The Childhood Acute Illness & Nutrition Network

CHAIN Number

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CHAIN / BREAST MILK Composition SUB-STUDY (BMC study)

BMC SITE NAME: _____ Time now: ___: ___

ENROLMENT

Eligibility checklist		
Infant enrolled in CHAIN	☐ yes	☐ no
Infant aged between 7 days and below 6 months at CHAIN enrolment	☐ yes	☐ no
Mother currently breastfeeding	☐ yes	☐ no
Mother breastfed the infants in the past 5 days	☐ yes	☐ no
Consent to BMC sub-study	☐ yes	☐ no
All of the above must be YES to be eligible for BMC sub-study		
Name of FW		
Date of Consent	__ __ / __ __ / __ __ __ __ *D D / M M / Y Y Y Y*	
Time of Consent	____:_____ (hh:mm)	
Special Circumstances		
Mother is currently taking any nutrition supplements	☐ yes	☐ no
If yes, write names of the supplements the mother is taking: (*Ask to see the supplement packaging and write the name of supplement)*	☐ Unknown 1. 2. 3. 4.	
Time since mother took the last supplement?	☐ <1 hr ☐ 1-3 hrs ☐ 3-6 hrs ☐ >6 hrs ☐ Unknown	
Mother is currently taking any medicine	☐ yes	☐ no
Where did mother get medication from?	☐ Unknown ☐ Hospital/clinic ☐ Herbal/traditional ☐ Pharmacy ☐ Healer ☐ Shop ☐ Neighbour/friend	
If yes, list names of the medicine the mother is taking: *(Ask to see medicine and write the names of the medicine)*	☐ Unknown 1. 2. 3. 4.	
Mother is currently breastfeeding more than one child (e.g. twins)	☐ yes	☐ no

Mothers Characteristic (currently collected in main CHAIN CRF)	
Age	☐ <18 years ☐ >18 years
Education	☐ None ☐ Some Primary ☐ Completed Primary ☐ Some Secondary ☐ Completed Secondary ☐ Above Secondary

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HIV status in last 6 months	☐ Known + ☐ Tested + ☐ Tested - ☐ Not Tested ☐ Known –
If positive is mother on ART? *(If yes, ensure the names of the ART medications are listed under medications above)*	☐ yes ☐ no
If positive is mother on cotrimoxazole or Septrin?	☐ yes ☐ no
Mother's Anthropometry	MUAC: ___ ___. ___ ___ cm Height: ___ ___ ___ . ___ ___ cm Weight: ___ ___. ___ ___kg
Participants birth order	___ ___ of ___ ___ live births
Age at first pregnancy	__ __ years ☐ unknown
Marital status	☐ Married monogamous ☐ Married polygamous ☐ Stable relationship ☐ Single ☐ Unstable/complicated/separated relationship ☐ Divorced ☐ Widowed
Mother has any long-term (chronic) known illness?	☐ yes ☐ no **If yes,** which disease? ☐ Diabetes ☐ Alzheimer's disease ☐ High blood pressure ☐ Arthritis ☐ Cancer ☐ Obesity ☐ Other (specify) _____
Has mother taken any of the following in last 7 days?	☐ Alcohol ☐ IV drugs ☐ Khat ☐ Cannabis ☐ Tobacco ☐ None ☐ Other (specify) _____
Infant characteristics (currently collected in main CHAIN CRF)	
Date of arrived at hospital	__ __ / __ __ / __ __ __ __ *D D / M M / Y Y Y Y*
Date of sub-study enrolment	__ __ / __ __ / __ __ __ __ *D D / M M / Y Y Y Y*
Date of birth	__ __ / __ __ / __ __ __ __ *D D / M M / Y Y Y Y*
Is the date of birth	☐ true/recorded ☐ estimated
Sex	☐ male ☐ female
Birth details	☐ premature ☐ born small <2.5kg ☐ twin/multiple birth ☐ born term ☐ unknown
Gestational age	☐ known/recorded __ __ weeks ☐ estimated, reported __ __ weeks ☐ unknown

