

Polygamy in West and Central African Countries: Implications for Fertility Intentions and Family Planning

Charlotte Greenbaum and Deborah Bitire

Description

Does the type of marriage that a woman and man enter have an impact on the couple's desired number of children, and subsequently, on contraceptive use and fertility? Research has shown that in many countries, women in polygamous marriages are less likely to use contraception. However, further research is needed to understand the mechanisms behind this relationship and how polygamy may impact a couple's fertility intentions. Our study explores the relationship between polygamy, fertility intentions, and family planning through a review of existing literature and analysis of data from DHS surveys with data on ever-married women in polygamous unions in 11 West and Central African countries. Our preliminary results indicate that women who are or were in polygamous unions are less likely to use any contraceptive method and have a larger ideal number of children compared to women who are or were in monogamous unions. This analysis highlights the importance of targeting polygamous couples and developing family planning programs and messages that meet the needs of these couples in West African countries with high rates of polygamous unions.

Background Literature

Most research on family planning and contraceptive use has focused on married or in-union women regardless of the type of marriage. Some studies have found that fertility preferences and behaviors differ between polygamous and monogamous unions. According to a 1983 Somali Family Health Survey, polygamy and monogamy-selected women tend to portray different social characteristics. Specifically, women ages 25-34 were less likely to use contraception if they were in polygamous unions (Johnson & Elmi et al., 1989).

Other findings also suggested that the perception of costs of children differs in polygamous versus monogamous marriages, which can result in greater fertility intentions in polygamous groups. In polygamous marriages, child-care and work responsibilities can be shared amongst co-wives, and this sharing can, in turn, reduce one's perception of the cost of children, contributing to higher fertility amongst some polygamous groups. Since the data only provides one's fertility intentions and outcomes, however, further research is needed to understand the sociological processes and underlying behaviors between both groups (Akafuh & Sossou, 2008). Family planning use, methods, and perspectives also vary based on one's fertility intentions, spouse's age, marital duration, couple's HIV status, and education status, amongst others. To compare this contraceptive use women in monogamous and polygamous marriages in Nigeria, a study was conducted on 532 respondents, 33.6% of whom were in polygamous marriages. The findings showed that women in polygamous marriages were less likely to use contraception when they were older than 35 years, had 4 or more living children, had no male child, had 3 or more female children, or lived in rural areas (Audu et al., 2008).

Overall, research evidence points to differences in contraceptive use and fertility intentions between monogamous and polygamous couples. Further research is needed to validate these findings and explore them in a larger context.

Data

Data for our analysis come from 11 nationally representative Demographic and Health Surveys (DHS) in West and Central African countries conducted between 2010 and 2017. The countries included are Benin, Burkina Faso, Cameroon, Côte d'Ivoire, Democratic Republic of Congo, Ghana, Guinea, Niger, Nigeria, Mali, Senegal. Since we are looking at differences between polygamous and monogamous unions, our sample is restricted to ever-married women. Our study sample consists of 112,608 women. We use data from the DHS on age, marital status, household wealth quintile, educational attainment, ideal number of children, current use of family planning, and number of children ever born of ever-married women ages 15-49.

Methodology

Our primary outcomes of interest in this analysis are current use of any contraceptive methods, ideal number of children, and number of children ever born. Our primary explanatory variable of interest is polygamous vs. monogamous unions.

The first step in our analysis was to run descriptive statistics looking at contraceptive use, ideal number of children, and number of children ever born for each of the eleven countries included in our analysis. We stratified these estimates by women in polygamous union and women in monogamous unions. To account for potential confounders, we then fit three models to look at our outcomes of interest with the socioeconomic and demographic measures of age, educational attainment, and wealth quintile as controls. We fit a logistic regression model with currently contraceptive use as the outcome of interest, a simple linear model with ideal number of children as the outcome of interest, and a simple linear model with children ever born as the outcome of interest. In order to account for potential country-level differences, we fit three mixed-effects models with country effects included as well as the other socioeconomic and demographic measures included in the previous models. We fit a mixed effects logistic regression model with currently contraceptive use as the outcome of interest, a mixed effects generalized linear model with ideal number of children as the outcome of interest, and a mixed effects generalized linear model with children ever born as the outcome of interest.

