The infant-feeding practices of mothers enrolled in the prevention of mother-to-child transmission of HIV programme at a primary health care clinic in the Mpumalanga province, South Africa

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Abstract

Purpose: To determine whether mothers attending a primary health care (PHC) clinic in the Mpumalanga province, South Africa for post-delivery prevention of mother-to-child transmission (PMTCT) of the Human Immunodeficiency Virus (HIV) follow-up care were adhering to the recommendation of exclusive infant-feeding practices, and to identify possible areas for improvement of the PMTCT of HIV services at the clinic.

Setting: A municipal PHC clinic in White River, a semi-urban town in Mpumalanga, South Africa.

Design: A cross-sectional descriptive study using a structured infant-feeding questionnaire.

Subjects: All mothers attending the clinic for post-delivery PMTCT of HIV follow-up care during a four-month period from 1 November 2007 to 29 February 2008.

Results: A total of 33 mothers with infants attended the clinic during the period. All 33 mothers took part in the questionnaire study. Thirty questionnaires were subsequently found suitable for analysis. The mothers were predominantly rural, with low levels of education and no formal employment. Their ages ranged from 22 to 42 years, with a mean of 30.7 years. Fifteen (50%) of the 30 mothers practised exclusive replacement feeding (ERF), 8 (27%) practised exclusive breast-feeding (EBF), and 7 (23%) practised mixed feeding.

Conclusion: More than three-quarters of the mothers practised the recommended exclusive infant-feeding methods for PMTCT of HIV, with ERF as the most popular choice. However, the infant-feeding practices could not be generalised as the attendance of mothers for post-delivery follow-up care at the clinic was very poor during the study period. This poor attendance was attributed to frequent non-availability of free formula milk for the programme. Better quality counselling is needed to further increase the adherence to exclusive infant-feeding practices, and to improve the uptake of post-delivery follow-up care.

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Introduction

The health care programme of prevention of mother-to-child transmission (PMTCT) of the Human Immunodeficiency Virus (HIV) is a major battle-front in the global combat against the pandemic disease of Acquired Immune Deficiency Syndrome (AIDS) caused by infection with HIV. The focus is on saving babies from acquiring the infection from their infected mothers.[1]

PMTCT of HIV is a high priority primary health care (PHC) programme in the Republic of South Africa. It started in 2001 as a pilot project at 18 sites across the country, and was implemented nation-wide in 2002.[2]

A component of the PMTCT of HIV programme is the modification of infant-feeding practices during the postnatal period to reduce the risk of transmission of the virus through breast milk.[3–6] This advocates exclusive replacement feeding (ERF) or exclusive breast-feeding (ERB), and avoidance of mixed feeding or partial breast-feeding.[7]

This study investigated the infant-feeding practices of mothers receiving post-delivery PMTCT of HIV follow-up care at a PHC clinic in the Mpumalanga province for the purpose of determining whether the mothers were adhering to the recommendation of exclusive infant-feeding practices, and identifying possible areas for improvement of the PMTCT of HIV services at the clinic. It was conducted at a municipal clinic in White River, a semi-urban town in the Lowveld region of the province. The clinic provides PHC services to the residents of the town and surrounding farming communities and rural areas. The clinic is also utilised by the Department of Family Medicine, University of Pretoria, for the training of student doctors in rural health. PMTCT of HIV services has been available at the clinic since 2004.

Method

A cross-sectional descriptive study of the infant-feeding practices of mothers enrolled in the PMTCT of HIV programme at White River clinic was conducted from 1 November 2007 to 29 February 2008. All mothers who attended the clinic for post-delivery PMTCT of HIV follow-up care during the period were included in the study.

The Mpumalanga Provincial Research Ethics Committee and the University of Pretoria Research Ethics Committee granted ethics approval for the study.