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Birth weight	☐ known/recorded __ __. __ __Kg ☐ estimated, reported __ __. __ __Kg ☐ unknown
Birth length	☐ known/recorded, __ __. __ cm ☐ estimated, reported __ __. __ cm ☐ unknown
Mode of delivery	☐ unassisted vaginal delivery (normal) ☐ assisted vaginal delivery (forceps) ☐ c-section
Infant feeding	
Breastfeeding frequency (24 hrs) before hospitalization	☐ <4 times a day ☐ 4-8 times a day ☐ >8 times a day
Breastfeeding frequency in the past 24 hrs?	☐ <4 times ☐ 4-8 times ☐ >8 times
Does mother avoid feeding the baby from one breast?	☐ yes ☐ no
If YES, why?	☐ Pain ☐ Other forms of discomfort ☐ Baby preference ☐ Other (specify)_____
List other liquids sometimes consumed by infant before hospitalization?	☐ Nothing ☐ Water ☐ Sweetened water ☐ Juice ☐ Soda/fizzy drinks ☐ Tea/cocoa ☐ Formula milk ☐ Soups ☐ Gripe water ☐ Herbal medicine ☐ Special milk/DF100 ☐ Honey ☐ Cow's milk ☐ Others
If YES to liquids, at what age did infant FIRST consume any liquids other than breast milk?	☐ Birth–day 5 ☐ Day 5 – 2 weeks ☐ >2 weeks to 1 month ☐ 1 month – 3 months ☐ >3 months
List other semi-solid foods consumed by infant before hospitalization?	☐ Porridge ☐ Fruit purees ☐ Vegetable purees ☐ Others (list below) _____ _____
If YES to semi-solid foods, at what age did infant FIRST consume any semi-solids other than breast milk?	☐ Birth–day 5 ☐ Day 5 – 2 weeks ☐ >2 weeks to 1 month ☐ 1 month – 3 months ☐ >3 months
When child fell ill, did mother stop breastfeeding?	☐ yes ☐ no
If yes, what was given to the child instead?	☐ Other liquids (water, animal milk, formula, soups, juices, etc) ☐ Semi-solids (porridge, fruit puree, etc)
How many days has child been ill?	__ __ Number of days child has been ill

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Early initiation of breastfeeding	
What did the child receive other than breastmilk in the first 3 days of life?	☐ sweetened water ☐ formula/powdered milk ☐ animal milk ☐ fruit juice ☐ tea ☐ water ☐ pure honey ☐ glycerine ☐ nothing ☐ porridge/pulp ☐ others
Feeding of colostrum at birth	☐ yes ☐ no ☐ unknown
How early was colostrum/breastfeeding initiated	☐ Within 1 hour of birth ☐ Between 1-12 hours ☐ >12 hours
Colostrum difficult to obtain	☐ yes ☐ no
Who helped mother initiate breastfeeding?	☐ Nurse/midwife ☐ Organised lactation support group ☐ Infant's grandmother ☐ Sister ☐ Other family member ☐ No one
How many children has she breastfed before this infant	☐ None/first child ☐ 1 ☐ 2 ☐ 3 ☐ More than 3
Is mother currently pregnant	☐ yes, confirmed ☐ no ☐ suspected pregnancy ☐ unknown

Breast assessment (as observed at the time of assessment)	
Does the right breast look healthy?	☐ yes ☐ no IF no, Nipples are cracked ☐ slight ☐ severe with bleeding
Does the left breast look healthy?	☐ yes ☐ no IF no, Nipples are cracked ☐ slight ☐ severe with bleeding
Size and shape of nipples	Right nipple ☐ inverted ☐ flat ☐ pointed on one end ☐ round (normal) Left nipple ☐ inverted ☐ flat ☐ pointed on one end ☐ round (normal)

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Size and shape of breast	Right breast ☐ large ☐ engorged and painful ☐ full / rounded (normal) ☐ flat / deflated ☐ small Left breast ☐ large ☐ engorged and painful ☐ full / rounded (normal) ☐ flat / deflated ☐ small
Dripping milk	☐ yes ☐ no
Signs of inflammation or infection (*tick all that apply*)	☐ redness ☐ swollen ☐None ☐ painful ☐ fever/feeling ill ☐ warm to the touch ☐ thickening of breast tissue
Pain, burning or discomfort during breastfeeding	☐ yes ☐ no
Breast oozes with milk mixed with pus or blood	☐ yes ☐ no If yes, which breast ☐ right ☐ left ☐ both
Mother noticed anything wrong with breast?	☐ yes ☐ no If yes, comment: _____
Mother thinks breast milk is sufficient for her baby?	☐ yes ☐ no
Bottle feeding?	☐ yes ☐ no If yes, what is fed in a bottle? *(tick all that apply)* ☐ breast milk at room temperature ☐ warmed breast milk ☐ animal milk ☐ Formula milk ☐ Other liquids e.g. Juices, etc.
Does the mother currently use hand expression?	☐ yes ☐ no ☐ rarely ☐ on occasion ☐ often IF yes, why: ☐ relieve engorgement ☐ collect milk to feed the infant at a later time ☐ aid in stimulation/production of milk

