

# **Do the changes in classification of traditional methods of contraception influence tCPR estimates in sub-Saharan African countries?**

*Maame Peterson, Nicholas Adam, Nurudeen Alhassan & Nyovani Madise*

*African Institute of Development Policy (AFIDEP), Lilongwe, Malawi*

## **Abstract**

About 7 million women in sub-Saharan Africa are estimated to use traditional contraceptive methods. Despite this, the definition/classification of traditional methods still remains a contested issue. There are notable inconsistencies in the methods classified as traditional across studies, with implications for accurately estimating the prevalence of traditional methods (tCPR). In this paper, we estimate tCPR in selected sub-Saharan African countries under three definitions/classifications of traditional methods. We analyzed DHS data post 2000 for fourteen countries, with a focus on four countries. We test for significant differences in estimates under the three scenarios. The results show that changing definition/classification of traditional methods yield different tCPR estimates for some countries but not for others. Also, we find that trends in tCPR shows a decline in traditional method use irrespective of the definition/classification. However, tCPR is higher for married women compared to non-married women. We find that folkloric methods are significant contributors to tCPR in Ghana and DRC while LAM contributes to increasing tCPR in Nigeria. In Kenya, there are no significant differences in tCPR estimates under the three definitions/classifications. We demonstrate that definition actually matters in tCPR estimates, and may also affect the types of women to target for modern contraceptive uptake.

## **Introduction**

Fertility regulation in sub-Saharan Africa and elsewhere prior to the introduction and diffusion of modern contraceptive methods has been posited to have been achieved through the use of traditional methods, in addition to the practice of abortion and post-partum and premarital abstinence (Rossier & Corker, 2017). It is often assumed that as modern contraceptive methods become widely available and accessible, women will transition from the use of less effective traditional methods to effective modern methods. While this assumption largely holds true, as demonstrated by the increasing use of modern methods, a sizable number of women and couples in sub-Saharan Africa including those with access to modern contraceptives are choosing to rely on traditional methods. For instance, about 3% of women of reproductive age in sub-Saharan Africa use withdrawal and periodic abstinence, translating to over 7 million users.

Despite a sizable number of women still using traditional methods and the years of research in such methods, the definition and classification of contraceptive methods as ‘traditional’ remains contested. There are notable inconsistencies in the methods classified as traditional methods across studies and surveys, and sometimes within the same survey, across time. For example, earlier modules of the Demographic and Health Survey (DHS) classified lactational amenorrhea (LAM)

as a traditional method, but this method has now has been reclassified as a modern method in recent DHS modules. In spite of the DHS reclassifying LAM as a modern method, some studies such as Rossier et.al (2014) still classified LAM as a traditional method. Such changing classification and inconsistent measurements could result in potential differences in prevalence rates across various studies and sometimes between different modules of the same survey overtime, with implications on comparability of measures of contraceptive prevalence.

In this paper, we examine the trends in traditional contraceptive prevalence (tCPR) under changing definitions/classifications of traditional methods in Demographic and Health surveys of four sub-Saharan African countries. DHS is the largest source of national and regional data on contraceptive use including data on traditional method use, and has been the main dataset used to estimate tCPR. Various modules of the DHS since the 1980s have classified different contraceptive methods as traditional. Some methods initially regarded as traditional methods in earlier modules of the DHS have now been reclassified as modern methods while others such as folkloric methods are now classified as traditional methods. We hypothesize that these changing definitions/classifications will yield significant differentials in tCPR, and these have implications for interpretations, inferences, measurement and comparison across surveys.

