastfeeding Assessment Tool (IBFAT) [15], LATCH Score [16], Neonatal Oral-Motor Assessment Scale (NOMAS) [17], Systematic Assessment of the Infant at Breast (SAIB) [18], WHO/ UNICEF B-R-E-A-S-T-Feed Observation Form [19], Eregie BREAST Score (EBS) [20] etc. It is reportedly suggested that several 'Breastfeeding Assessment Tools' have not been independently validated against external measurable variables, lack good scope and coverage of 'Breastfeeding Domains', not related to 'Breastfeeding Outcomes' with some having their 'Development Study Designs' reportedly flawed [9]. The LATCH Score is reportedly lacking in reasonable coverage of important 'Breastfeeding Domains' but its attraction lies in its being disposed as a fairly 'Objective Scoring System' [20] and likened to the APGAR Scoring System [21] valuable in Newborn Medical Practice. The WHO/ UNICEF B-R-E-A-S-T-Feed Observation Form [19] is reported to have many positive attributes [7,8] but lacks an 'Objective Scoring Scheme' which the Eregie BREAST Score (EBS) [20] addresses as a Programmatic Interventional Improvement but both are limited by the same inherent 'Breastfeeding Domains Coverage'. The new Eregie Breastfeeding Assessment Tool Examination Score (EBATES) is developed to address the 'Breastfeeding Domains' issue in addition to its being an 'Objective Scoring Scheme'.

A New Breastfeeding Domains-Based Examination Scoring System: Eregie Breastfeeding Assessment Tool Examination Score (Ebates)

Guided by the reportedly identified 'Breastfeeding Domains' [8] listed previously in this Communication as Baby's behaviour, Mother's behaviour, Positioning, Attachment, Effective feeding, Health of the breast, Health of the baby and Mother's feel of the feed and, with some modifications reflecting 'Positioning' and 'Effective feeding' for both Baby and Mother and also broadening the 'Domains' further with the addition of 'Length of feed' and 'Mother's comfort level' with a new total of 12 'Modified and Expanded Breastfeeding Domains', the new 'Breastfeeding Assessment Tool' is disposed as an 'Objective Scoring System': The Eregie Breastfeeding Assessment Tool Examination Score (EBATES)'. It is developed from a 'Critical Review of the Literature' intertwined with longstanding years of Clinical Experience/ Expertise, Research and Practice of Child Health, Neonatal Medicine and Breastfeeding Medicine coupled with extensive Publications and National and International Programmatic Engagements and Interventions in Breastfeeding Initiatives. In Research Governance Principles, and as a Research Strategy, this is a 'Non-Clinical Tool Development Research' with 'No Contacts or Interventions between Patients/ Subjects and Researchers; in fact, No Patients/ Subjects Involvement'. In (Table 1), the 'Breastfeeding Domains' are disposed with their 'Definitions and Scored Alternatives'. A 'Reference Guide', gleaned from previous Communications [7,8] but 'Conceptually Elevated as New Signposts', is the 'Assessment Marker' for the 'Defined and Scored Alternatives' for facilitating the 'User-friendliness' of the 'New Tool'. The 'Defined and Scored Alternatives' are simple and clear enough to command 'User-Friendliness' and Simplicity. The least score is zero and the highest possible score is 24 with a Total Score interpreted as, and implying, the following: 0-10 (Breastfeeding Poor; much help needed), 11-19 (Breastfeeding Fair; Moderate help needed) and ≥20 (Breastfeeding Good; Little or no help needed). The included 'Breastfeeding Domains' are easily observable and can be scored and purposely avoid History-related Domains and Questionnaire-based Documentations which constitute part of the bane of some other reportedly less useful 'Breastfeeding Assessment Tools'. It shares the objectivity of an 'Objective Scoring System' of the LATCH Score [16] and the Eregie BREAST Score (EBS) [20] but is superior in having a broadened coverage of relevant determinant 'Breastfeeding Domains'; a desired attribute of a useful, widely applicable and User-friendly 'Breastfeeding Assessment Tool'.