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Breastfeeding assessment to be completed for all mothers and used to support feeding technique for all mothers at the end of the sample collection.

Breastfeeding assessment (Observed)			
Positioning		*Attachment*	
Baby's head and body in line	☐ yes ☐ no	More areola seen above baby's top lip	☐ yes ☐ no
Baby held close to mother's body	☐ yes ☐ no	Baby's mouth open wide	☐ yes ☐ no
Baby's whole body supported	☐ yes ☐ no	Lower lip turned outward	☐ yes ☐ no
Baby approaches breast nose to nipple	☐ yes ☐ no	Baby's chin touches breast	☐ yes ☐ no
Suckling		*Mother*	
Slow deep sucks with pauses	☐ yes ☐ no	Mother looks healthy	☐ yes ☐ no
Cheeks round when suckling	☐ yes ☐ no	Mother relaxed and comfortable	☐ yes ☐ no
Baby releases breast when finished	☐ yes ☐ no	Bonding with baby	☐ yes ☐ no
Mother notices signs of oxytocin reflex (milk dripping by itself)	☐ yes ☐ no		

Mothers Diet	
Is mother currently on nutrition programme	☐ Yes ☐ No
Mothers dietary habits	☐ Mixed diet ☐ Vegetarian but with milk ☐ Strictly vegetarian ☐ Others
What time did mother take breakfast this morning? *(indicate approximate time)*	__ __:__ __ (hh:mm) ☐ None
List all foods and liquids consumed as part of breakfast (include liquids)	☐ None 1. 2. 3. 4. 5.
What time did you eat dinner last night? *(estimated time)*	__ __:__ __ (hh:mm) ☐ None
List all foods and liquids consumed as part of dinner (include liquids)	☐ None 1. 2. 3. 4. 5.
List all foods and liquids consumed as snacks between dinner and breakfast (during the night)	☐ None 1. 2. 3. 4.

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In the past 7 days, did the mother consume at least 1 tablespoon of the following food? **If yes, how many times?**		Number of times
Pulses	☐ Yes ☐ No	
Nuts and seeds	☐ Yes ☐ No	
Dairy	☐ Yes ☐ No	
Meat, poultry and fish	☐ Yes ☐ No	
Eggs	☐ Yes ☐ No	
Dark green leafy vegetables	☐ Yes ☐ No	
Yellow fruits and vegetables	☐ Yes ☐ No	
Other fruits and vegetables	☐ Yes ☐ No	

Breastmilk collection	
Breastmilk collection attempted	☐ yes ☐ no
Date of collection	__ __ / __ __ / __ __ __ __ *D D / M M / Y Y Y Y*
Time of collection (start)	__ __:__ __ (hh:mm)
Time of collection (end)	__ __:__ __ (hh:mm)
More than 20ml was collected using only the first breast?	☐ yes ☐ no
Amount of milk sample collected from first breast? Which breast was used	__ __mL ☐ right ☐ left
<u>If second breast was used, total milk</u> volume obtained after full hand expression of 2nd breast	__ __mL ☐ Not applicable
Unable to collect 20ml breastmilk sample why?	☐ insufficient milk in the breast ☐ difficulty in expressing ☐ other (specify) _____
How to best describe the milk collection process	☐ Milk flow was fast and easy ☐ Milk flow was slow and difficult
Was mother experienced in hand expression	☐ Experienced ☐ Not experienced

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CRF Completed by (Initials) – to be signed when complete. *Do not sign if any fields are empty*	__ __ __	Date __ __ / __ __ / __ __ __ __ *D D / M M / Y Y Y Y*	Time __ __ : __ __

