



Observance of contraception among users recruited during mass campaigns: case of national family planning week in Burkina Faso

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Summary

Introduction To accelerate the demographic transition in Burkina Faso, a National Family Planning Week (SNPF) has been instituted since 2012. It is a FP promotion strategy based on advocacy, social mobilization and increased supply of FP services. The objective of this study was to assess compliance with contraceptive methods among users recruited during the SNPF. **Materials and methods** This was a retrospective cohort study. Stratified analyzes of discontinuation of contraceptive methods were performed. For the comparison of the dropout proportions, the Chi² test was used.

Odds ratios (OR) and their 95% confidence intervals were calculated. The significance level chosen was 5% ($P \leq 0.05$). **Results** The study involved 383 users of contraceptive methods made up of 60.8% (95% CI = 55.8-65.8) of users recruited during the SNPF, more than 61% of whom were on implants. overall discontinuation of modern contraceptive products was 36.6% (95% CI = 33.5% -40.1%). Among users recruited during the SNPF, this proportion was 32.7% (95% CI = 27.4-38.8) against 42.2% (95% CI = 34.7-50.2) of users recruited during routine FP services (OR = 0.67, $P = 0.06$). There was no statistically significant difference between these two proportions of

dropouts. Also, there was a statistically significant association between counseling and quitting. The proportion of dropouts was higher in the group of women recruited for routine FP services who had not received counseling (OR = 4.9; P<0.006). Eight users had unwanted pregnancies after stopping their contraception. Conclusion This study made it possible to note that the users recruited during the SNPF used the implants more readily. They were also more likely to keep their contraceptive products for much longer than users recruited for routine FP services. The factor regularly associated with quitting was individual counseling.

Keywords: *National family planning week, observance, contraception, Burkina Faso*

Introduction Around the world, the health challenges remain immense. Among these challenges are the maternal and child health issues for which innovative interventions are being implemented. To fight against abortion, reduce the number of children, ensure better education, strengthen the well-being of children, allow couples to live a fulfilling sexuality, empower women and relieve poverty, immense progress has been made in the family planning (FP) [1]. These technological advances have affected both the diversification and improvement of contraceptive products as well as the means of their popularization among populations [2,3]. In the area of FP promotion, innovations have concerned various areas of creating demand for modern contraceptive products: community participation, involvement of different stakeholders, improvement of geographic coverage, mass campaigns to promote contraceptive methods, social marketing etc. These different actions have emerged thanks to the first censuses in Africa and the holding of major international conferences [4,5]. Also, according to a study by demographer Garenne on the link between FP and fertility in Africa, very few countries except

South Africa have completed their fertility transition [6].

In Burkina Faso, three major family planning policies and programs have characterized the history of modern contraception over the past decade. These are the Strategic Plan for Securing Contraceptive Products 2006-2015, the 2013-2015 FP Recovery Plan and the National FP Acceleration Plan 2017-2020 which aim to accelerate the demographic transition while granting a special place for the dissemination and implementation of convincing national experiences in creating the demand and supply of modern contraceptive methods [7,8,9]. It is in this context that a National Family Planning Week (SNPF) has been instituted since 2012. It is a FP promotion strategy based on advocacy, social mobilization and intensification of the offer of FP services for the benefit of populations in urban and rural areas. It has been carried out twice a year since 2015 in the form of a mass campaign covering the entire extent of Burkina Faso and during which contraceptive products are offered free of charge. The follow-up of the various editions of the SNPF made it possible to note elements of success such as its appropriation by the communities and the actors of the local health system, its capacity of social mobilization and recruitment of new users of modern contraceptive methods. Thus, this strategy contributed more than 30% to the achievement of the results of the FP recovery plan [9,10]. Also, the offer of contraceptive methods in this singular context suggests questions related to the loyalty of new users to FP services. Furthermore, if numerous studies have documented the results of the strategies used to overcome the barriers to FP, very few have concerned the comparative adherence of contraceptive products according to the strategies used [11,12,13]. However, such a study would make it possible to better refine the strategies for promoting modern contraceptive methods in our context.

