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Comparison of breast care for completion of exclusive breastfeeding between Tanzania and Japan

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Introduction

The importance of breastfeeding is widely recognized, with both short-term and long-term benefits, as well as reduced health risks associated with not breastfeeding.¹⁾⁻⁴⁾ Community-based healthcare workers have also been shown to be effective in promoting the initiation of breastfeeding both Any breastfeeding and Exclusive Breastfeeding, as defined by the WHO.⁵⁾ A study in Switzerland demonstrated the effectiveness of longer duration of all types of breastfeeding, including Exclusive, Full, and Any Breastfeeding, in babies that had been exclusively breastfed in the hospital after birth.⁶⁾ A study in France indicated the efficacy of continuous breastfeeding support by trained primary care physicians.⁷⁾

In Tanzania, breastfeeding is a critical issue in maternal and child health because of the high prevalence of HIV, with a rate of 8.2% among the antenatal population as reported by the Ministry of Health, Tanzania, in 2006. HIV-positive mothers are recommended to exclusively breastfeed for the first 6 months, because breastfeeding, regardless of mothers' HIV status, reduces infant mortality in the first 6 months after birth due to infectious diseases associated with not breastfeeding.⁸⁾ In Japan, however, the term "exclusive breastfeeding" is used to refer to WHO's Full Breastfeeding, where the main source of nutrition for the infant is breast milk but he or she may also receive some infant formula or other liquid. Japanese "fullybreastfeeding" refers to WHO's Full Breastfeeding, where the infant receives solely breast milk and no infant formula as the main source of nutrition, regardless of whether other liquids and/or solid food are given, while any breastfeeding, which means including the above category of fully breastfeeding and that both breast milk and infant formula were given

regardless of whether other liquids and/or solid food were given.⁹⁾ Inoue et al. have similarly suggested that "exclusive breastfeeding" as it is used in studies in Japan would be equivalent to Predominant (Full) or Any Breastfeeding, but not Exclusive Breastfeeding as defined by the World Health Organization (WHO).¹⁰⁾

According to the International Programs Center HIV/AIDS surveillance database, infant mortality rate among children with AIDS in 2000 was 74 per 1,000 live births, while that among children without AIDS was 69 per 1,000 live births in Nigeria.¹¹⁾ On the other hand, a recent study from Zambia reported HIV transmission rates at 6 weeks among babies of the HIV-positive mothers with any type of anti-retroviral (ARV) intervention as prophylaxis were between 4.2% and 8.7%, while that among babies of HIV-positive mothers with no ARV intervention was 20.1%.¹²⁾ The proportion of women with undetectable viral load (<400 copies/mL) increased from 6% at baseline (32-34 weeks gestation) to 79% at 24 weeks postpartum due to ARV intervention.¹³⁾ A possibility to reduce mother to child transmission of HIV through breast milk could be increased by ARV intervention as prophylaxis reducing HIV-positive mothers' viral load.

Although breastfeeding is considered important in both high- and low-HIV-positive prevalence settings, the completion of Exclusive Breastfeeding is infeasible in the absence of continuous care and support for mothers, including breast care, because mothers often face several types of breast-related problems, including mastitis, etc., during the breastfeeding period, which may result in discontinuation of Exclusive Breastfeeding. Bland *et al.* reported that women who had not exclusively breastfed their infants were more likely to experience breast problems than those who had exclusively breastfed their infant, although there have

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been rare reports of breast-related problems in both HIV-positive and HIV-negative women in South Africa.¹⁴⁾ On the other hand, a study in Malawi indicated that mastitis was associated with significantly higher concentrations of immunological and inflammatory mediators in breast milk, and may contribute to the transmission of HIV through breast milk.¹⁵⁾ In addition, a study in South Africa indicated that elevated breast milk HIV RNA viral load in the first 14 weeks of life was associated with subclinical mastitis and severe maternal immunosuppression,¹⁶⁾ which is a risk factor for mother-to-child HIV transmission through breastfeeding. In a study in Zambia, the geometric mean milk Na/K ratio and the proportion of women with Na/K ratio > 1.0 in one or both breasts were significantly higher among HIV-infected than among uninfected women.¹⁷⁾ The association between mastitis and HIV transmission through breastfeeding is still an issue for discussion. A study in Zimbabwe indicated that Exclusive Breastfeeding is associated with reduced postnatal transmission of HIV from mother to child, but this protection is not mediated by reduced mastitis or breast milk HIV load.¹⁸⁾