Our analysis is specifically guided by the following research questions:

- i) What will current estimates of tCPR be assuming we rely on the definition/classification/definition of traditional methods in DHS modules I & II. [Note that the classification of traditional methods in these two modules included only periodic abstinence of any kind, withdrawal and all those respondents who mentioned "other methods"]
- ii) What will current estimates of tCPR be assuming we use the definition/classification of traditional methods specified in DHS module III? [Note that the methods classified as traditional in this module are periodic abstinence of any kind, withdrawal and LAM].
- iii) What will current estimates of tCPR be assuming we are using the definition/classification of traditional methods specified in DHS modules IV, V and VI? [Note that traditional methods classified in this module are periodic abstinence or rhythm of any kind and withdrawal. [Also note that LAM was reclassified as a modern method]
- iv) How do estimates from the various classifications above compare with estimates from the current classification as specified in DHS VII].

## **Data and methods**

To address the above research questions, we pooled together DHS data post 2000 from four sub-Saharan African countries representing West, East and Central Africa- Ghana, Nigeria, Kenya and the Democratic Republic of Congo (DRC). This analysis is part of formative work to guide the methodological approach of a project we are implementing on traditional contraceptive methods in the four countries. Our sample included all fund women of reproductive age who are currently using a contraceptive method, and are not pregnant. We weighted the data to account of the unequal sampling probabilities and the complexity the DHS sampling design.

For the analysis, we estimated trends in tCPR over time based on different definitions/classifications of traditional methods, and then employed analysis of group variance (ANOVA) to test significant differences in means over the period. The results are presented in bar charts and tables (see figures 1, 2 and 3; and table 3). We identified three definitions/classifications of traditional methods based on the contraceptive methods considered as ‘traditional’ in the DHS datasets analyzed for this study. Table 1 below describes these three definitions/classifications and the specific methods included in each.

(insert Tables 1 and 2 here)

### **Preliminary Findings**

We initially analyzed data from 14 sub-Saharan countries, and the results are shown in figure 1. The results show that estimates of tCPR under definition/classification 1 (periodic abstinence, withdrawal and folkloric methods) is higher in seven (50%) of the 14 countries than estimates under the other two definitions/classifications. These seven countries span West, East, Central and Southern Africa and include Benin, DRC, Ghana, Ivory Coast, Kenya, Malawi and Senegal. In three of the countries (Ethiopia, Liberia and Burkina Faso), tCPR estimates under all three definitions/classification of traditional methods is similar. In two countries (Guinea and Niger), tCPR estimates under definition/classification 2 is higher than definitions/classifications 1 and 3. Finally, tCPR estimates in Mali and Nigeria under definitions/classifications 1 and 2 are the same, and higher than estimates are definition/classification 3. These findings demonstrate that changing the definition/classification of contraceptive methods as traditional affects estimates of tCPR in most of the countries.

(insert Figure 1 here)

In figures 2 and 3, we focus on four countries (Ghana, Nigeria, Kenya and DRC) to observe how these changing definitions/classifications affect tCPR estimates over time. In general, trends in traditional contraceptive use among women has decreased considerably over time. Patterns in trends in use of traditional methods for all women do not differ from that of married women in the four selected countries. However, we observe that the levels of use irrespective of the definition or classification used for traditional methods, is higher among married women. In other words, tCPR is higher among married women compared to all other women. Three distinct scenarios are observed from the trends and each country presents with a unique one. In Ghana and DRC, with trend 1 rates of tCPR being markedly higher than in the other countries, shows that folkloric methods are a significant contributor to traditional methods reported by women in all the survey years. Women in these countries are likely to subscribe to these kinds of methods in addition to the rhythm and withdrawal methods of contraception. In Nigeria, we see mixed reports in use and the likelihood that LAM contributes to increasing levels if included in the definition of traditional methods as compared to the Ghana and the DRC for instance, where we see no appreciable differences between trend 2 (including LAM) and trend 1 (excluding both LAM and folkloric). In

Kenya, the third scenario is shown where we don't see much appreciable change in the three definitional trends over the periods.

(insert Figures 2 and 3 here)

We confirm our hypothesis by analyzing significant differences in the definitional trends over time, as shown in table 3 and show that indeed, these changing definitions/classifications yield significant differentials in tCPR, and these have implications for interpretations, inferences, measurement and comparison across surveys. There are significant levels across all the survey years in each country post 2000, when we take into account the different operational definitions of traditional methods of contraception, except in Nigeria.