Infant-feeding practices were defined as ERF, i.e. complete avoidance of breast milk and feeding the infant with formula milk from birth with other foods introduced from six months of age;[8] EBF, i.e. feeding the infant with only breast milk and no other liquids, water or solids except drops or syrups of vitamins, minerals and medicines for the first few months of life followed by rapid cessation of breast-feeding and introduction of breast milk substitutes and other foods;[7,8] and mixed feeding, i.e. feeding the infant simultaneously with breast milk, formula milk and other foods and liquids.[7,8]

A structured questionnaire based on the World Health Organization (WHO) assessment tool for research on infant-feeding practices for PMTCT of HIV,[9] which relies on infant-feeding history during a recall period, was used for the study. The recall periods for this study were the first week of the infant's life, the last week before a visit to the clinic, since the last visit to clinic, and any other time before the last visit to clinic. The PHC nurse practitioners at the clinic received on-site training from the principal researcher, a family physician, on the administration of the questionnaire to mothers. Each mother that visited the clinic for routine post-delivery PMTCT of HIV follow-up care during the study period was seen by a PHC nurse practitioner, who administered the questionnaire in private after obtaining informed consent.

Data from the questionnaire were subsequently analysed manually and with a computer using Microsoft Excel.

Results

A total of 33 mothers with infants attended the clinic for post-delivery PMTCT of HIV follow-up care during the four-month period. All 33 mothers agreed to take part in the study, which gave a response rate of 100%. Three of the 33 questionnaires were subsequently found unsuitable for analysis because of incomplete information and other irregularities. The remaining 30 questionnaires were analysed.

Demographic data

The ages of the mothers ranged from 22 years to 42 years, with a mean age of 30.7 years. Only four (13%) of the 30 mothers lived in White River town, the remaining 26 (87%) lived in rural areas and farms around White River. Seventeen (57%) of the 30 mothers were single, the remaining 13 (43%) were married. One (3%) of the 30 mothers had a tertiary level of education, 20 (67%) had various levels of high school education, eight (27%) had various levels of primary school education, and one (3%) never went to school. Three (10%) of the 30 mothers had formal employment, 17 (57%) had informal employment and 10 (33%) were unemployed. Twenty-two (73%) of the 30 mothers were multiparous, 6 (20%) were grandmultiparous and two (7%) were primiparous.

Infant-feeding practices

Before delivery, 16 (53%) of the 30 mothers had decided on ERF, nine (30%) had decided on EBF and five (17%) did not make any choice.

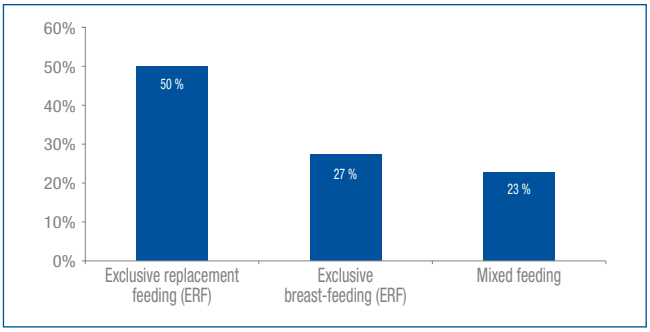
Of the 16 mothers who decided on ERF before delivery, two (13%) changed their minds and embarked on EBF immediately after delivery, one (6%) practised mixed feeding, and the remaining 13 (81%) practised ERF.

Of the nine mothers who decided on EBF before delivery, three (33%) practised mixed feeding after delivery, while the remaining six (67%) practised EBF.

Of the five mothers who did not make any choice of infant feeding method before delivery, two (40%) practised ERF after delivery and three (60%) practised mixed feeding.

As a whole, 15 (50%) of the 30 mothers practised ERF, 8 (27%) practised EBF and seven (23%) practised mixed feeding (Figure 1). In other words, 23 (77%) of the mothers practised the recommended exclusive infant-feeding methods for PMTCT of HIV.

Figure 1: Infant feeding practices of PMTCT of HIV programme mothers (n = 30)



The 15 mothers who practised ERF and the seven mothers who practised mixed feeding, a total of 22 mothers, used different types of commercial formula milk that they bought from shops because of non-availability of free formula milk in the clinic. Only four (18%) of the 22 mothers ever received free formula milk from the clinic.

