Regional analysis of contraceptive use transition in sub-Saharan Africa: Commonality and Divergence (2000-2022)

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Introduction

In Sub-Saharan Africa (SSA), the prevalence of contraception rate (CPR) rose from 13% in 1990 to 33% in 2020 (1). Changes in contraceptive behaviour associated with continued family planning promotion over the past 40 years have been enhanced with the view of further increasing contraceptive use uptake in the region (2–4). Despite the observed improvement in modern contraceptive prevalence rate (mCPR), there are still disparities in modern contraceptive use transition across SSA countries and sub-regions, with higher transitions observed in Eastern and Southern parts of the continent (5–8). Efforts to duplicate successes observed in Eastern and Southern African countries areas remain challenging and this is evident from several Western and Central African countries, where the rate of transition remains low (5–8). Thus, the need for extensive research to understand the regional commonalities and divergence in drivers of contraceptive use transition in SSA in order to identify strategies aimed at improving CPR, especially in regions and countries with slow transition.

Methods

We used data from the Demographic and Health Survey (DHS) datasets collected between 2000 and 2023 in 21 countries in SSA. The DHSs are nationally representative surveys conducted on samples of reproductive-aged women 15-49 years and men 15-59 years in many developing countries. The outcome variable for this study is modern contraceptive use. All fecund married women in the DHS were asked a question "Are you currently using any contraceptive method to prevent a pregnancy". Blinder-Oaxaca multivariable decomposition analysis approach was used to analyse the transitions in contraceptive use over time among married women aged 15-49 years and examine drivers of modern contraceptive use transition.

Results

The decomposition analysis presented in figure 1 show that contraceptive use transition in the 20 of the 21 countries analysed was mainly attributable to changes in women's contraceptive behaviour. Nigeria is the only country where the effect on compositional factors was the main driver of contraceptive use transition. Furthermore, with the exception of Gabon, changes in women's compositional factors were found to have

a significant effect on modern contraceptive use transition in SSA countries (Table 1). The effects of changes in women's contraceptive behaviour on contraceptive use transition was highest in Gabon (93.4%) followed by Rwanda (91.0%) and lowest in Nigeria (41.2%). In fourteen of the 21 countries analysed (Benin, Congo, Ivory Coast, Ethiopia, Gabon, Ghana, Guinea, Kenya, Madagascar, Malawi, Rwanda, Senegal, Uganda, and Zambia) the contribution effects of changes in contraceptive behaviour to the increase in modern contraceptive was above 80% (Figure 1).

Figure 1: Overall decomposition effects of modern contraceptive use transition among married by country, sub-Saharan Africa
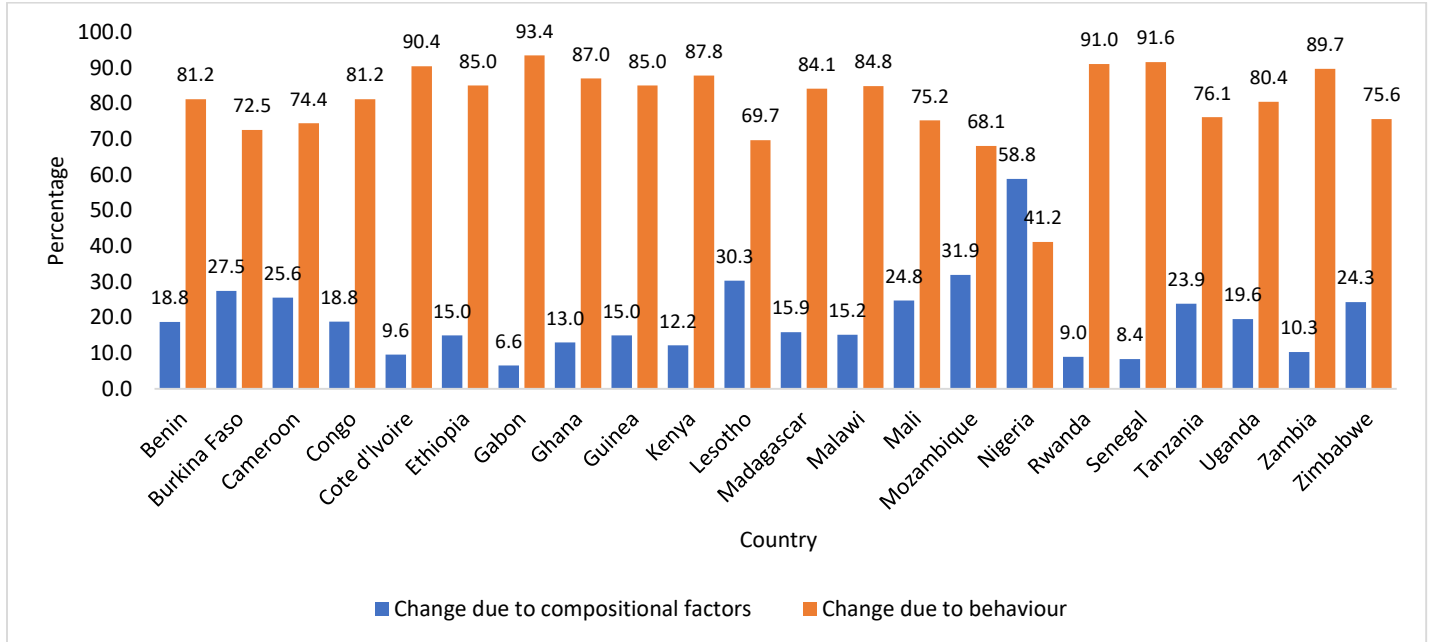

