Supplemental Material

Supplemental Methods:

The Cancer Incidence in Five Continents Volume XII3 (CI5-XII) database for 2013-2017 was queried to identify patients with ESCC in 3 major African cancer registries, including Nairobi, Kenya; Eastern Cape, South Africa; and Kyadondo, Uganda. The CI5 databases offer comprehensive data on cancer incidence as recorded by population-based cancer registries at national and subnational levels. We abstracted patient gender, age group, and the person-year population at risk for each age group (5-year interval from birth to 75 years+). We calculated the percentage of cases aged <45 years (early onset). To account for the underlying age structure in our study, we calculated the age-specific incidence and cumulative lifetime and early-onset incidence rates per 100,000 individuals. The age-specific incidence was determined by dividing the cases in each age group by the corresponding person-year population at risk and then multiplying the result by 100,000. We summed the individual incidences from each age group to obtain the cumulative lifetime incidence. We then adjusted this sum to reflect the 5-year intervals per age group by multiplying it by 5, as outlined in Bray F and Ferlay J's chapter on age standardization in 'Cancer Incidence in Five Continents' (2017). The early onset disease proportion of cumulative incidence is calculated by dividing the cumulative incidence of early onset by the cumulative lifetime incidence, then multiplying by 100 to get a percentage. We also visually examined the underlying age structure of the cohort using a histogram. Please refer to this osf link: https://osf.io/6e5nz for details on the approach and calculations used.

Limitations:

The study is limited, using relatively older data from 2013-2017. Nonetheless, this data represents the most recent database version, released in October 2023. Despite this limitation, the findings of our study remain relevant and provide a unique analytical perspective on the age structure underlying Esophageal Squamous Cell Carcinoma (ESCC) in Africa. However, it is important to note that while the CI5 databases gather data from population-based registries, there may be an underrepresentation of patients who live in remote areas or have lower socioeconomic status. Additionally, the small number of cases reported regionally over four years suggests limitations in these registries' coverage, possibly impacting the accuracy of our disease incidence figures and the perceived age distribution in these populations.

Supplemental Table 1: Age Specific Incidence of ESCC per 100,000 person-years in 3 Major African Cancer Registries between 2013 and 2017				
	Age-specific incidence			
Age group	**Combined**	**Nairobi, Kenya**	**Eastern Cape, South Africa**	**Kyadondo, Uganda**
0-4	0.0	0.0	0.0	0.0
5-9	0.0	0.0	0.3	0.0
10-14	0.0	0.0	0.0	0.0
15-19	0.0	0.0	0.0	0.0
20-24	0.2	0.2	0.9	0.1
25-29	0.3	0.2	2.8	0.1
30-34	0.8	0.7	3.2	0.6
35-39	1.2	1.6	2.2	0.5
40-44	4.0	2.8	7.0	5.3
45-49	9.5	6.2	19.7	11.3
50-54	17.4	13.7	22.1	20.3
55-59	31.2	21.1	48.8	33.2
60-64	45.6	37.9	58.6	44.7
65-69	65.5	72.7	69.5	50.0
70-74	66.2	68.8	72.2	54.7
75+	59.6	86.2	53.9	47.9

	The United States	The United Kingdom – England
Supplemental Table 2: Incidence of ESCC in Cancer Registries from the United States and the United Kingdom between 2013 and 2017		
Number of cases	23,334	10,637
Early Onset n (%)	n=341 (1.5%)	n=112 (1.1%)
Cumulative Lifetime Incidence per 100,000 person-years	198	521
Cumulative Early Onset Incidence per 100,000 person-years	2	3
Early Onset Proportion of Cumulative Incidence	1.01%	0.58%