Population HIV-Free Survival among HIV-exposed Children in 4 African Countries: the PEARL Community Survey

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Background

The PEARL Study was a multi-component evaluation of PMTCT services in Zambia, South Africa, Cameroon, and Côte d'Ivoire. This component measured HIV-free survival (HFS) in children ≤24 months of age at the community level.

Methods

We randomly sampled households in 25 communities and offered participation if a child had been born to a woman living there during the previous 24 months. We tested mothers with rapid HIV antibody tests and infants with antibody tests and/or DNA PCR. We estimated HFS with Weibull regression.

Results

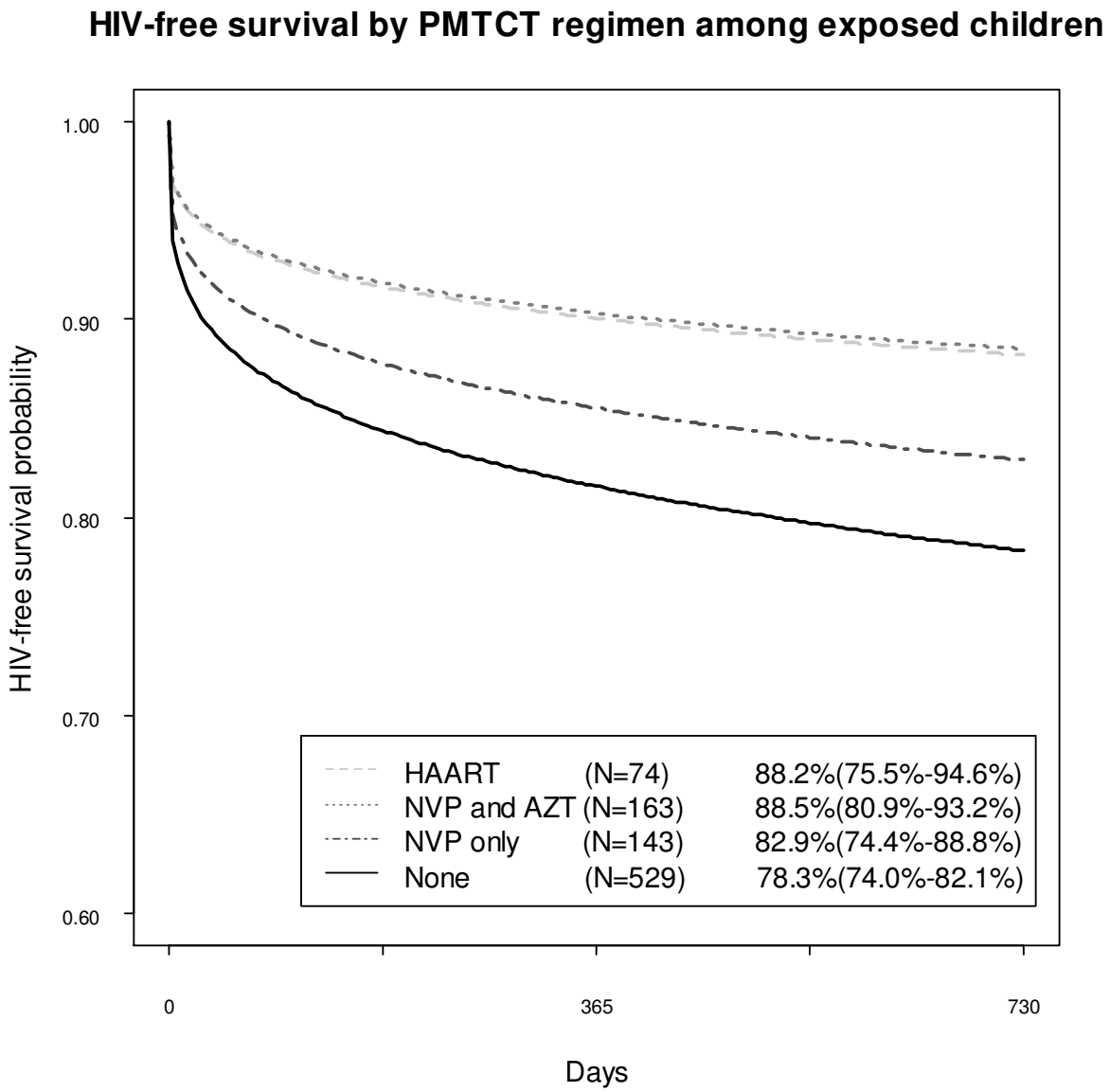
Complete data on 7667 mother-infant pairs from 8336 eligible households are available. Characteristics of respondent children in the 25 clusters included: median age 0.83 yrs (cluster range: 0.67, 1.08); proportion born at a healthcare facility 92% (cluster range: 67%, 99%); proportion receiving >= 1 antenatal visit: 96% (cluster range: 74%, 100%); median gestational age at first antenatal visit: 5 mo (cluster range: 3, 5). 1002 of 7667 infants (13%) were HIV-exposed, of whom 844 were PCR-negative, 105 (11%) were PCR-positive, and 53 (5%) had died. The estimated HFS at 2 years of life among exposed infants was 80% (95%CI: 77%, 83%). Infants whose mothers accessed PMTCT had superior HFS to those whose mothers did not (AHR: 1.67; 95%CI: 1.05, 2.65). This benefit was driven largely by the more complex regimens (Figure).

Conclusion

Population HFS can be estimated and should be incorporated into ongoing country monitoring (e.g., Demographic Health Survey). The more complex regimens recommended by WHO have measurable public health benefit at the population level.

Word Limits

The abstract text body is limited to 300 words. Titles are limited to 50 words. Tables and graphs may be included: a graph (image in JPG, GIF or PNG) counts as 50 words and a table counts as 10 words per row.


HIV-free survival by PMTCT regimen among exposed children
HIV-free survival probability
1.00
0.90
0.80
0.70
0.60
0
365
730
Days
HAART (N=74) 88.2%(75.5%-94.6%)
NVP and AZT (N=163) 88.5%(80.9%-93.2%)
NVP only (N=143) 82.9%(74.4%-88.8%)
None (N=529) 78.3%(74.0%-82.1%)