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FOLLOW-UP DAY 45

Special Circumstances		
Mother is currently taking any nutrition supplements	☐ yes	☐ no
If yes, write down names of the supplements the mother is taking: (*Ask to see the supplement packaging and write the name of supplement)*	☐ Unknown 1. 2. 3. 4.	
Time since mother took the last supplement?	☐ <1 hr ☐ 1-3 hrs ☐ 3-6 hrs ☐ >6 hrs ☐ Unknown	
Mother is currently taking any medicine	☐ yes	☐ no
If yes, list names of the medicine the mother is taking: *(Ask to see medicine and write the names of the medicine. IF mother is HIV positive, ensure names of ART medications are listed.)*	☐ Unknown 1. 2. 3. 4.	
Mother is currently breastfeeding more than one child (e.g. twins)	☐ yes	☐ no
Current Breastfeeding status		
Is this child currently breastfeeding?	☐ yes ☐ no	
Breastfeeding frequency in the past 24 hrs?	☐ <4 times ☐ 4-8 times ☐ >8 times ☐ N/A – no longer breastfeeding	
<u>If NO</u> longer breastfeeding, age in months when child **stopped** breastfeeding	__ __ age in months	
Reason for stopping breastfeeding?	☐ insufficient breastmilk ☐ return to work/school ☐ mother's illness ☐ mother's death ☐ fatigue ☐ other reasons	
Breast assessment		
Does the right breast look healthy?	☐ yes ☐ no IF no, Nipples are cracked ☐ slight ☐ severe with bleeding	
Does the left breast look healthy?	☐ yes ☐ no IF no, Nipples are cracked ☐ slight ☐ severe with bleeding	

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Size and shape of nipples	**Right nipple** ☐ inverted ☐ flat ☐ pointed on one end ☐ round (normal) **Left nipple** ☐ inverted ☐ flat ☐ pointed on one end ☐ round (normal)
Size and shape of breast	**Right breast** ☐ large ☐ engorged and painful ☐ full / rounded (normal) ☐ flat / deflated ☐ small **Left breast** ☐ large ☐ engorged and painful ☐ full / rounded (normal) ☐ flat / deflated ☐ small
Dripping milk	☐ yes ☐ no
Signs of inflammation or infection (*tick all that apply*)	☐ redness ☐ swollen ☐ painful ☐ fever/feeling ill ☐ warm to the touch ☐ None ☐ thickening of breast tissue
Pain, burning or discomfort during breastfeeding	☐ yes ☐ no
Breast oozes with milk mixed with pus or blood	☐ yes ☐ no If yes, which breast ☐ right ☐ left ☐ both
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Bottle feeding?	☐ yes ☐ no **If yes**, what is fed in a bottle? ☐ breast milk at room temperature ☐ warmed breast milk ☐ animal milk ☐ Formula milk ☐ Other liquids e.g. Juices, etc.
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Mothers dietary habits	☐ Mixed diet ☐ Vegetarian but with milk ☐ Strictly vegetarian ☐ Others
What time did mother take breakfast this morning? *(indicate approximate time)*	__ __:__ __ (hh:mm) ☐ None
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What time did you eat dinner last night? *(estimated time)*	__ __:__ __ (hh:mm) ☐ None
List all foods and liquids consumed as part of dinner (include liquids)	☐ None 1. 2. 3. 4. 5.
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Breastmilk collection	
Breastmilk collection attempted	☐ yes ☐ no
Date of collection	__ __ / __ __ / __ __ __ __ *D D / M M / Y Y Y Y*
Time of collection (start)	__ __:__ __ (hh:mm)
Time of collection (end)	__ __:__ __ (hh:mm)
More than 20ml was collected using only the first breast?	☐ yes ☐ no
Amount of milk sample collected from first breast? Which breast was used	__ __mL ☐ right ☐ left

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If second breast was used, total milk volume obtained after full hand expression of 2nd breast	__ __mL ☐ Not applicable
Unable to collect 20ml breastmilk sample why?	☐ insufficient milk in the breast ☐ difficulty in expressing ☐ other (specify) _____
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Was mother experienced in hand expression	☐ Experienced ☐ Not experienced

CRF Completed by (Initials) – to be signed when complete. *Do not sign if any fields are empty*	__ __ __	Date __ __ / __ __ / __ __ __ __ *D D / M M / Y Y Y Y*	Time __ __ : __ __