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Mothers' perception of the use of banked human milk for feeding of the infants

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Abstract*: Background:* Human breast milk is the most healthful form of milk for human babies. Every infant deserves the best possible start in life in terms of nutrition by breastfeeding or receiving donated human milk. Breast milk is very important for the infant's growth and well-being that the non-availability of the mother should not deprive the infant from its benefits. To enhance the availability and use of human breast milk for hospitalized babies whose mothers may not have enough milk, there is the need to embark on human milk banking.

Objective: To determine the perception of mothers towards breast milk banking in Benin City, Nigeria.

Subjects and Methods: The study subjects included 198 mothers who brought their babies to Well Baby/Immunization Clinic of the University of Benin Teaching Hospital (UBTH), Benin City, Nigeria. A structured researcher-administered questionnaire was used to assess their biodata, awareness and perception of breast milk banking.

Results: The mean age of the mothers was 29.8 ± 5.5 years with 46.5% having some form of tertiary education and 48.5% having secondary education. Only 51 (25.8%) of them had heard of breast milk banking; source of information being mainly from health workers (43.1%) and from friends (27.5%). Majority 168 (84.8%) of the mothers would not give their babies human milk donated by another nursing mother mainly because of fear of transmission of infections/diseases. Most 105 (53.0%) were also unwilling to donate breast milk to be used for other babies due to the fact that they disliked the idea (51.4%) and because of fear of not having enough for their own babies (16.1%). However, most (59.1%) strongly agreed that human milk banking would help assist mothers in need, orphans and abandoned babies.

Conclusion/Recommendation: The awareness of human milk banking and its acceptance among mothers in Benin City is poor. The current findings strongly justify the need for public enlightenment on human milk banking and its benefits.

Key words: Breast milk banking, mothers, Perception

Introduction

Every infant deserves the best possible start in life in terms of nutrition by breastfeeding or receiving donated human milk. Human breast milk is the most healthful form of milk for human babies. There is scientific evidence that breast milk and donor human milk is the optimal nutrition of choice for the most fragile and vulnerable infants in the Neonatal Intensive Care Unit (NICU) [1]. Breast milk is very important for the infant's growth and well-being that the non-availability of the mother should not deprive the infant from its benefits. Some infants cannot ingest formulas without undue stress, pain and gastric upset from exposure to formula feeds while some mothers are desperately trying to breastfeed their babies with limited success due to physical ailments, surgery or chronic illnesses. To enhance the availability and use of breast milk for all babies, there is the need to embark on human milk banking. A human milk bank is a service which collects, screens, processes, and dispenses by prescription human milk donated by nursing mothers who are not biologically related to the recipient infant[2]. Donor milk banking involves the recruitment of appropriately screened donors and the collection, screening, storage, processing and distribution of their donated breastmilk[3].

The World Health Organization (WHO) recommends

that for infants who cannot receive breast milk from their own mothers, the next preferred option is donated breast milk (human donor milk)[4]. Human donor milk is not exactly equal to fresh mother's milk, owing to some loss of micronutrients and anti-infective factors during pasteurization, decomposition over time, and normal variations in the makeup of breast milk. Even then, sufficient bioactivity and immunological properties persist to guarantee that (especially when the gestational age of the donor's infant can be matched with that of the recipient infant) donated breast milk is superior to formula[5].
Prior to the introduction of a new health intervention, determining the acceptability of such intervention within the would-be recipient community is a crucial first step. This is particularly so with one involving sensitive bodily fluids and in locales of high HIV prevalence, where various infant feeding choices are often stigmatized or dreaded because of their associations with HIV[6]. Unfortunately, these communities with high HIV prevalence are the same ones (with huge burden of at-risk infants with low birth weights and high infant mortality rate) that donated breast milk is most needed.

Developing countries lag behind the rest of the world in establishing and promoting human milk banks. For instance, there is no human milk bank in Nigeria and the West African sub-region in general and little is known concerning mothers' perceptions of using human milk banks in Nigeria.

Subjects and methods

This descriptive and cross-sectional study involved mothers of apparently healthy babies who were brought to the Well Baby/Immunization Clinic of the University of Benin Teaching Hospital (UBTH), Benin City, Nigeria; seen between 20th September and 10th October 2014. A structured researcher-administered questionnaire was used to assess their biodata, and as potential donors, their awareness and perception of human milk banking to inform decision on such activity. Ethical approval was obtained from the Ethics Committee of UBTH and informed consent was obtained from each participant.
Data collected were entered into the IBM Statistical Package for Scientific Solutions (SPSS) version 20.0 spreadsheet and analyzed. The results obtained were cross tabulated as frequency and contingency tables. Means, standard deviations and ranges were used as appropriate to describe continuous variables while categorical data were analyzed using Chi square and Fisher's exact tests. For all statistical tests, $p<0.05$ was considered to be significant.