Table 1 shows a comparison of HIV prevalence and breast care in Japan and Tanzania.¹⁹⁾ In Japan, 95.4% of postpartum women realize any breastfeeding for the first one month of a baby's life and 86.8% for the first three months of a baby's life in 2010. In addition, 51.6% of postpartum women realize fully breastfeeding for the first one month of a baby's life and 56.8% for the first three months of a baby's life in 2010. The breastfeeding rate in the first one month for the baby's life has been below 50% in the past four decades, however, it is gradually increasing in the recent years.²⁰⁾ On the other hand, 50% of postpartum women practice Exclusive Breastfeeding at the first 6 months for the baby's life in Tanzania.¹⁹⁾

The present report summarizes lectures given in Japan and Tanzania, which are countries with contrasting

HIV prevalence rate, on breast care situation in midwifery education and practices in each country.

Lecture and discussion given in Tanzania

Nagasaki University and Muhimbili University of Health and Allied Sciences made an academic agreement for collaborative research and exchange of faculties and students in December 2011. Under this agreement, Prof. Yuko Nakao and Prof. Mayumi Ohnishi visited Muhimbili University as part of a research funded by a Grant-in-Aid for Scientific Research from December 17 to 29, 2011. Prof. Nakao and Prof. Ohnishi jointly gave a 90-min lecture and practical session regarding breast problems and breast care for continuous breastfeeding practices in Japan for midwifery students, both direct entry (i.e., midwifery education provided for students without basic nursing training) and sequential education (i.e., midwifery education provided for students who have completed nursing training), at Muhimbili University. A total of 9 students and the head of midwifery education at Muhimbili University (Dr. Sebalda Leshabari) participated in the lecture, and exchange of experiences in both countries. The lecture included a discussion on common breast problems in Japan and problems associated with breast care, followed by a practical session on breast care using a breast model under the instruction of Prof. Nakao (Table 2).

Common breast problems among breastfeeding mothers in Japan were the same as those in Tanzania, including mastitis, breast congestion, and nipple cave-in. According to the participants' report, nipple cave-in is commonly observed in Tanzania, and healthcare providers use a syringe to correct the nipples under vacuum. They also reported rare cases of ankyloglossia and giant nipples, and even in such rare cases, ankyloglossia and giant nipples did not develop into serious problem whereby the baby could suckle. However, they sometimes encountered cases with minimal

Table 1. A comparison of HIV prevalence and breast care in Japan and Tanzania

	Japan	Tanzania
Estimated adult (aged 15-49) HIV prevalence	<0.1%	5.6%
Estimated number of women (aged 15+) living with HIV (thousands)	3	730
Estimated number of children (aged 0-14) living with HIV (thousands)	No data	160
Infant mortality rate (1,000 live births)	3	50
Early initiation of breastfeeding (%)	No data	49
Exclusively breastfed (<6 months)	No data	50
Introduction to solid, semi-solid or soft foods (6-8 months)	No data	92
Breastfed at age 2	No data	5

Source: UNICEF. The State of the World's Children 2012.