The objective of this study is to assess the observance of modern contraceptive methods by users recruited during the SNPF in the Central East region (RCE).

Methodology Study site

The study covered the 7 health districts of the Central East region (RCE). LaRCE had 1,655,846 in 2019 (RGPH 2006) including 398,249 women of reproductive age distributed in 156 peripheral health centers. This was a predominantly young population (50% of the inhabitants are under 16 years of age) and made up of 53% women [6]. Its average annual growth rate was 2.87%. Her crude birth rate was 47.5 per 1000 with a total fertility rate of 6.3 children per woman (5.4 children according to EMDS of 2015). According to the statistical yearbook, 62,064 women including 27,906 new users benefited from a contraceptive method in 2017 in the RCE. A quarter of these new users (6,976) were recruited during the two editions of the SNPF in 2017. Type of study This was a retrospective cohort study. The observance of modern contraceptive methods by new users recruited during SNPF was compared with that of new users recruited during routine consultations. Study period The study spanned a five-month period (August to December 2019) with two-week data collection. Target population and sampling The target population was made up of people from the Central East health region, in particular women of reproductive age (398,249 beneficiaries). Sample size The sample size calculated with a rate of use of modern contraceptive methods of 25% with reference to previous studies [7], an accuracy of 0.05; a risk α of 5%, a cluster effect of 1.5 and 10% of imponderables is 398 women.

Selection of data collection sites Data collection was carried out in health centers and in RCE households. To select the villages and health centers, a cluster sampling was carried out using the municipalities of the region as a sampling frame. First, one third of the

municipalities was randomly drawn from the 30 municipalities of the RCE (Bané, Baskouré, Zonsé, Dialgaye, Goughin, Koupela, Kando, Pouytenga, Tensobentenga and Yargatenga). These ten communes had 46 health centers and 315 villages. Secondly, the villages of these 10 communes have been divided into 3 homogeneous strata according to the distances which separate them from the health centers (Stratum 1: villages located less than 5 km from a health center: 128 villages; Stratum 2: villages located between 5 and 10 km from a health center: 137 villages; Stratum 3: villages located more than 10 km from a health center: 50 villages).

Third, a random choice of one third of the villages (125) was made in proportion to the number of villages in each stratum (+ 10% of imponderables). Thus in stratum 1, 51 villages were selected, 55 villages in stratum 2, and 20 villages in the 3rd. Health centers in the selected villages were systematically included in the study. Sample selection The sample of 398 women was divided into 2 groups. The first group consisted of 243 new users of modern contraceptive methods registered during the two editions of the SNPF of 2017 and those registered during the 1st edition of the SNPF of 2018. The second group consisted of 155 new users registered during the routine consultations in health centers and during the same periods as women in the 1st group. The list of new users for these two groups was obtained from family planning registers at health centers. Their choice was made based on simple random sampling after numbering new users from 1 to n for the period under study. Collection techniques and procedure Two data collection techniques were used: the literature review (FP registers, client notebooks, FP cards, activity reports, statistical directories) and individual interviews with the selected users.

The data were collected using a semi-structured individual interview guide and a statistical data collection framework by a team of 14

investigators (midwife or nurse), formed in pairs. Data analysis The quantitative data were entered on Epi-Info while the qualitative data were analyzed manually or on Excel. An analysis plan was used for the comparative analysis of the discontinuation proportions of the use of modern contraceptive methods in the two groups. For the comparison of the proportions, the Chi² test was used; odds ratios (OR) and their 95% confidence intervals were calculated. Stratified analyzes of the discontinuation of contraceptive methods were performed in order to identify possible modifying or confounding effects of certain variables. The homogeneity of the ORs was tested by the interaction Chi². In the presence of homogeneity, the adjusted OR, its 95% CI and the corresponding null hypothesis test were obtained by the Mantel-Haenszel method. An effect was considered confusing if the relative difference between gross OR and adjusted OR exceeded 15%. The significance level chosen was 5% (P≤0.05). The analyzes were carried out using software EPIINFO version 7.0 and Open Epi.