Further analysis will focus on controlling for additional demographic and socioeconomic indicators, such as TFR, and identifying differences in the effect of polygamy on use of contraceptive methods, ideal number of children, and number of children ever born by country. We will examine country-specific results, focusing on countries with high rates of polygamous unions, such as Senegal, Burkina Faso, Guinea, Niger, and Benin.

Preliminary Results

For each of the eleven Western African countries that were examined, contraceptive use was lower among women in polygamous unions than among women in monogamous unions. Furthermore, the average ideal number of children and the average number of children ever born was larger among women in polygamous unions than among women in monogamous unions.

When conducting the first three regression models controlling for age, education, and wealth quintile, women in polygamous unions were significantly less likely to use contraceptive and had a significantly higher average ideal number of children compared to women in monogamous unions. However, when account for age, education, and wealth quintile, women in polygamous unions did not have a significantly higher number of children ever born compared to women in monogamous unions.

Similarly, in our mixed effects models with country-level controls, we find similar results. Women in polygamous unions were significantly less likely to use contraceptives compared to women in monogamous unions. Being in a polygamous union corresponded to 23% lower odds of currently using contraception.

```
. svy: melogit cpr polyg agegr wealthq educlvl i.country || sample: if idealkid<51 & educlvl<5
(running melogit on estimation sample)
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Survey: Mixed-effects logistic regression

```
Number of strata = 1          Number of obs = 112,608
Number of PSUs  = 11         Population size = 113,308.42
                                   Design df = 10
                                   F( 4, 7) = .
                                   Prob > F = .
```

cpr	Linearized				[95% Conf. Interval]	
	Coef.	Std. Err.	t	P> t		
polyg	-.265147	.0538156	-4.93	0.001	-.3850557	-.1452383
agegr	.0650834	.0237772	2.74	0.021	.0121045	.1180623
wealthq	.2594481	.0509448	5.09	0.000	.1459359	.3729603
educlvl	.3750279	.0629817	5.95	0.000	.2346959	.5153599
country						
180. congo democratic republic	-.2003741	.004546	-44.08	0.000	-.2105033	-.1902449
204. benin	-.4814968	.0450998	-10.68	0.000	-.5819854	-.3810082
288. ghana	-.0024043	.02533	-0.09	0.926	-.0588431	.0540345
324. guinea	-1.311359	.0474979	-27.61	0.000	-1.417191	-1.205527
384. cote d'ivoire	-.059025	.0448182	-1.32	0.217	-.1588863	.0408362
466. mali	-.6413709	.0564857	-11.35	0.000	-.7672288	-.5155131
562. niger	-.272563	.0704681	-3.87	0.003	-.4295756	-.1155504
566. nigeria	-.5024033	.0120644	-41.64	0.000	-.5292845	-.4755222
686. senegal	.5195677	.0431653	12.04	0.000	.4233895	.6157459
854. burkina faso	-.0917841	.0652284	-1.41	0.190	-.2371221	.0535538
_cons	-2.653543	.2754287	-9.63	0.000	-3.267236	-2.039849
sample						
var(_cons)	1.47e-33	2.96e-32			5.45e-53	3.99e-14

Women in polygamous unions also had a significantly higher average ideal number of children compared to women in monogamous unions. Being in a polygamous union corresponded to reporting an ideal number of children on average 0.27 above the ideal number of children reported by women in monogamous unions.

```
. svy: meglm idealkid polyg agegr wealthq educvl i.country || sample: if idealkid<51 & educvl<5
(running meglm on estimation sample)
```

Survey: Mixed-effects GLM

