

Trends in all-cause mortality after cancer diagnosis among people with and without HIV in Botswana, 1990-2021

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Supplementary Table 1 Age-standardized mortality rates per 100 000 among people with and without HIV in Botswana, 1990-2021

Cancer type	With HIV							Without HIV						
	Age group	Pre-ART	Post-ART					Age group	Pre-ART	Post-ART				
		1990-2001	2002-2007	2008-2012	2013-2015	2016-2021	P-value		1990-2001	2002-2007	2008-2012	2013-2015	2016-2021	P-value
All cancers	18-29	10.46	1.22	25.80	34.37	22.24	<0.001	18-29	0.04	1.22	0.90	1.89	0.45	0.401
	30-39	13.30	1.53	58.77	119.38	92.59	<0.001	30-39	0.20	1.53	0.89	2.16	0.95	0.387
	40-49	11.64	5.64	90.52	208.88	293.08	<0.001	40-49	0.60	5.64	5.48	7.10	2.09	0.147
	50-59	19.61	12.61	159.98	455.09	714.47	<0.001	50-59	1.04	12.61	14.60	15.89	5.63	0.016
	≥60	23.20	22.39	319.31	1200.29	1632.84	<0.001	≥60	0.83	22.39	43.78	57.49	24.24	0.000
	TOTAL	12.49	6.11	76.99	183.14	297.92	<0.001	TOTAL	0.39	6.11	8.09	11.49	7.31	0.006
ADCs	18-29	0.95	0.07	16.69	23.28	14.45	<0.001	18-29	0.00	0.07	0.18	3.48	0.05	0.256
	30-39	9.66	0.35	38.68	74.69	60.61	<0.001	30-39	0.00	0.35	0.22	0.50	0.15	0.656
	40-49	17.16	1.34	52.08	101.03	149.73	<0.001	40-49	0.34	1.34	1.03	0.55	0.22	0.943
	50-59	21.99	2.66	59.73	135.56	248.39	<0.001	50-59	1.04	2.66	1.12	1.91	0.82	0.971
	≥60	16.57	5.17	100.58	312.07	423.08	<0.001	≥60	0.83	5.17	7.26	1.48	2.69	0.537
	TOTAL	8.18	1.31	40.30	81.39	129.33	<0.001	TOTAL	0.21	1.31	1.25	1.94	0.86	0.397
Cervical	18-29	2.30	0.00	1.77	7.76	7.78	0.012	18-29	0.00	0.00	0.00	0.10	0.00	1.000
	30-39	1.97	0.35	10.62	30.00	37.04	<0.001	30-39	0.00	0.35	0.22	0.00	0.15	0.950
	40-49	3.35	1.19	19.22	64.71	109.56	<0.001	40-49	0.09	1.19	0.86	0.82	0.22	0.750
	50-59	1.78	1.99	24.18	100.05	184.20	<0.001	50-59	0.52	1.99	3.37	1.59	0.69	0.612
	≥60	3.31	4.78	43.11	200.05	277.65	<0.001	≥60	0.31	4.78	7.26	8.30	2.33	0.054
	TOTAL	2.37	1.13	12.73	44.13	88.87	<0.001	TOTAL	0.11	1.13	1.39	1.41	0.73	0.438
Kaposi sarcoma	18-29	5.23	0.00	13.66	14.41	4.45	0.122	18-29	0.00	0.00	0.00	0.00	0.00	1.000
	30-39	6.41	0.00	22.91	34.47	16.27	<0.001	30-39	0.00	0.00	0.00	0.33	0.00	0.999
	40-49	3.95	0.00	25.11	26.11	25.56	<0.001	40-49	0.00	0.00	0.00	0.00	0.00	1.000
	50-59	7.13	0.22	26.31	19.37	33.49	<0.001	50-59	0.00	0.22	0.00	0.00	0.00	0.838
	≥60	9.94	0.19	51.09	88.02	59.50	<0.001	≥60	0.00	0.19	0.21	0.59	0.24	0.539
	TOTAL	5.65	0.05	22.45	28.28	24.21	<0.001	TOTAL	0.00	0.05	0.02	0.15	0.05	0.768