Ethical consideration The first main ethical issue in this study lay in respecting the consent of the respondents who were asked to entrust information. This is why, the objectives of the survey were previously described to them before the interview. They were free to accept or refuse to answer questions. For those who accepted, a free and informed consent form was signed. They had the right not to answer questions without having to give reasons for the refusal or to withdraw at any time during the interview. The second main ethical issue of this research resided in the delicacy of the subject of contraception in the Burkinabè context. The

preservation of the anonymity of the users requested for this study was the subject of particular attention during their identification, research and interviews. Prior to the start of the study, approval from the Health Research Ethics Board was obtained.

Results: Socio-demographic characteristics of the new users surveyed and the type of contraceptive method used Table 1 presents the socio-demographic characteristics and the type of contraceptive method used by the two groups of women. The study focused on 383 users of contraceptive methods composed of 60.8% (95% CI = 55.8-65.8) of users recruited during the SNPF. Mostly Muslim (66.1%; 95% CI = 59.6-72.2), more than half of the users were 25 years old or more. In addition, 79.5% (95% CI = 73.6-84.5) of users recruited during the SNPF had received individual counseling against 89.5% (95% CI = 83.4-94.1) users recruited during routine FP services. As for the group chat, 41.6% (95% CI = 35.1-48.2) of users recruited during the SNPF had benefited from it, compared with 28.4% (95% CI = 21.3-36.4) users recruited during routine FP services. The proportions of modern contraceptive methods used in the group of women recruited during the SNPF were: 61.3% implants (95% CI = 54.7-67.6); 29.1% injectables (95% CI = 23.3-35.5); 5.7% oral contraceptives (95% CI = 3.1-9.5) and 3.1% intrauterine devices (95% CI = 1.2-6.2) . In the group of users recruited during routine FP services, the proportions of modern contraceptive methods used were as follows: 42.3% of implants (95% CI = 34.2-50.6); 43.6% of injectables (95% CI = 35.5-52.0); 6.7% oral contraceptives (95% CI = 3.3-12.0) and 7.4% intrauterine devices (95% CI = 3.7 -12.8).

Table 1: Socio-demographic characteristics of new users surveyed in the Central East region from 2017 to 2018

Variables	New SNPF users		New Routine Users	
	N	%	n	%

Age (Year)				
≤ 18	28	12,2	17	11,6
19 - 24	75	33,6	55	37,4
≥ 25	127	55,2	77	51,0
Religion				
Christians	77	33,5	53	34,6
Muslim	152	66,1	98	64,1
Customary	1	0,4	2	1,3
Marital Status				
Married	169	72,5	102	68,0
Divorcé	12	5,2	10	6,7
	50	21,5	36	24,0
	2	0,9	2	1,3
instruction Level				
Out of School	140	60,6	97	63,8
literate	26	11,3	10	6,6
Primary	32	13,9	24	15,8
Secondary	30	13,0	21	13,8
University	3	1,3	0,0	0,0
Husbands Education Level				
Out of School	157	68,9	102	65,8
Literate	20	8,8	14	9,0
Primary	22	6,7	18	11,6
Secondary	26	11,4	20	12,9
University	3	1,3	1	0,7
Number of Childrens				
0	6	2,6	4	2,7
1 - 3	154	65,8	96	64,4
> 3	74	31,6	49	32,9
Gender of children to children of both sexes				
has children boys only	151	66,5	88	60,3
to girls only	29	12,8	23	15,8
	47	20,7	35	24,0

Contraceptive use among the two groups of modern contraceptive users. The overall proportion of discontinued modern contraceptives among the two new user groups after the first year of contraceptive use was 36.6% (95% CI = 33.5% -40.1%). Contraceptive discontinuation was: 66.7% of clients who used oral contraceptives, 51.0% of clients who used injectables, 24.4% of users of implants and 9.1% of users of intrauterine devices (IUD). Among new users recruited during the SNPF, the proportion of discontinuations of modern contraceptive products was 32.7% (95% CI =