Results

A total of 198 mothers were interviewed. Their mean age was 29.8 ± 5.5 years with 46.5% having some form of tertiary education and 48.5% having secondary education (Table 1). Only 51 (25.8%) of them had heard of breast milk banking; source of information being mainly from health workers (43.1%) and from friends (27.5%). Other sources of information included the print (13.7%) and electronic (11.8%) media. Majority 168 (84.8%) of the mothers would not give their babies human milk donated by another nursing mother largely because of fear of transmission of infections/diseases (39.9%) and preference of infant formula (17.9%). It is worth noting that custom/tradition (7.7%) was not a major reason for refusal to use donated human milk (Table 2). Whereas 26 (13.1%) respondents said they would give their babies donated human milk, four (2.0%) of them said they do not know whether or not they would (Table 2). Most 105 (53.0%) were also unwilling to donate breast milk to be used for other babies due to the fact that they disliked the idea (51.4%) and because of fear of not having enough for their own babies (16.2%). While 79 (39.9%) mothers were willing to donate breast milk for other babies' use, 14 (7.1%) were not sure of what they would do (Table 2). However, most (59.1%) strongly agreed that human milk banking would help assist working mothers, sick mothers, orphans and abandoned babies.

Table 1: Socio-demographic Characteristics of Mothers

Variable	Frequency	Percent (%)
Age group in years		
≤ 20	6	3.0
21 – 30	113	57.1
31 – 40	72	36.4
>40	7	3.5
Parity		
1	66	33.3
2	55	27.8
3	38	19.2
4	18	9.1
≥5	21	10.6
Level of Education		
None	3	1.5
Primary	7	3.5
Secondary	96	48.5
Tertiary	92	46.5

Among the mothers who gave definite responses as to willingness to use donated human milk (194), 97 (82.2%) of those aged ≤30years said no while 71 (93.4%) of those aged ≥31 years said no. This was statistically significant ($p = 0.030$) (Table 3). As for willingness to donate own milk, 57 (50.4) mothers in the age group ≤30yearsand 22 (31.0) in those belonging to the group ≥31 years were willing. This was also statistically significant ($p = 0.010$) (Table 3).

Table 2: Mothers' acceptance or refusal of use of human banked milk (HBM) with reasons

Variables	Frequency	Percent (%)
Acceptance of use of human banked milk (n=198)		
No	168	84.8
Yes	26	13.1
Don't know	4	2.0
Reasons for willingness to use HBM (n=26)		
Breast milk is the best source of food for baby	20	76.9
Doctor's advice	4	15.4
Expensive Infant Formula	2	7.7
Reasons for refusal to use HBM (n=168)		
Fear of transmission of infections/diseases to baby	67	39.9
Preference of infant formula	30	17.9
Unhygienic	28	16.7
Custom/ tradition forbid it	13	7.7
Fear of Spouse and in-laws	4	2.4
Others	26	15.5
Willingness to donate breastmilk		
No	105	53.0
Yes	79	39.9
Not sure	14	7.1
Reasons for willingness to donate breast milk		
Satisfaction that I can help a child in need	29	36.7
To support the promotion of health of children	26	32.9
A good idea	11	13.9
To support other mothers	10	12.7
If family members accept	3	3.8
Reasons for unwillingness to donate breast milk		
Do not like the idea	54	51.4
Fear of not having enough breast milk for own baby	17	16.2
Against traditions / customs	10	9.5
Spouse and family may not like it	10	9.5
Fear of transmission of diseases	3	2.9
Breast sagging	2	1.9
Others	9	8.6

Table 3: Maternal characteristics and willingness to use or donate human milk

Characteristics	Willingness to use donated human milk Frequency (%)		p-value*
	Yes	No	
Mothers' age (n=194)			
<20 – 30	21 (17.8)	97 (82.2)	0.030*
31 - >40	5 (6.6)	71 (93.4)	
Mothers level of education			
No formal/ Primary	3(33.3)	6 (66.7)	0.147
Secondary	10 (10.5)	85(89.5)	
Tertiary	13 (14.4)	77 (85.6)	
Mothers parity (n=194)			
1	7 (10.6)	59 (89.4)	0.564
2	6 (10.9)	49 (89.1)	
3	7 (18.9)	30 (81.1)	
≥4	6 (16.7)	30 (83.3)	
Willingness to donate own milk			
Mothers' age (n=184)			
<20 – 30	57 (50.4)	56 (49.6)	0.010*
31 - >40	22 (31.0)	49 (69.0)	
Mothers level of education			
No formal/ Primary	5 (50.0)	5 (50.0)	0.518
Secondary	34 (38.6)	54 (61.4)	
Tertiary	40 (46.5)	46 (53.5)	
Mothers' parity (n=184)			
1	34 (55.7)	27 (44.3)	0.084
2	20 (39.2)	31 (60.8)	
3	11 (31.4)	24 (68.6)	
≥4	14 (37.8)	23 (62.2)	