```
Number of strata = 1
Number of PSUs = 11
Number of obs = 112,608
Population size = 113,308.42
Design df = 10
F( 4, 7) = .
Prob > F = .
```

idealkid	Linearized				
	Coef.	Std. Err.	t	P> t	[95% Conf. Interval]
polyg	.2716772	.0451468	6.02	0.000	.1710839 .3722705
agegr	.2035775	.0255316	7.97	0.000	.1466897 .2604654
wealthq	-.3247677	.0314606	-10.32	0.000	-.3948663 -.2546692
educvl	-.6618935	.0922444	-7.18	0.000	-.8674269 -.45636
country					
180. congo democratic republic	.5036377	.007584	66.41	0.000	.4867394 .520536
204. benin	-1.815338	.0738668	-24.58	0.000	-1.979923 -1.650752
288. ghana	-1.424776	.023005	-61.93	0.000	-1.476035 -1.373518
324. guinea	-.6336413	.0837751	-7.56	0.000	-.8203039 -.4469787
384. cote d'ivoire	-.8806529	.0612483	-14.38	0.000	-1.017123 -.7441833
466. mali	-.7383216	.0837979	-8.81	0.000	-.925035 -.5516083
562. niger	2.723936	.0885748	30.75	0.000	2.526579 2.921293
566. nigeria	.7812852	.024139	32.37	0.000	.7275002 .8350702
686. senegal	-.8234725	.0497188	-16.56	0.000	-.934253 -.7126921
854. burkina faso	-.9529164	.0877114	-10.86	0.000	-1.14835 -.7574831
_cons	7.050753	.1829845	38.53	0.000	6.643038 7.458468
sample					
var(_cons)	1.38e-32	8.53e-33			3.47e-33 5.47e-32
var(e.idealkid)	5.68355	.6996756			4.320107 7.477302

The mixed effects model did not find a significant relationship between polygamous unions and number of children ever born.

```
. svy: meglm chsurvpluspg polyg agegr wealthq educlvl i.country || sample: if chsurvpluspg<51 & educlvl<5
(running meglm on estimation sample)
```

Survey: Mixed-effects GLM

```
Number of strata = 1
Number of PSUs = 11
Number of obs = 121,679
Population size = 121,775.95
Design df = 10
F( 4, 7) = .
Prob > F = .
```

chsurvpluspg	Linearized				
	Coef.	Std. Err.	t	P> t	[95% Conf. Interval]
polyg	-.0182876	.0306944	-0.60	0.565	-.0866789 .0501038
agegr	.7959214	.0267051	29.80	0.000	.7364188 .8554239
wealthq	-.1342599	.0343401	-3.91	0.003	-.2107743 -.0577454
educlvl	-.3700172	.0163002	-22.70	0.000	-.4063364 -.3336981
country					
180. congo democratic republic	.3925525	.0029353	133.74	0.000	.3860123 .3990926
204. benin	-.3831472	.0156783	-24.44	0.000	-.4180806 -.3482138
288. ghana	-.5140994	.0168706	-30.47	0.000	-.5516894 -.4765094
324. guinea	-.3990505	.0160928	-24.80	0.000	-.4349076 -.3631935
384. cote d'ivoire	-.326964	.0109249	-29.93	0.000	-.3513062 -.3026218
466. mali	-.1374164	.0135866	-10.11	0.000	-.1676892 -.1071435
562. niger	.2584673	.0143529	18.01	0.000	.226487 .2904476
566. nigeria	-.0878659	.0073204	-12.00	0.000	-.1041768 -.071555
686. senegal	-.407089	.0110794	-36.74	0.000	-.4317755 -.3824026
854. burkina faso	-.2522276	.0157682	-16.00	0.000	-.2873613 -.2170939
_cons	1.174704	.1599108	7.35	0.000	.8184002 1.531007
sample					
var(_cons)	5.42e-33	2.84e-33			1.69e-33 1.74e-32
var(e.chsurvpluspg)	2.839884	.1109251			2.603177 3.098114

Expected findings

We anticipate that further analysis using additional demographic and socioeconomic controls will find similar results and show that there is a relationship between polygamy and both less contraceptive use and a higher ideal number of children. The relationship between polygamy and actual number of children born, however, is not clear. We also expect the effect of polygamy on use of contraceptive methods, ideal number of children, and number of children ever born to vary by country. Our hypothesis is that effect of polygamy will be larger in countries with higher rates of polygamy, such as Senegal, Burkina Faso, Guinea, Niger, and Benin.

Implications

Our findings show that polygamy does play an important role in both contraceptive use and fertility intentions. The relationship between polygamy and realized fertility still needs to be examined. This analysis highlights the importance of targeting polygamous couples in family planning programs and as a group with unique needs in West African countries with high rates of polygamous unions. This work enhances the

visibility of the topic of polygamy, FP, and fertility intentions, and help decisionmakers meet the needs of polygamous couples as an important audience for nuanced messaging around FP in their countries.

References

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