(insert Table 3 here)

### **Summary and Conclusions**

The definition of what constitutes traditional methods of contraception in the family planning discourse has been contested and many studies in the extant literature have defined what traditional methods are using secondary data to analyze trends and prevalence rates. In this study, we operationalized three definitions which are commonly used, especially in surveys and other family planning studies. Our findings support that definitional clarity matters and the significant differences observed in trends depicting the different classifications of traditional methods have implications for comparative analysis and reporting. The different scenarios we observe also suggests that different country contexts matter when studies aim to assess traditional contraceptive prevalence rates. Thus, in certain geographies, even if the same definition of tCPR is applied, substantial portions of women may be omitted and the implications of bias may be more pronounced than in another place and for another definition. Thus, context also matters.

As we progress with our analysis, next steps will include post hoc analysis to assess in-depth differentials in the traditional methods classifications to highlight the nuanced differences in definitions over time and space.

## Tables and figures

Table 1. Changing classification in definition of traditional methods of contraception

Operational definition	
<b>Trend 1</b>	Traditional methods include periodic abstinence (of any kind), withdrawal and all respondent- mentioned other methods (folkloric): DHS modules I & II
<b>Trend 2</b>	Traditional methods include periodic abstinence or rhythm method (of any kind), withdrawal, and <b>lactational amenorrhea (LAM)</b> .  Respondent-mentioned other methods (folkloric) are categorized separately from traditional methods: DHS module III
<b>Trend 3</b>	Traditional methods include periodic abstinence or rhythm method (of any kind), and withdrawal only.  Respondent-mentioned other methods (folkloric) are categorized separately from traditional methods; also LAM reclassified as a modern method: DHS module IV - VII

Table 2. Survey year and weighted sample of women

Country	Year	Weighted Sample
<b>Ghana</b>	2003	5691
	2008	4916
	2014	9396
<b>Nigeria</b>	2003	7620
	2008	33385
	2014	38948
	2018	41821
<b>DRC</b>	2007	9995
	2013/14	18827
<b>Kenya</b>	2003	8195
	2008/9	84444
	2014	31079

Figure 1. Trends in traditional methods of contraception use in selected SSA countries (2000-18)