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Table 1: Contribution effects of characteristics and coefficients to the difference in modern contraceptive use transition in SSA countries

Background Characteristics	Due to differences in characteristics (E)		Due to differences in coefficients (C)	
	Coefficients	Percent	Coefficients	Percent
Benin	0.02063*** (0.01624-0.02502)	18.77	0.08926*** (0.07673-0.10180)	81.23
Burkina Faso	0.08968*** (0.07202-0.10735)	27.47	0.23677*** (0.21239-0.26116)	72.53
Cameroon	0.02917*** (0.02152-0.03682)	25.62	0.08467*** (0.06805-0.10129)	74.38
Cote d'Ivoire	0.01513*** (0.00842-0.02184)	9.58	0.14285*** (0.12629-0.15940)	90.42
Congo	0.01875*** (0.00829- 0.02922)	18.18	0.08095*** (0.15367-0.22261)	81.19
Lesotho	0.08160*** (0.05933-0.10387)	30.25	0.18814*** (0.05665-0.10524)	69.75
Ethiopia	0.04770*** (0.03404-0.06135)	15.00	0.270202*** (0.24003-0.30037)	85.00
Gabon	0.00423 (-0.03705-0.04551)	6.56	0.06028* (0.01256-0.10800)	93.44
Ghana	0.01399** (0.00140-0.02658)	13.04	0.09333*** (0.06367-0.12299)	86.96
Guinea	0.01106*** (0.00494-0.01719)	14.97	0.06286*** (0.04058-0.08514)	85.03
Kenya	0.03236*** (0.01777-0.04694)	12.15	0.23402*** (0.20587-0.26218)	87.85
Madagascar	0.05655*** (0.04548-0.06761)	15.88	0.29943*** (0.27331-0.32554)	84.12

Malawi	0.05021*** (0.03761-0.06280)	15.16	0.28105*** (0.25778-0.30432)	84.84
Mali	0.03585*** (0.02872-0.04299)	24.83	0.10855*** (0.09217-0.12494)	75.17
Nigeria	0.01790*** (0.01352-0.02228)	58.79	0.01255 (-0.00281-0.02790)	41.21
Rwanda	0.05259*** (0.03798-0.06720)	9.01	0.53085*** (0.50763-0.55406)	90.99
Senegal	0.01378*** (0.00875-0.01881)	8.41	0.15004*** (0.12997-0.17011)	91.59
Tanzania	0.04485*** (0.02992-0.05979)	21.63	0.16254*** (0.13381-0.19128)	78.37
Uganda	0.05930*** (0.04460-0.07401)	19.58	0.24352*** (0.21936-0.26769)	80.42
Zambia	0.03774*** (0.02298-0.05250)	10.28	0.32923*** (0.30408-0.35438)	89.72
Zimbabwe	0.05645*** (0.02704-0.08586)	24.34	0.17551*** (0.13633-0.21468)	75.66