27.4-38.8) compared to 42.2% (95% CI = 34.7-50, 2) among new users recruited during routine consultations (OR = 0.67, P = 0.06). However, there was no statistically significant difference between these two proportions of discontinued contraceptive methods. Eight (8) users had unwanted pregnancies after the end of contraception. The reasons cited by users to justify abandoning the contraceptive method were: the spouse's trip to a foreign country, the desire for pregnancy, the persistence of side effects (spotting or metrorrhagia). Factors associated with discontinuing modern

contraceptive methods in both groups of users. As the univariate analysis model presented in Table 2 shows, there was a statistically significant association between the discontinuation of contraceptive methods and the variables age (OR = 2.52; P = 0.042), religion (OR = 3.35 ; P<0.001) number of children (OR = 0.37; P = 0.031), gender of children (OR = 1.39; P = 0.018), counseling (OR = 0.02; P<0.001) and

the type of contraceptive method used (OR = 0.16; P<0.0002). The proportion of contraceptive discontinuations was higher among users aged 25 and over, Muslim users, those with one to three children, those with children of both sexes, those who did not receive individual counseling and those who used oral or injectable contraceptives.

Table 2: Factors associated with the abandonment of modern contraceptive methods among registered users in the Central East region

Variables	% Abandon	OR (IC95%)	P-value
Age (year)			0,042
≥25 (n=204)	27,9	2,52 (1,01-6,28)	
19 – 24 (n=130)	24,6	2,12 (0,82-5,48)	
≤ 18 (n= 45)	13,3	1	
Religion			<0,001
Musulmanes (n=250)	32,0	3,35 (1,87-6,03)	
Chrétiennes (n=130)	12,3	1	
Marital status			0,525
Brides (n=271)	25,8	0,93 (0,35-2,47)	
Free Union (n=86)	20,9	0,71 (0,24-2,06)	
Singles (n=22)	27,3	1	
instruction level			0,312
literate (n=36)	33,3	1,48 (0,70-3,13)	
Primary (n= 56)	23,2	0,89 (0,45-1,77)	
Secondary (n= 51)	23,5	1,48 (0,70-3,13)	
Out of school (n= 237)	25,3	1	
Husbands Education level			0,536
literate (n= 34)	20,6	0,76 (0,32-1,82)	
Primary (n=40)	27,5	1,11 (0,52-2,34)	
Secondary (n=46)	28,3	1,15 (0,57-2,32)	
Out of school (n=259)	25,5	1	
Number of childrens			0,031
1 – 3 (n=250)	26,8	0,37 (0,10-1,30)	
> 3 (n=123)	20,3	0,26 (0,06-0,95)	
0 (n=10)	50,0	1	
Gender of children			0,018
Having Children Boys only (n=52)			
Having only child girls (n=82)	34,6	1,39 (0,73-2,62)	
Having children of both sexes (n= 239)	14,6	0,45 (0,23-0,88)	
	27,6	1	
Counseling			<0.0001
non (n=110)	73,6	0,02 (0,01-0,04)	
yes (n=263)	6,1	1	
Group chat			0,991

non (n=241)	33,9	0,99 (0,62-1,61)	
yes (n=138)	34,0	1	
Type contraceptive method			0,0002
Oral (18)	66,7	0,16 (0,05-0,46)	
Injectable (n=100)	51,0	0,52 (0,18-1,50)	
Long implant life +IUD* (n=145)	23,3	1	
Distance From The Center of			0,123
< 5 km (n=116)			
5-10 km (n=87)	40,5	0,23 (0,23-1,20)	
>10 km (n=28)	43,7	1,03 (0,44-2,44)	
	42,9	1	

* IUD: intrauterine device

Comparative analysis of the factors associated with the abandonment of modern contraceptive methods in the two groups of users. The bivariate and comparative analysis (SNPF and routine) of the distribution of abandonments of modern contraceptive methods on the different categories of variables revealed no statistical association between age, religion, marital status, level of education, number of children, sex of children, group chat

and type of contraceptive method with the drop-out variable. However, as Table 3 indicates, there was a statistically very significant association between counseling and the discontinuation of modern contraceptive methods. The proportion of dropouts was higher in the group of women recruited for routine consultations who had not received counseling (OR = 4.9; P<0.006).