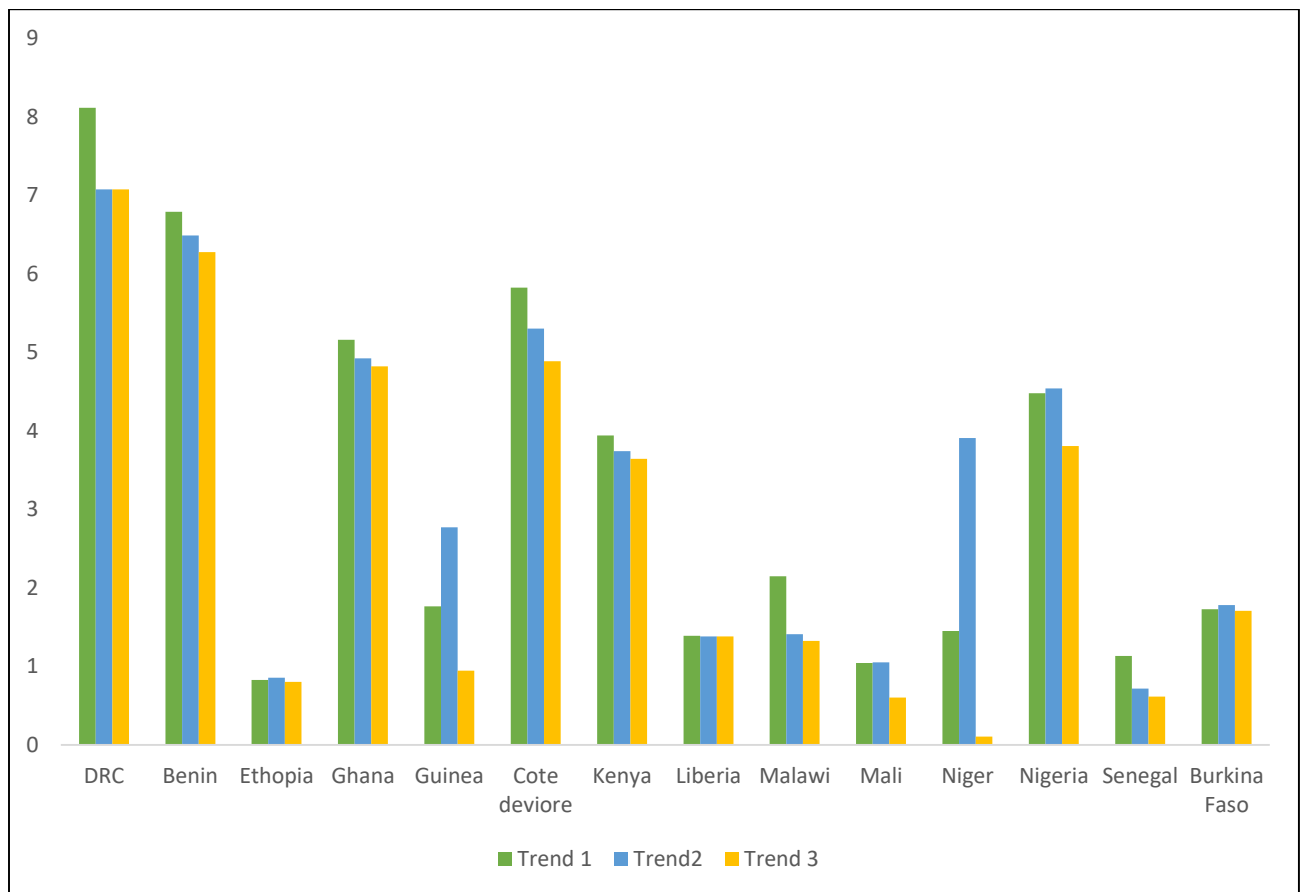


Figure 2. Trend differentials in Traditional Contraceptive use in Selected SSA countries: All women