Conclusion

Assuring the myriads of benefits of Breastfeeding to the Baby-Mother Dyad is determined by the Quality of Breastfeeding Practice. Good 'Breastfeeding Assessment Tools' guarantee that specific aspects of 'Breastfeeding Practice Difficulties' are identified and specifically addressed. Several extant 'Breastfeeding Assessment Tools' are encumbered by various and varied documented deficits and there is, in fact, no 'Gold Standard' necessitating the strongly advocated continued search for 'New Breastfeeding Assessment Tools'. There is some attraction to Tools which reflect 'Objective Scoring Schemes' and have a reasonable 'Breastfeeding Domains Coverage'. This is the essence of the newly developed Eregie Breastfeeding Assessment Tool Examination Score (EBATES) to assure successful Breastfeeding, through developed and improved 'Breastfeeding Assessment Tool', as an integral component of Optimal Infant and Young Child Feeding (OIYCF).

Table 1: EREGIE BREASTFEEDING ASSESSMENT TOOL EXAMINATION SCORE (EBATES).

			Score			
S/No	Domain	Reference Guide	0	1	2	Assigned Score
1	Baby's behaviour	Alertness to feed	None	Minimally reaches or roots for breast and slips off the breast	Interested, reaches or roots for breast and stays attached to breast	
2	Mother's behaviour	Watches and listens for baby's cues	None	Minimally watches or listens for baby's cues	Confidently watches and listens for baby's cues	
3	Baby's Positioning	Baby facing mother	Baby's body away from mother	Baby's neck twisted and chin not touching breast	Baby close to mother, head and body straight, facing breast and chin touching breast	
4	Mother's Positioning	Mother sitting posture	Mother bends forward, leans over baby and takes breast to the baby	Mother bends forward and brings baby to the breast	Mother sitting upright, back straight and brings baby up to the breast	
5	Attachment	Lower lip turned outward on breast	Mouth not wide open, Lower lip turned in, tongue not seen and more areola below baby's mouth	Mouth fairly open, tongue not seen and slightly more areola above baby's mouth	Mouth wide open, lower lip turned outward on breast, tongue cupped around breast and more areola above baby's mouth	
6	Effective feeding (Baby)	Suckling, Swallowing and Jaw Movements	Sucking on the Nipple, cheeks tense or pulled in, rapid sucks only and hears smacking or clicking	Cheeks round, slow deep sucks but can't see or hear swallowing	Cheeks round, slow deep sucks and bursts with pauses and can see or hear swallowing	
7	Effective Feeding (Mother)	Signs of milk release	No breast leak, no breastmilk stream if baby slips off breast, no leak if mother thinks of baby or hears baby crying, no tingling sensation during feed and no afterpains	Breast leak, breastmilk stream if baby slips off breast, No leak if mother thinks of baby or sees baby crying, no tingling sensation during feed and no afterpains	Breast leak, breastmilk stream if baby slips off breast, leaks if mother thinks of baby or sees baby crying, tingling sensation during feed and afterpains	
8	Health of the breast	Nipple trauma	Breast engorged, nipple pain, fissures, Skin redness and appears stretched	Breast engorged, skin shiny, no nipple pain or fissure	Breast soft after feed, skin healthy ,no pain or fissures and round during feed,	
9	Health of baby	Baby's alertness	Baby is not alert, restless, crying, no response to breast and looks unwell	Baby minimally alert, slightly restless, minimal response to breast and looks slightly unwell	Baby is alert, calm and cheerful at the breast and looks well	
10	Mother's feel of feed	Feels strong suction	Feels no suction during feed	Feels weak suction during feed	Feels strong suction during feed	

11	Mother's level of comfort	Comfort during feed	Severe discomfort	Mild to moderate discomfort	No discomfort	
12	Length of feed	Duration of suckling at the breasts	Less than 5 minutes on each breast or less than 10 minutes total breastfeeding duration	5 to 10 minutes on each breast or 10 to 20 minutes total breastfeeding duration	More than 10 minutes on each breast or more than 20 minutes total breastfeeding duration	
	Total Score (Maximum is 24)					

Note*: BREASTFEEDING DOMAINS adapted, modified and scored from Moran VH et al. A critical analysis of the content of the tools that measure breast-feeding interaction. Midwifery. 2000 Dec;16(4):260-8. [8].

