OBJECTIVE: Conduct a meta-analysis examining differential all-cause mortality rates between HIV-exposed uninfected (HEU) infants and children as compared with their HIV-unexposed uninfected (HUU) counterparts.

DESIGN: Meta-analysis summarizing the difference in mortality between HEU and HUU infants and children. Reviewed studies comparing children in the two groups for all-cause mortality, in any setting, from 1994 to 2016 from six databases.

METHODS: Meta-analyses were done estimating overall mortality comparing the two groups, stratified by duration of follow-up time from birth (0-12, 12-24 and >24 months) and by year enrollment ended in each study: less than 2002 compared with at least 2002, when single-dose nevirapine for prevention of mother-to-child transmission (PMTCT) commenced in low-income and middle-income countries.

RESULTS: Included 22 studies, for a total of 29,212 study participants [n=8,840 (30.3%) HEU; n=20,372 (37.7%) HUU]. Random effects models showed HEU had a more than 70% increased risk of mortality vs. HUU. Stratifying by age showed that HEU vs. HUU had a significant 60-70% increased risk of death at every age strata. There was a significant 70% increase in the risk of mortality between groups before the implementation of PMTCT, which remained after 2002 [risk ratio: 1.46; 95% confidence interval (CI): 1.14-1.87], when the availability of PMTCT services was widespread, suggesting that prenatal antiretroviral therapy, and healthier mothers, does not fully eliminate this increased risk in mortality.

CONCLUSION: We show a consistent increase risk of mortality for HEU vs. HUU infants and children. Longitudinal research is needed to elucidate underlying mechanisms, such as maternal and infant health status and breast feeding practices, which may help explain these differences in mortality.
A meta-analysis assessing all-cause mortality in HIV-exposed uninfected compared with HIV-unexposed uninfected infants and children. - PubMed - NCBI