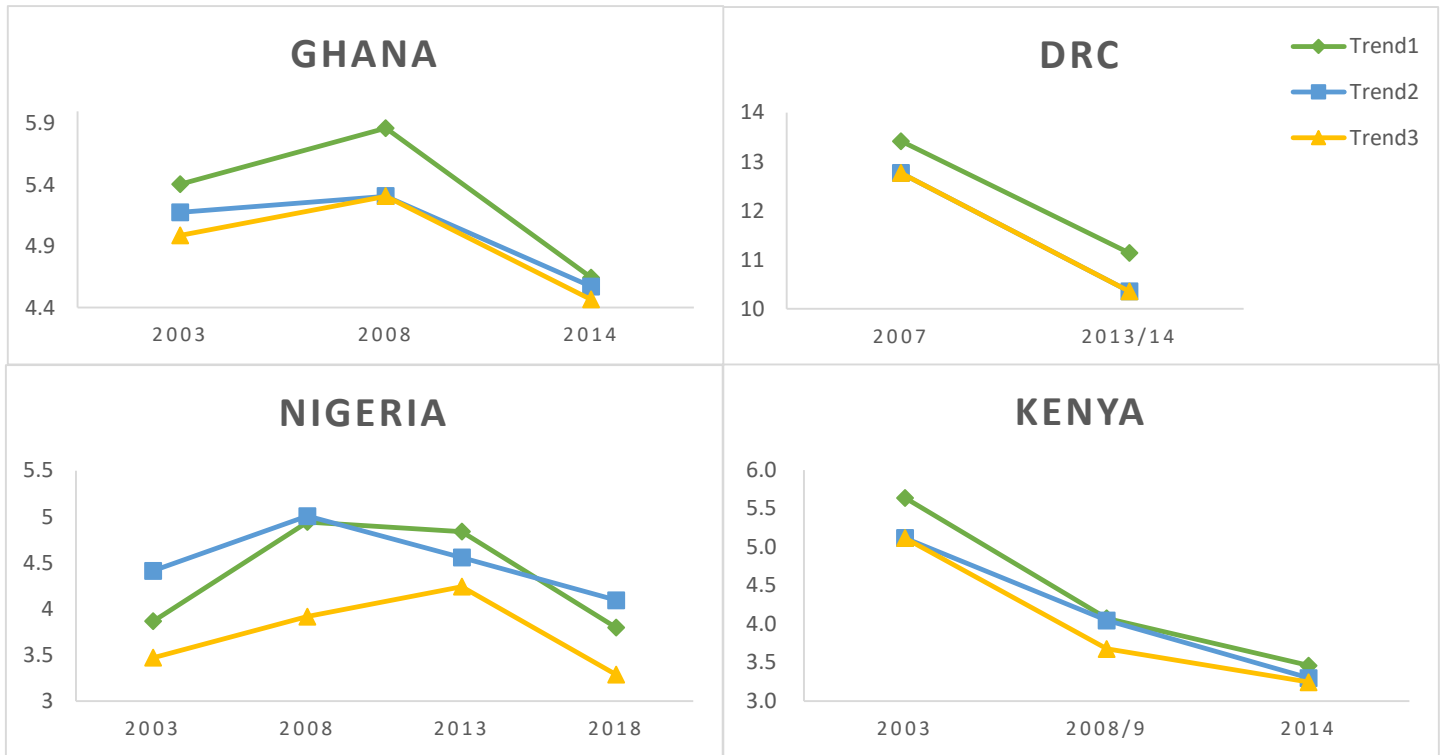


Figure 3. Trend differentials in Traditional Contraceptive use in Selected SSA countries: Married women