KEY/ LEGEND

EBATES/ Score Interpretation:

0 to 10: Breastfeeding is Poor; Much Intervention and Help needed

11 to 19: Breastfeeding is Fair; Moderate Intervention and Help needed

≥20: Breastfeeding is Good; Little or no Intervention and Help needed.

Acknowledgements

None.

Conflict of Interest

None.

References

1. Verduci E, Barderali G, Barberi S, Giovanni Radaelli, Alessandra Lops, et al. (2014) Epigenetic effects of Human Breast Milk. Nutrients 6(4): 1711-1724.
2. Briollais L, Rustand D, Allard C, Yanyan Wu 6, Jingxiong Xu, et al. (2021) DNA methylation mediates the association between breastfeeding and early-life growth trajectories. Clinical Epigenetics 13(1): 231.
3. (2024) The Lactation Network. The benefits of breastfeeding: A timeline for the ages.
4. (2024) World Health Organization. Breastfeeding.
5. Eregie CO (2023) Addressing the Optimal Infant and Young Child Feeding Ecosystem to improve the Status of the Outcome of Reproductive Interventions; No 'Breastmilk Substitutes'. Global Journal of Reproductive Medicine 10(2): 555784.
6. (2024) Jonnson U. Ethics and child nutrition.
7. Raskovalova T, Teasley SL, Gelbert Baudino N, Paola Agnese Mauri, Camille Schelstraete, et al. (2024) Breastfeeding Assessment Score: Systematic Review and Meta-analysis. 135(5): e1276-85.
8. Moran VH, Dinwoodie K, Bramwell R, Dykes F (2000) A critical analysis of the content of the tools that measure breast-feeding interaction. Midwifery 16(4): 260-268.
9. Management of Acute Malnutrition in Infants (MAMI) Project. Chapter 7: Review of breastfeeding assessment tools. Write-up beyond the scope of the original MAMI Project and Additional Feedback from Felicity Savage and Ann Ashworth.
10. Hall RT, Mercer AM, Teasley SL, Deanna M McPherson, Stephen D Simon, et al. (2002) A breast-feeding assessment score to evaluate the risk for cessation of breast-feeding by 7 to 10 days of age. J Pediatr 141(5): 659-664.
11. Tobin DL (1996) A breastfeeding evaluation and education tool. J Hum Lact. 12(1): 47-49.
12. Matthews MK (1998) Breastfeeding assessment tools. J Obstet Gynecol Neonatal Nurs. 27(3): 236-238.
13. Jensen D, Wallace S, Kelsay P (1994) LATCH: a breastfeeding charting system and documentation tool. J Obstet Gynecol Neonatal Nurs 23(1): 27-32.
14. Palmer MM, Crawley K, Blanco IA (1993) Neonatal Oral-Motor Assessment scale: a reliability study. J Perinatol 13(1): 28-35.
15. Shrago L, Bocar D (1990) The infant's contribution to breastfeeding. J Obstet Gynecol Neonatal Nurs 19(3): 209-215.
16. (1994) WHO/UNICEF: Breastfeeding counselling: a training course. World Health Organisation and United Nations International Children's Education Fund.
17. (2009) WHO/UNICEF: Baby Friendly Hospital Initiative: Revised Updated and Expanded for Integrated Care.
18. (2010) UNICEF: Baby Friendly Hospital Initiative: Breastfeeding Assessment Form.
19. (2004) CARE: Preparation of a Trainer's Course: Mother to Mother Support Group Methodology and Breastfeeding and Complementary Feeding Basics. United States Agency for International Development (USAID) / The Infant & Young Child Nutrition (IYCN) Project.
20. Eregie CO (2024) Breastfeeding Assessment; Preliminary Report on a New Scoring System as an Assessment Tool: The Eregie BREAST Score (EBS). Am J Biomed Sci & Res 23(2): 241-245.
21. Apgar V (1953) A proposal for a new method of evaluation of the newborn infant. Curr Res Anesth Analg 32: 260-267.