

Supplemental Table 1. Characteristics of HIV-exposed/uninfected and HIV-unexposed/uninfected adolescents.

	HIV-exposed, -uninfected N=45	HIV-unexposed, -uninfected N=122
	n (%) or median (IQR)	
Sociodemographic factors		
Male	18 (40)	46 (38)
Age	12 (10 – 13)	15 (12 – 17)
BMI Z-score		
Household income [#]		
<10,000 Ksh	10 (26)	43 (43)
10,001-15,000 Ksh	7 (18)	18 (18)
>15,000 Ksh	21 (55)	39 (39)
Indoor biofuel exposure (hours/day)	4(2 – 5)	4 (2 – 5)
Tobacco smoke exposure	6 (13)	24 (20)
Residence <100m from major road	27 (60)	80 (66)
HIV-related variables		
Recent CD4 count*	907 (691 – 1130)	932 (718 – 1117)
Recent CD8 count*	660 (541 – 782)	613 (458 – 797)
Recent CD4/CD8	1.35 (1.15 – 1.66)	1.56 (1.14 – 1.93)
Clinical factors		
Height-for-age Z-score	-0.39 (-01.25 – 0.23)	-0.5 (-1.25 – 0.03)
BMI-for-age Z-score	-0.16 (-1.05 – 0.7)	-0.11 (-0.78 – 0.53)
Prior pneumonia	11 (24)	29 (24)
Hospitalized for pneumonia	3 (7)	8 (7)
Prior pulmonary TB	1 (1)	0
History of asthma	2 (4)	8 (7)
Chronic respiratory symptoms		
Cough	7 (16)	26 (21)
Phlegm	9 (20)	21 (17)
Chest tightness	5 (11)	38 (31)
Breathlessness	4 (9)	16 (13)
Wheezing	6 (13)	22 (18)
Resting respiratory rate	21 (3)	20 (2)
Oxygen saturation %, after sub-maximal exertion	95 (92 – 97)	95 (93 – 97)
Clubbing	0	0
Abnormal lung exam (crackles, wheeze, rhonchi)	4 (9)	14 (12)

[#]Household income in 1 month. 5000 Ksh \$47 USD

*measured in cells/ μ L

Missing data: Income: 29. CD4: 4. CD8 & CD4/CD8: 5. Exam (RR, SpO2, clubbing, lung auscultation): 7.

Supplemental Table 2. Measures of lung function among HIV-exposed/uninfected and -unexposed/uninfected adolescents.

	HIV-exposed /uninfected N=45	HIV-unexposed/ uninfected N=122	Unadjusted difference (95% CI)		Adjusted difference (95% CI)*	
	mean z-score (95% CI)		difference (95% CI)	p	difference (95% CI)	p
<i>Pre-bronchodilator</i>						
zFEV1 pre-bronchodilator	-0.13 (-0.30 – 0.05)	0.12 (-0.616 – 0.39)	0.24 (-0.08, 0.57)	0.134	0.09 (-0.28, 0.47)	0.625
zFVC pre-bronchodilator	-0.01 (-0.19 – 0.16)	0.19 (-0.15 – 0.52)	0.20 (-0.18, 0.57)	0.298	0.05 (-0.33, 0.43)	0.809
zFEV1/FVC pre-bronchodilator	-0.08 (-0.36, 0.20)	-0.22 (-0.40, -0.42)	0.14 (-0.18, 0.47)	0.388	0.12 (-0.26, 0.50)	0.546
<i>Post-bronchodilator</i>						
zFEV1 post-bronchodilator	0.08 (-0.10 – 0.25)	0.39 (0.08 – 0.68)	0.30 (-0.04, 0.65)	0.082	0.21 (-0.16, 0.59)	0.266
zFVC post-bronchodilator	0.00 (-0.18 – 0.18)	0.22 (-0.13 – 0.56)	0.22 (-0.17, 0.60)	0.267	0.11 (-0.28, 0.49)	0.581
zFEV1/FVC post-bronchodilator	0.31 (0.11, 0.52)	0.11 (-0.06, 0.28)	0.20 (-0.06, 0.46)	0.129	0.27 (-0.08, 0.63)	0.130
	n (%)	n (%)	OR (95% CI)	p ^a		
<i>Airflow obstruction</i>						
None	41 (93)	104 (94)	1.09 (0.17, 5.05)	1.0		
Mild	3 (7)	7 (6)				
Moderate/Severe	0	0				
Fixed airflow obstruction	0	4 (4)	0.45 (0, 3.67)	0.322		
Restrictive pattern	2 (2)	1 (2)	1.27 (0.02, 24.9)	1.0		
Mixed obstructive/restrictive pattern*	0	0				
Bronchodilator responsiveness	4 (9)	6 (5)	1.78 (0.35, 7.95)	0.468		

*adjusted for age, sex, tobacco smoke exposure, and biofuel exposure

^a Based on Fisher's exact test.

Missing data: Pre-bronchodilator: zFEV: 3. zFVC & zFEV1/FVC: 12. Post-bronchodilator: zFEV: 1. zFVC & zFEV1/FVC: 20

Supplemental Table 3. Lung function measures among perinatally-acquired HIV-infected and uninfected adolescents.

	N	Unadjusted difference		Adjusted difference*	
		difference (95% CI)	p	difference (95% CI)	p
<i>Pre-bronchodilator</i>					
zFEV1 pre-bronchodilator	322	-0.26 (-0.49, -0.02)	0.031	-0.24 (-0.48, 0.01)	0.059
zFVC pre-bronchodilator	304	-0.32 (-0.55, -0.09)	0.007	-0.29 (-0.53, -0.05)	0.016
zFEV1/FVC pre-bronchodilator	304	0.04 (-0.18, 0.25)	0.737	0.03 (-0.20, 0.26)	0.811
<i>Post-bronchodilator</i>					
zFEV1 post-bronchodilator	324	-0.28 (-0.52, -0.05)	0.018	-0.27 (-0.51, -0.03)	0.029
zFVC post-bronchodilator	291	-0.32 (-0.55, -0.08)	0.009	-0.30 (-0.54, -0.06)	0.016
zFEV1/FVC post-bronchodilator	291	-0.02 (-0.22, 0.18)	0.854	-0.03 (-0.24, 0.17)	0.738

*adjusted for age, sex, tobacco smoke exposure, and biofuel exposure

Supplemental Table 4. Measures of lung function among HIV-infected and uninfected adolescents, excluding potentially improbable values of zFVC and zFEV1/FVC if FEV1/FVC >0.95.

	N	Unadjusted difference		Adjusted Associations*	
		difference (95% CI)	p	difference (95% CI)	p
<i>Pre-bronchodilator</i>					
zFVC pre-bronchodilator	292	-0.29 (-0.53, -0.06)	0.015	-0.28 (-0.53, -0.04)	0.025
zFEV1/FVC pre-bronchodilator	292	0.01 (-0.20, 0.22)	0.896	-0.02 (-0.24, 0.20)	0.862
<i>Post-bronchodilator</i>					
zFVC post-bronchodilator	275	-0.28 (-0.55, -0.04)	0.024	-0.26 (-0.51, -0.005)	0.046
zFEV1/FVC post-bronchodilator	275	-0.09 (-0.28, 0.10)	0.365	-0.08 (-0.28, 0.11)	0.402

*adjusted for age, sex, tobacco smoke exposure, and biofuel exposure