

## Abstract

### **Contraceptives method use, discontinuation and failure rates and their determinants in poor urban settings in Ghana: An analysis using data from Kumasi in southern Ghana**

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## **Background**

Family planning and contraceptive use remain a proven intervention for addressing women's reproductive problems and, preventing unwanted and or, mistimed pregnancies. Indeed, one of the major fertility regulation interventions that received international attention and donor support in sub-Saharan Africa was the introduction of large-scale family planning programs (Bongaarts et al. 2012). While many of these programs have chalked considerable success, others were considered not to have yielded the expected results. In recent times, there is increasing concern about stalling of contraceptive uptake in many countries of sub-Saharan Africa. High rates of method discontinuation have been observed to partly account for stalling of contraceptive uptake and method use dynamics. Recognizing the continuously low uptake of reproductive health services including contraceptive use, *Willows International*, an organization that provides reproductive health information and counseling to women implemented a home-based family planning counseling and referral program for women residing in low-income urban settings in the Kumasi metropolis, Ghana.

## **Data and methods**

This analysis is based on data collected from women of reproductive age (16-45) in four communities in the Kumasi metropolis as part of a program evaluation. This analysis uses Multiple-Decrement Life Table procedures to estimate contraceptive failure rates. These methods rely on situations of competing risks and in this instance the risk of either discontinuing use or becoming pregnant, as illustrated in table 1. The underlying assumption is that the decrement processes operate independently and subjected to constant failure risk within each interval (Preston et al. 2001). We relied on data from a total of 545 women who were contraceptive users at the beginning of the observation period in 2013 and are followed up for a period about five years. These cohort of 545 women are then monitored and pregnancies accruing to them are recorded and those who get pregnant while reportedly on using a method are also noted. With this information, we computed the contraceptive failure rates between period  $x$  to  $x+n$  and the probability of surviving in the interval if contraceptive failure was the only reason to discontinue contraceptive use.

## **Results**

Table 1 presents results of a cohort of 545 women who were contraceptive users in Kumasi in the year 2013 who were followed over time to examine their contraceptive use experiences. By the end of the first 6 months, 41 of them discontinued use while another 15 became pregnant during the period. Of the remaining 489 remaining users at the end of the first 6 months, another 40 discontinued and 5 got pregnant, as exhibited in the Multiple-Decrement Life Table below. By the end of the entire duration of observation, five years later, the number of remaining users were 313. The probability of survival during the entire period of observation is estimated at 0.842 (842/1000) while the probability of contraceptive failure during the period is estimated at 15.8 %. (1-0.842).

**Table 1:** Contraceptive failure rates using Multiple-Decrement Life Tables  
(assumption of a constant failure risk within each interval)

$x$	$l_x$	${}_n d_x^D$	${}_n d_x^P$	${}_n L_x$	${}_n M_x^P$	${}_n {}^* P_x^P$	${}^* l_x^P$
0	545	41	15	3099	0.00484	0.97138	1000
6	489	40	5	2797	0.00179	0.98933	971
12	444	9	12	2600	0.00461	0.97269	961
18	423	24	10	2435	0.00411	0.97566	935
24	389	8	4	2298	0.00174	0.98961	912
30	377	11	7	2208	0.00317	0.98115	903
36	359	6	3	2127	0.00141	0.99157	886
42	350	10	2	2064	0.00097	0.9942	878
48	338	2	9	1995	0.00451	0.97329	873
54	327	10	2	1926	0.00104	0.99379	850
60	315	1	1	1884	0.00053	0.99682	844
66	313						842
<i>Note: x refers to duration since use (in months)</i>							

## Discussion

The results presented represent part of the planned analysis. Further analysis will examine the determinants of contraceptive failure rates in order to isolate the characteristics of women who are risks of contraceptive failure. Isolating the subgroup of women who are mostly at risks of contraceptive failure has policy programmatic implications.

## References

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