Table 2. Lecture and practice on breast care and breastfeeding in Muhimbili University

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1. Lecture: Breastfeeding and breast care in Japan
 - 1) Transition of the breastfeeding practice in Japan
 - 2) Diagnosis of breast and nipple form
 - 3) Mastitis
 - 4) Nipple problems
 - 5) Baby problems (thrush, ankyloglossia, etc.)
 - 6) Kangaroo care
 - 7) Positioning and latching on

 2. Practice: breast and nipple massage technique
 - 1) How to keep the nipple and areola soft, including milking technique and removal of blockages
 - 2) How to massage of mamma basic part
-

nipples which made the babies difficult to suckle. The largest difference regarding breast problems between Tanzania and Japan was that regarding “giant breasts,” because this was quite common in Tanzania while this was often the cause of mastitis and breast congestion in Japan. “Giant breast” is defined as “excessively large breast” in the Japanese context, and since it was considered a risk factor for mastitis, midwives and healthcare professionals in Japan offered preventive care, while it was not considered a problem by the Tanzanian counterparts. Another difference between the two countries was in the treatment of mastitis; while in Tanzania, surgical treatment for severe mastitis was common, hand massage and medication were more common in Japan. Preventive care for mastitis was more commonly provided in Japan, while curative care was more commonly performed in Tanzania. The participants were degree level midwifery students who had already trained as nurses and/or midwives at the diploma level, and they were working as nurses and/or midwives. In addition, some had given birth themselves. Therefore, the participants raised several practical questions during the lecture and practical session regarding the hand massage technique.

Breast care including massage is not taught systematically among Tanzanian midwifery students, although they perform breast and nipple massage based on basic knowledge and empirical methodologies when necessary. In Tanzania, midwives and midwifery students were trained to begin breastfeeding within 30 min after birth and recommend Exclusive Breastfeeding according to the WHO guidelines. However, postpartum mothers and babies are commonly discharged from hospital within 24 or 48 hours after normal vaginal delivery, even in cases with institutional delivery. Therefore, although they recommend Exclusive Breastfeeding healthcare providers, including midwives, do not have

sufficient time to educate and encourage postpartum mothers regarding breast care for continuation of breastfeeding. Thus, community nurses and midwives play an important role in supervising mothers’ breast condition during pregnancy and breastfeeding period, and in providing guidance and care to avoid discontinuation of breastfeeding. The delicate practice of breast massage and breast care, which are unique to Japan, could be introduced into both in- and pre-service midwifery training to support Exclusive Breastfeeding in Tanzania.

Lecture and discussion given in Japan

Dr. Leshabari was invited to contribute to midwifery education at the masters level, which began in April 2012, with funding from Nagasaki University (Daigaku Kodoka Suishin Keihi) in June 2012. She gave a lecture regarding midwifery education and challenges in Tanzania for 8 midwifery masters degree students and 7 faculty members. In addition, she gave another lecture regarding breastfeeding among HIV-positive women in resource-poor settings to the students of the Graduate School of International Health and Development and midwifery students and faculty members.

Breastfeeding is not recommended for HIV-positive mothers in Japan where healthcare services for prevention of mother-to-child transmission (PMTCT) of HIV, including antiretroviral drugs, cesarean section, and safer infant feeding practices, such as appropriate artificial milk feeding, are both available and affordable. However, under conditions where such resources are not available, Exclusive Breastfeeding for the first 6 months of a baby’s life is recommended by the WHO based on the findings of several studies.²¹⁾ With regards to a global standard of breastfeeding, the majority of countries follow the WHO definition of Exclusive Breastfeeding, and health professionals are trained according to these guidelines. Therefore, it is

necessary for Japanese professionals to consider such global definitions when presenting the Japanese definition of full breastfeeding in a global setting, including in academic publications.

These lectures provided an important opportunity for Japanese midwifery students and faculty members to compare the differences between the Japanese definitions of breastfeeding and practices with those in Tanzania.

Way forward and future perspectives

Breastfeeding practice is influenced by custom, familial and social conditions, resources and support, culture and social norms, in addition to biological conditions. There is no doubt regarding the value of breastfeeding in both resource-poor and resource-rich settings, and regardless of the level of HIV prevalence rates. The importance of exchanging and sharing of experiences and wisdom from different settings produces new concepts, including redefining of breastfeeding practices and adjusting in the context of their own culture and conditions. Such exchanges will also facilitate development of beneficial methods for encouraging the continuation of Exclusive Breastfeeding in daily and traditional practices through.

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