NHL	18-29	0.24	0.07	1.26	1.11	2.22	0.154	18-29	0.00	0.07	0.00	0.20	0.05	0.752
	30-39	0.20	0.00	5.15	10.21	7.30	<0.001	30-39	0.00	0.00	0.00	0.00	0.00	1.000
	40-49	0.00	0.15	7.75	10.22	14.61	<0.001	40-49	0.17	0.15	0.00	0.82	0.00	0.722
	50-59	0.00	0.44	9.24	16.14	30.70	<0.001	50-59	0.00	0.44	0.45	0.00	0.14	0.934
	≥60	0.00	0.19	6.39	24.01	85.94	<0.001	≥60	0.21	0.19	1.24	1.48	0.12	0.439
	TOTAL	0.16	0.13	5.12	8.98	16.24	<0.001	TOTAL	0.04	0.13	0.20	0.38	0.08	0.703
NADCs	18-29	2.69	1.15	9.11	11.09	7.78	0.014	18-29	0.04	1.15	0.90	1.59	0.40	0.455
	30-39	4.73	1.18	20.09	44.69	31.99	<0.001	30-39	0.40	1.18	0.66	1.82	0.80	0.525
	40-49	4.34	4.31	38.44	107.84	143.34	<0.001	40-49	0.86	4.31	4.63	5.46	1.87	0.243
	50-59	10.70	9.96	100.26	319.53	466.08	<0.001	50-59	1.04	9.96	10.78	14.30	4.81	0.022
	≥60	9.94	17.22	218.73	888.21	1209.76	<0.001	≥60	0.83	17.22	35.06	47.12	21.55	<0.001
	TOTAL	4.31	4.81	36.69	101.74	168.60	<0.001	TOTAL	0.36	4.81	6.48	9.55	6.45	0.011
Breast	18-29	0.63	0.00	1.26	1.11	0.00	0.986	18-29	0.00	0.00	0.06	0.10	0.00	0.811
	30-39	1.18	0.35	3.49	7.66	8.42	0.003	30-39	0.00	0.35	0.22	0.33	0.29	0.665
	40-49	0.99	1.63	4.96	20.43	36.52	<0.001	40-49	0.00	1.63	2.23	1.91	0.33	0.407
	50-59	2.38	1.55	12.09	41.96	86.52	<0.001	50-59	0.00	1.55	2.02	4.45	0.69	0.136
	≥60	0.00	1.15	14.37	80.02	290.87	<0.001	≥60	0.00	1.15	4.77	6.82	2.94	0.024
	TOTAL	0.95	0.68	4.46	14.27	38.38	<0.001	TOTAL	0.00	0.68	1.17	1.79	0.94	0.262
Head & Neck	18-29	0.08	0.14	0.25	0.00	0.00	0.829	18-29	0.00	0.14	0.06	0.00	0.00	0.929
	30-39	0.49	0.12	1.49	1.92	1.12	0.354	30-39	0.00	0.12	0.00	0.33	0.00	0.728
	40-49	0.79	0.59	4.96	10.22	10.96	<0.001	40-49	0.00	0.59	0.69	0.27	0.22	0.753
	50-59	1.19	1.55	16.35	41.96	50.24	<0.001	50-59	0.00	1.55	1.57	3.18	0.69	0.223
	≥60	1.10	2.11	30.33	152.04	125.60	<0.001	≥60	0.21	2.11	3.94	8.59	2.69	0.023
	TOTAL	0.43	0.63	4.46	11.63	15.06	<0.001	TOTAL	0.02	0.63	0.76	1.60	0.76	0.315
Skin*	18-29	0.40	0.07	0.76	0.00	0.00	0.634	18-29	0.00	0.07	0.06	0.00	0.05	0.932
	30-39	0.79	0.00	1.66	5.11	5.61	0.014	30-39	0.00	0.00	0.11	0.00	0.00	0.911
	40-49	0.00	0.15	4.65	7.95	18.26	<0.001	40-49	0.17	0.15	0.17	0.55	0.00	0.848
	50-59	0.59	0.89	7.11	22.59	55.82	<0.001	50-59	0.26	0.89	0.90	0.00	0.27	0.852
	≥60	1.10	1.15	25.54	104.02	138.82	<0.001	≥60	0.00	1.15	3.53	4.15	1.35	0.096
	TOTAL	0.49	0.30	3.54	9.25	20.96	<0.001	TOTAL	0.04	0.30	0.59	0.61	0.37	0.539