Discussion

The use of donor human milk is not generally accepted in many developing countries.[7]In our study locale, most mothers would not give their babies human milk donated by another nursing mother similar to the findings in Jos[7] and in Lagos[8] both in Nigeria where majority of the mothers would not accept donated breast milk for their babies. The major reason given for this decision in the current study as well as the two aforementioned studies[7,8] is the fear of transfer of diseases. The human donor milk must, therefore, be made safe and secure. In Brazil, for example, donors are tested for HIV even though pasteurisation is sufficient to kill the HIV virus.[9] The finding that tradition was not a major reason for unwillingness of mothers to use donated human milk could possibly be explained by the fact that wet nursing is not new to most traditions in Nigeria and it is accepted by the major religions of Islam and Christianity.[10]Furthermore, the advent of HIV and the effective awareness campaign on the possible modes of mother to child transmission including through breast milk has led to the decline of such practices. The marketing and availability of breast milk substitutes provides a ready alternative for feeding the infant in situations that hitherto qualified for wet nursing. Contrary to the current study, however, Mackenzie et al[11] in South Australia recorded that breastfeeding mothers unanimously supported donating their breast milk to a human milk bank, provided it would be easy and not overly time consuming; and mothers of preterm or sick infants would use a human milk bank if they were assured the milk was safe and appropriate for their babies. Their study was, however, carried out among mothers who were breastfeeding and/or had preterm or sick babies. Most of the participants in the present study would rather not donate their own milk a finding similar to the findings of Ighogboja et al[7]. The majority of the women not willing to donate simply did not like the idea. The strangeness of human breast milk banking in this part of the world could be a plausible reason for this. The fear that donating their breast milk could shorten the ration for their own babies only emphasizes the fact that awareness need to be increased on the physiology of breast milk production. Of note, however, is the fact that the mothers were more willing to donate than to use Human donor milk. Maternal protective instinct can explain this; fear of infecting their babies with disease discourages their willingness to use, while the satisfaction that they can help another baby in need makes them willing to donate their milk. Given that only a few of the participants were aware of breast milk donation, the initial resistance expressed by them is not surprising. It is more than reasonable to expect that some prior knowledge of, or experience with an intervention would be a necessary prerequisite for accepting it. The importance of having familiarity and ideally experience with breast milk donation was clearly illustrated in the study of Coustsouds is et al[12] by the fact that those participants who had been exposed to the practice were generally more convinced of its value and efficacy.

Human donor milk fulfills an important role in keeping

babies healthy and thriving. It is life-saving and is the optimal choice for preterm and sick infants when the mother's own milk is not available.[3]For instance, human milk banking in Brazil has contributed to a fall in infant mortality.[9]Mothers who are aware of the importance of breast milk to their babies but are having difficulty breastfeeding them are relieved when they are provided the donated breast milk that is needed for their infants.[1] The support these mothers get helps nourish their infants as well as assists them to continue their efforts in getting their breast milk supply to successfully increase for their babies. A small number of children whose mothers died in childbirth or shortly thereafter as well as adopted children also stand to benefit.

Mothers need to be educated on the importance of having a breast milk bank as obtains in developed countries. The cultural myth in some parts of our society that negates the use of another nursing mother's milk for a baby requires correction. It is important to note that in some parts of the country, wet nursing is carried out especially by relatives but close neighbours may be called upon to help suckle a child in the event that the baby's mother is not available (for instance in case of maternal mortality).[13]Some mothers give their milk directly to the parents of babies in need, an exchange known as casual sharing.[14] The intent behind casual sharing is wonderful – it's a caring act of sisterhood. It is, however, important to go the extra mile to have the milk tested in a laboratory to ensure that it is safe for the baby.

A sizable proportion(74.2%) of mothers interviewed were unaware of milk banking. Milk banking is a form of tissue banking just like blood banking. Its awareness among mothers would likely increase its acceptance as has occurred with blood banking services. Generally, blood banking services are acceptable among our people and is believed to be life-saving. Many mothers felt more comfortable with blood transfusion than with the use of human donor milk for infants. This may not be unconnected with the lack of awareness as it concerns human donor milk. Perhaps a comparison of the level of acceptance between both tissue usages among mothers may be worth evaluating in the future. Coutsoudis et al[12]demonstrated in their study that mothers were more comfortable with blood transfusion than with the use of donor milk. The participants in their study claimed that blood transfusion is generally a short-term intervention that may be completed within a few hours, where as the use of donor milk is more sustained over days or months and they would need to ponder over the use of this intervention. This suggests a certain degree of sensitivity with breast milk that is perhaps absent with blood. The study of Coutsoudis et al[12] also showed that the obstacles to the acceptability of donor milk were mainly stemming from lack of awareness/familiarity with the processes around donor breast milk and that these could be readily addressed through health education; and the more psychological concerns would also likely be reduced over time as these educational efforts progress.

Conclusion

In conclusion, the awareness of human milk banking and its acceptance among mothers in Benin City is poor. There is a strong need for public enlightenment on human milk banking and its benefits. All countries need to include donor human milk banking as part of the total maternal and child health policy, so that it is done safely and consistently and is accessible to infants and children in need.[15] It is incumbent on every nation to start donor milk banks and for those who already have to protect the ones they have, not close them. In supporting donor human milk banking we will truly be fostering a child friendly world.

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