

ABSTRACT

Objective: To evaluate whether cotrimoxazole prophylaxis prevents common skin conditions in HIV-infected children.

Design: Open-label randomized controlled trial of continuing versus stopping daily cotrimoxazole (post-hoc analysis).

Setting: Three sites in Uganda, one in Zimbabwe.

Participants: 758 children aged >3 years receiving antiretroviral therapy (ART) for >96 weeks in the ARROW trial were randomized to stop (n=382) or continue (n=376) cotrimoxazole after median(IQR) 2.1(1.8,2.2) years on ART.

Intervention: Continuing versus stopping daily cotrimoxazole.

Main outcome measures: Nurses screened for signs/symptoms at 6-weekly visits. This was a secondary analysis of ARROW trial data, with skin complaints categorized blind to randomization as bacterial, fungal, or viral infections; dermatitis; pruritic papular eruptions (PPE); or other (blisters, desquamation, ulcers, urticaria). Proportions ever reporting each skin complaint were compared across randomized groups using logistic regression.

Results: At randomization, median(IQR) age was 7(4,11) years and CD4 was 33%(26,39); 73% had WHO stage 3/4 disease. Fewer children continuing cotrimoxazole reported bacterial skin infections over median 2 years follow-up (15% versus 33%, respectively; $P<0.001$), with similar trends for PPE ($P=0.06$) and other skin complaints ($p=0.11$), but not for fungal ($P=0.45$) or viral ($P=0.23$) infections or dermatitis ($P=1.0$). Bacterial skin infections were also reported at significantly fewer clinic visits (1.2% vs 3.0%, $P<0.001$). Independent of cotrimoxazole, bacterial skin infections were more common in children aged 6-8 years, with current $CD4<500$ cells/mm³, WHO stage 3/4, less time on ART and lower socioeconomic status.

Conclusions: Long-term cotrimoxazole prophylaxis reduces common skin complaints, highlighting an additional benefit for long-term prophylaxis in sub-Saharan Africa.