GRADE Profile 7

Question: Does breastfeeding improve the survival of infants that become HIV-infected before, or at delivery?
Population: HIV-infected infants
Settings: Côte d'Ivoire, Kenya, Malawi, Zambia (2)
Bibliography: MESH words included in search strategy: "HIV-infected infants, HIV-infected children, mortality and feeding"
137 publications identified; 21 selected following review of abstracts; 6 found to report primary data on mortality by feeding status[i]

Quality assessment							Summary of findings					Importance
							No of patients		Effect			
No of studies	Design	Limitations	Inconsistency	Indirectness	Imprecision	Other considerations	Infants given replacement feeds (commercial infant formula)	Breastfed infants	Relative (95% CI)	Absolute	Quality	
Outcome: Mortality					**Quality of evidence in literature identified and reviewed: MODERATE / LOW**							**Importance of Outcome: 9 (very high)**
2	Randomized trial											
	Kuhn et al, 2008	Serious[ii]	No	No	Serious[iii]	No	HIV infected by 4months and then given RF N=81 24m KM cum mortality = 77.1% Of those infected and still alive at 4 months 24m KM cum mortality = 73.6%	HIV infected by 4months and ct BF N=71 24m KM cum mortality = 61% Of those infected and still alive at 4 months 24m KM cum mortality = 54.8%	P=0.02 P=0.007			
	Lockman et al, 2006	Serious[ii]	No	No	Serious[iii]	No	n=33 33.3% dead at 6 m	n=54 7.5% dead at 6 m	P=0.004			

4	Observational Becquet et al, 2007 Obimbo et al, 2004 Fox et al, 2008 Taha et al, 2005	Very serious	Yes[iv]	No	Very serious[v]	No	 N=23 24m cum KM avoiding mortality/hospital 0.48 (0.27-0.68) N=62 Dead before 6m Mortality incidence/100 person years 103 41 deaths among 196 HIV-infected infants who did not stop breastfeeding N not given Reduced mortality if BF	 N=27 24m cum KM avoiding mortality/hospital 0.50 (0.31-0.69) N=62 Dead before 6m Mortality incidence/100 person years 47 40 deaths among 106 HIV-infected infants who stopped breastfeeding N not given Reduced mortality if BF	 HR 4.0 (1.4-11.5) p=0.01 HR 4.0 (1.4-11.5) p=0.01 HR 2.2 (1.4-3.6) Adj HR 3.1 (1.8-5.3) Overall AHR=0.36 (0.19-0.71)			

References:

- Becquet R et al. Two-year morbidity-mortality and alternatives to prolonged breast-feeding among children born to HIV-infected mothers in Côte d'Ivoire. *Public Library of Science Medicine*, 2007, 4(1):e17.
- Fox MP et al. Reduced mortality associated with breast-feeding-acquired HIV infection and breast-feeding among HIV-infected children in Zambia. *Journal of Acquired Immune Deficiency Syndromes*, 2008, 48(1):90-96.
- Kuhn L et al. Effects of early, abrupt weaning on HIV-free survival of children in Zambia. *New England Journal of Medicine*, 2008, 359(2):130-141.
- Obimbo EM et al. Predictors of early mortality in a cohort of human immunodeficiency virus type 1-infected African children. *Pediatric Infectious Disease Journal*, 2004, 23(6):536-543.
- Lockman S et al. Morbidity and mortality among infants born to HIV-infected mothers and randomized to breastfeeding versus formula-feeding in Botswana (MASHI study). *Int Conf AIDS*. 2006 Aug 13-18;16 Abstract No. TuPE0357
- Taha TE et al. The impact of breastfeeding on the health of HIV-positive mothers and their children in sub-Saharan Africa. *Bulletin of the World Health Organization*, 2006, 84(7):546-554.

[i] A seventh study (Coutsoudis et al, 2005, in South Africa) examined the outcomes of LRTI and diarrhoea, but not mortality. No significant differences in occurrence of illness between ever breastfed and never breastfed children were found.

[ii] Blinding not possible.

[iii] N of HIV-positive children small

[iv] 1 found BF protective in 1st 6 months but not at one year; 1 found no difference

[v] N of HIV-positive children very small