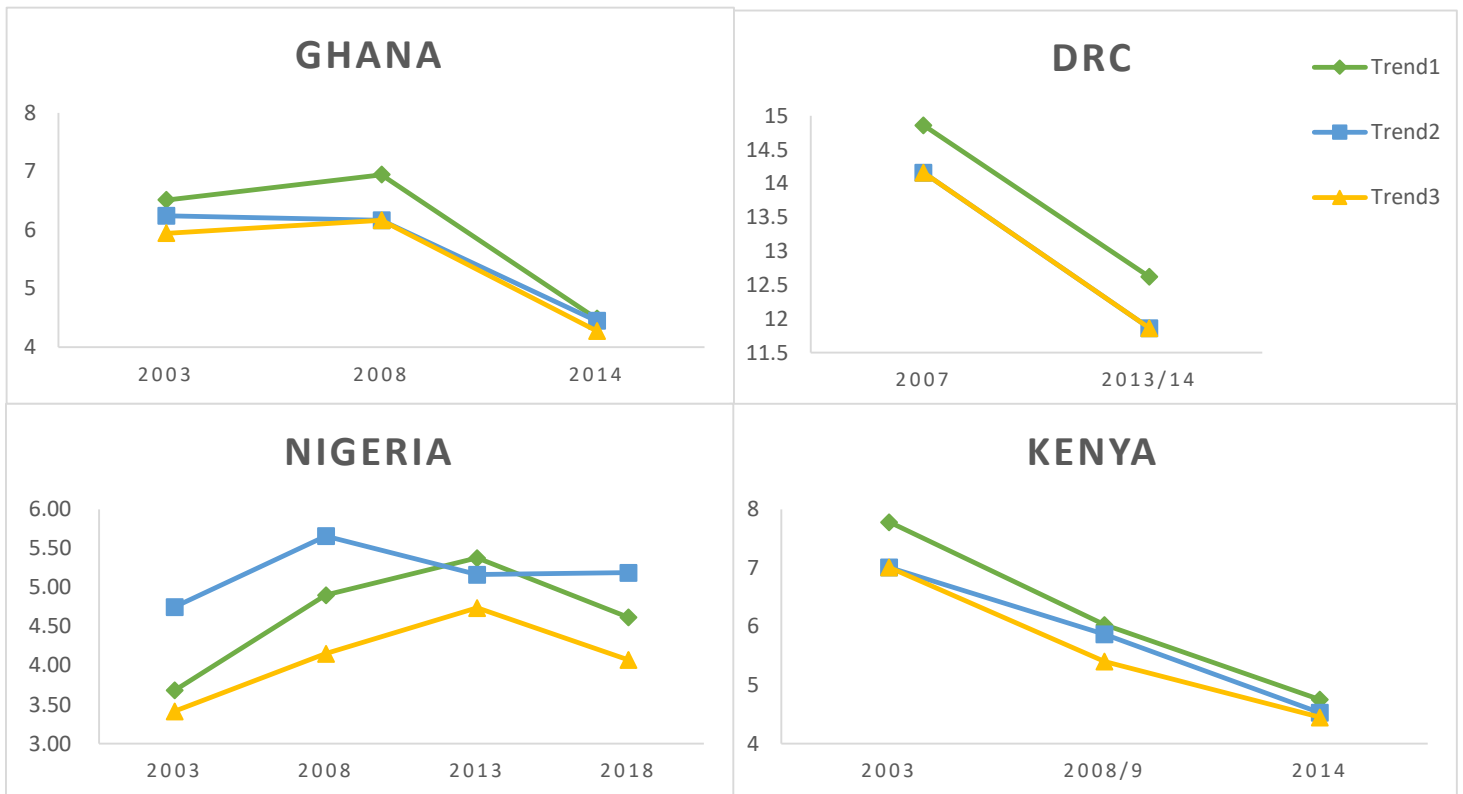


Table 3. Analysis of group variances in trends over time

Country	Year	Average	Variance		Sum of squares	Mean square	F	P-value
<b>Ghana</b>	2003	5.190	0.043	Between groups	1.359	0.679	13.20	0.006
	2008	5.493	0.102	Within groups	0.308	0.051		
	2014	4.56	0.008					
<b>Kenya</b>	2003	5.290	0.090	Between groups	6.020	3.010	59.290	0.000
	2008/9	3.932	0.049	Within groups	0.304	0.050		
	2014	3.336	0.012					
<b>Nigeria</b>	2003	3.916	0.223	Between groups	1.808	0.602	2.821	0.107
	2008	4.621	0.374	Within groups	1.708	0.213		
	2014	4.545	0.089					
	2018	3.725	0.166					
<b>DRC</b>	2007	12.986	0.140	Between groups	8.401	8.401	48.89	0.002
	2013/14	10.62	0.202	Within groups	0.687	0.171		

## References

- Almalik, M., Mosleh, S., & Almasarweh, I. (2018). Are users of modern and traditional contraceptive methods in Jordan different? *Eastern Mediterranean Health Journal*, 24(4), 377–384. <https://doi.org/10.26719/2018.24.4.377>
- Casterline, J. B., & El-Zeini, L. O. (2014). Unmet Need and Fertility Decline: A Comparative Perspective on Prospects in Sub-Saharan Africa. *Studies in Family Planning*, 45(2), 227–245. <https://doi.org/10.1111/j.1728-4465.2014.00386.x>
- Rossier, C., & Corker, J. (2017). Contemporary Use of Traditional Contraception in sub-Saharan Africa. *Population and Development Review*, 43, 192–215. <https://doi.org/10.1111/padr.12008>
- Trussell, J. (2014). Contraceptive Efficacy. *The Global Library of Women's Medicine*, 6. <https://doi.org/10.3843/glowm.10375>
- Tsui, A. O., Brown, W., & Li, Q. (2017). Contraceptive Practice in sub-Saharan Africa. *Population and Development Review*, 43, 166–191. <https://doi.org/10.1111/padr.12051>
- United Nations. (2019). *Contraceptive Use by Method 2019 Data Booklet*.