Ages and nutritional status of the infants

The ages of the infants ranged from 0 to 10 months, with a mean age of 3.5 months. By weight for age, the infants of all the 30 mothers were between the third and 97th centile on a growth monitoring chart, the Road to Health Chart.[10]

Discussion

Since the beginning of nation-wide implementation of PMTCT of HIV programme in South Africa in 2001, a few pioneering studies have been done in the country on the infant-feeding aspect of the programme with regard to the ability of mothers to adhere to the recommended exclusive infant-feeding methods. The studies revealed that non-adherence was common among the mothers because of challenges relating to the individual mother, the family, the community, socio-economic factors, cultural factors and health care system constraints.[11,12,13] The studies were mostly done in rural and peri-urban areas in the Western Cape, Eastern Cape and KwaZulu-Natal provinces. Doherty et al[12] reported studies at three PMTCT of HIV sites in the three provinces whereby interviews with 27 HIV-infected mothers during the postpartum period revealed that just under half of the mothers who intended breast-feeding maintained exclusivity and over two-thirds of the mothers who initiated formula feeding maintained exclusivity. Bland et al[13] found among 1 253 HIV-infected mothers in KwaZulu Natal that 78% of mothers who intended EBF were able to adhere in the first postnatal week, and 42% who intended ERF were able to adhere.

Our study in the Mpumalanga province similarly had a rural setting, where the population is far from being well educated and economically secure. However, unlike the studies by Doherty et al and Bland et al mentioned above, our study included mothers beyond the first postnatal week and postpartum period.

Our study found that most of the mothers (77%) were able to practise the exclusive infant-feeding method of their choice, with ERF being the most favoured method. Mixed feeding was practised by less than a quarter of the mothers and was mostly found among those who did

not make a feeding choice before delivery and those who opted for EBF. The infants were of healthy weight for age irrespective of the feeding method practised.

The findings of our study seem to suggest that most mothers in our rural communities are able to comply with the recommendation of exclusive feeding practices for PMTCT of HIV. However, it is difficult to make the generalisation because of the fact that attendance of mothers for post-delivery follow-up care at the clinic had been very poor since around the middle of 2007. The clinic sisters attributed the poor attendance to the frequent non-availability of free formula milk. Previously, the attendance of mothers used to average about 35 per month, but since the middle of 2007 when stocks of milk were frequently unavailable, attendance dropped to an average of less than 10 per month. Therefore, there is no knowledge of the infant-feeding practices of the large number of mothers who are lost to post-delivery follow-up care.

The situation of poor attendance of mothers for post-delivery follow-up care calls for a review of the content and quality of PMTCT of HIV counselling that is being provided to mothers. Counselling should include helping the mothers to understand the importance of post-delivery follow-up care for both themselves and the infants. Also, as the study revealed mixed feeding practice mostly among the mothers who made no choice of infant-feeding method before delivery and those who opted for EBF, better quality counselling targeted at such mothers could further reduce mixed feeding practice.

The quality of counselling on PMTCT of HIV provided to mothers in South Africa has been found to be poor.[14] Counselling requires good consultation or interviewing skills. In South Africa, Family Medicine departments at different universities are continuously developing skills for effective consultation,[15–19] including interviewing skills specifically for PMTCT of HIV counselling.[20] A strong partnership between the PMTCT of HIV programme and such academic institutions with experience and expertise in the teaching of consultation skills could be helpful in developing suitable training packages to continuously complement the training programmes for lay counsellors and PHC workers.

A new initiative is being developed by the Medical Research Council in partnership with the University of Pretoria's Department of Family Medicine and the Mpumalanga Department of Health to incorporate the PMTCT of HIV programme into integrated maternal and child health services in the Mpumalanga province with the active involvement of district family physicians. It is hoped that the initiative will provide a platform to facilitate the more effective ongoing training of lay counsellors and PHC nurses on PMTCT of HIV counselling in the province, inclusive of the White River clinic.

Conclusion

In conclusion, most mothers enrolled in the PMTCT of HIV programme at the White River clinic in the Mpumalanga province who attended the clinic for post-delivery follow-up care during the study period were found to be complying with the recommendation of exclusive infant-feeding practices, with ERF as the most practised method. However, many mothers were lost to post-delivery follow-up care at the clinic, and the situation was attributed to the frequent non-availability of free formula milk for the programme. Better quality PMTCT of HIV counselling is needed to further increase the adherence to exclusive infant-feeding practices and to improve the uptake of post-delivery follow-up care.

Limitations of the study

The number of mothers studied was small due to the fact that the study was conducted in only one small municipal PHC clinic, which operates eight hours a day, five days a week, and the attendance of PMTCT mothers for post-delivery follow-up care at the clinic was poor during the period. A larger study involving government clinics and community health centres would have yielded more mothers for the study and would probably have provided more accurate infant-feeding practices of PMTCT mothers in our rural communities.

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