Table 2 shows sub-region and country specific detailed decomposition analysis of the determinants of modern contraceptive use transition among married women. In all the sub-regions the improvement in the proportion of married women who attained secondary education showed to be a significant factor contributing to contraceptive use transition. At country level the effect was highest in Nigeria (13.26%) and lowest was in Rwanda (0.67%). The effect of improvements in tertiary education were most pronounced in East and Central Africa. At Country level the highest was recorded in Kenya (19.70%). Further, the effect of reduction of child mortality on contraceptive use transition was observed in all sub-regions. Here, Nigeria was had the highest effect (20.28%) and Ethiopia had the lowest (0.14%). Fertility desire was a key driver in Southern and Central Africa while Community health worker visit was key in West and East Africa and improved access to mass-media FP information was key all the sub-regions.

Table 2: Detailed decomposition analysis of determinants of modern contraceptive use transition in SSA countries by sub-region

Country	Child survival	Secondary education	Tertiary education	Rich household	Health facility visit	CHW visits	Access to media FP information	Ideal number of children 6+	Living children 4-5	Living children 6+
West Africa										
Benin	3.75	3.34	0.58	0.64	0.04	0.03	3.41	-	1.84	1.55
Burkina Faso	3.57	3.93	0.23	1.02	6.77	7.40	6.59	0.32	1.38	0.68
Cote d'Ivoire	2.70	2.95	2.93	0.43	-	-	-	-	-	-
Ghana	1.27	0.76	3.34	1.86	-	-	-		0.97	0.02
Guinea	0.54	2.33	0.20	-	9.12	4.42	-	-	0.80	0.28
Mali	3.48	6.09	1.03	0.93	1.60	-	1.19	0.29	1.49	0.97
Nigeria	20.28	13.26	8.71	1.29	1.76	2.68	2.46	-	1.72	2.93
Senegal	4.89	3.16	1.44	0.39	-	-	-	-	2.53	3.34
Central Africa:										
Cameroon	7.70	12.66	6.46	0.07	0.35	1.83	0.43	-	2.81	0.31
Congo	8.92	5.60	3.60	1.71	_	0.71	-4.04	13.63	4.12	-1.73
Gabon	0.50	-3.07	-3.59	0.57	0.34	_	9.56	2.58	1.57	-1.22
East Africa:										
Ethiopia	0.14	0.26	2.65	0.25	0.17	5.19	2.93	1.04	0.13	0.07
Kenya	2.28	7.78	19.70	0.36	0.25	-	1.01	1.06	0.44	5.69
Rwanda	4.19	0.67	0.86	0.13	-	2.24		-	0.65	0.63
Tanzania	8.94	6.70	0.44	0.86	6.58	1.05	2.87	11.98	0.10	_
Uganda	4.30	3.58	3.23	0.14	1.73	0.42	2.58	0.09	1.99	0.10

Southern Africa:

Lesotho	1.59	5.27	2.39	-0.06	13.24	-0.1	4.76	2.83	-1.2	_
Madagascar	4.32	1.77	0.69	0.04	0.28	0.63	3.86	3.25	0.57	1.30
Malawi	6.82	2.50	0.25	0.02	1.41	0.07	0.40	0.42	1.50	1.09
Mozambique	6.28	11.86	1.11	2.86	6.50	-	6.45	14.78	2.05	0.54
Zambia	7.08	3.69	0.41	0.21	0.06	0.58	0.87	4.19	2.29	0.12
Zimbabwe	3.39	8.35	3.14	0.03	0.10	0.69	1.87	1.86	0.63	5.96

Conclusion

This study revealed modern contraception use transition has overall shown a steady increase in SSA, but with country and sub-regional variations. This observation that may reflect the need to further strengthen family planning programmes aimed at improving access and utilisation of contraception services, especially in countries and regions with slow transitions. Sub-regional variations have been observed in terms of how various women's compositional factors have been driving contraceptive transitions. However, change in women's contraceptive behaviour and improved access to education contributed the most to the observed transitions of modern contraceptive use in all sub-regions. This could be an indication that family planning programming are yielding anticipated results such as acceptance of contraception. Therefore, there is a need for policy makers and programme implementers to consider strengthening and design family planning interventions that are tailored towards creating positive attitude towards contraceptive behaviour among women in SSA.

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