Esophagus	18-29	0.16	0.00	0.25	0.00	0.00	0.749	18-29	0.00	0.00	0.00	0.00	0.00	1.000
	30-39	0.20	0.00	0.83	0.00	0.00	0.871	30-39	0.13	0.00	0.00	0.17	0.00	0.888
	40-49	0.00	0.30	2.48	6.81	4.57	0.009	40-49	0.00	0.30	0.17	0.00	0.11	0.971
	50-59	0.59	0.89	14.93	38.73	55.82	<0.001	50-59	0.00	0.89	1.12	1.59	0.00	0.459
	≥60	0.00	1.53	31.93	160.04	132.21	<0.001	≥60	0.21	1.53	5.81	6.52	1.71	0.046
	TOTAL	0.16	0.35	3.61	10.04	13.29	<0.001	TOTAL	0.04	0.35	0.83	1.07	0.39	0.424
Prostate	18-29	0.00	0.00	0.00	0.00	0.00	1.000	18-29	0.00	0.00	0.00	0.00	0.00	1.000
	30-39	0.10	0.00	0.00	0.00	0.00	1.000	30-39	0.00	0.00	0.00	0.00	0.00	1.000
	40-49	0.00	0.00	0.00	0.00	0.00	1.000	40-49	0.17	0.00	0.17	0.00	0.00	0.701
	50-59	1.19	0.44	2.13	3.23	19.54	<0.001	50-59	0.52	0.44	0.00	0.95	0.41	0.921
	≥60	1.10	1.34	7.98	64.02	105.77	<0.001	≥60	0.00	1.34	4.15	4.15	4.77	0.033
	TOTAL	0.13	0.23	0.53	2.38	6.79	0.008	TOTAL	0.06	0.23	0.51	0.65	1.10	0.376
Conjunctiva	18-29	0.08	0.00	0.51	2.22	0.00	0.389	18-29	0.00	0.00	0.00	0.00	0.00	1.000
	30-39	0.00	0.00	2.32	3.19	1.12	0.135	30-39	0.00	0.00	0.00	0.00	0.00	1.000
	40-49	0.00	0.15	3.41	4.54	0.91	0.120	40-49	0.00	0.15	0.00	0.00	0.00	0.867
	50-59	0.00	0.00	5.69	12.91	5.58	0.001	50-59	0.00	0.00	0.00	0.00	0.00	1.000
	≥60	0.00	0.00	7.98	8.00	6.61	0.003	≥60	0.00	0.00	0.41	0.00	0.00	0.829
	TOTAL	0.03	0.03	2.63	4.23	1.77	0.074	TOTAL	0.00	0.03	0.05	0.00	0.00	0.983
Lung	18-29	0.08	0.07	0.00	1.11	1.11	0.244	18-29	0.00	0.07	0.12	0.00	0.00	0.980
	30-39	0.10	0.00	0.17	0.64	0.00	0.747	30-39	0.00	0.00	0.00	0.00	0.00	1.000
	40-49	0.00	0.15	0.62	2.27	2.74	0.062	40-49	0.00	0.15	0.00	0.55	0.11	0.601
	50-59	0.59	0.44	7.82	22.59	16.75	<0.001	50-59	0.00	0.44	1.80	0.32	0.41	0.538
	≥60	0.00	1.53	20.76	32.01	39.66	<0.001	≥60	0.00	1.53	1.04	2.67	0.86	0.262
	TOTAL	0.10	0.30	1.77	3.96	4.72	0.017	TOTAL	0.00	0.30	0.37	0.46	0.29	0.589
Liver*	18-29	0.08	0.00	0.00	0.00	0.00	1.000	18-29	0.00	0.00	0.06	0.10	0.00	0.811
	30-39	0.00	0.00	1.16	2.55	1.12	0.150	30-39	0.13	0.00	0.00	0.00	0.07	0.739
	40-49	0.39	0.15	2.79	6.81	2.74	0.035	40-49	0.00	0.15	0.00	0.00	0.11	0.946
	50-59	0.00	0.66	7.11	19.37	5.58	<0.001	50-59	0.00	0.66	0.45	0.64	0.00	0.741
	≥60	2.21	1.34	19.16	40.01	33.05	<0.001	≥60	0.00	1.34	1.04	1.78	0.24	0.453
	TOTAL	0.16	0.28	2.49	5.55	3.54	0.025	TOTAL	0.02	0.28	0.20	0.34	0.10	0.748

HIV: Human immunodeficiency virus; ART: Antiretroviral therapy; ADCs: AIDS-Defining cancers; NADCs: Non-AIDS-Defining cancers; NHL: Non-Hodgkin lymphoma
*Skin includes melanoma, and liver includes hepatocellular cancer