Table 3: Factors associated with discontinuation of contraceptive methods among the two groups of new users in the

Variables	New SNPF users		New Routine users		P value
	Abandon	%	Abandon	%	
Age (year)					0,67
≥25 (n=204)	31	62,0	26	57,8	
19 – 24 (n=130)	17	34,0	15	33,3	
≤ 18 (n= 45)	2	4,8	4	8,9	
Religion					0,85
Muslim (n=250)	42	84,0	38	62,6	
Christians (n=130)	8	16,0	8	17,4	
Marital status					0,167
Married (n=271)	36	75,0	34	73,9	
Free union (n=86)	11	22,9	7	15,2	
Single (n=22)	1	2,0	5	10,9	
instruction level					0,667
literate (n=36)	8	15,7	4	8,7	
Primary (n= 56)	7	13,7	6	13,1	
Secondary (n= 51)	5	9,8	7	15,2	
Out of school (n= 237)	31	60,8	29	63,1	
Husbands education level					0,839
literate (n=34)	3	5,9	4	8,7	
Primary (n=40)	7	13,7	4	8,7	
Secondary (n=46)	7	13,7	6	13,0	

Out of school (n=259)	34	66,7	32	69,6	
Number of children					0,619
1 – 3 (n=250)	33	64,7	34	73,9	
> 3 (n=123)	15	29,4	10	21,7	
0 (n=10)	3	5,9	2	4,4	
Gender of children					0,427
Having children boys					
uniquement (n=52)	8	15,7	10	22,2	
Having child girls only(n=82)					
Having children of both sexes (n= 239)	5	9,8	7	15,6	
	38	74,5	28	62,2	
Counseling					0.006
yes (n=263)	13	25,5	3	6,5	
non (n=110)	38	74,5	43	93,5	
Group chat					0,802
non (n=241)	18	64,7	28	62,2	
yes (n=138)	33	35,3	17	37,8	
Type of contraceptive method					0,292
Oral (18)	7	58,3	5	83,3	
Injectable (n=100)	24	46,2	27	56,3	
Long implantation time +IUD* (n=145)	20	28,2	14	34,1	
Distance fromThe health center					>0,999
< 5 km (n=116)	23	31,5	24	32,9	
5-10 km (n=87)	21	35,6	17	28,8	
>10 km (n=28)	7	41,2	5	29,4	

* IUD: intrauterine device

Discussion

The objective of this study was to assess the adherence to modern contraceptive methods among users recruited during the SNPF. To do this, it was carried out in the general population of the RCE on a sample of 383 new users of contraceptive methods of which 60.8% of them were recruited during the SNPF carried out in 2017 and in 2018. The need for studying the compliance of these new users and comparing it to that of users recruited during routine FP services was suggested by the unique context of the offer of contraceptive methods during SNPF. Indeed, like most mass campaigns to promote modern contraception, this offer is marked by an intensification of awareness over a relatively short period, pleas for the leaders of opinion and a popular jubilation caused by the ceremonies of launch [3.14]. These actions

taken together generate an increase in demand for contraceptive methods as well as an increase in the recruitment of new users which can induce an unusual workload for health personnel, a decrease in the quality of FP service delivery as well as a low customer loyalty [9,10]. To respond to these concerns, the present study used retrospective monitoring of two groups of users of modern contraceptive methods (routine and SNPF) over a period of 12 months. The similarity of the characteristics of the sample of new users of these two groups made possible the comparative analysis of the data collected. In the United States, to study adherence to long-acting methods in women recruited into the US military health care system, Chiles used a similar approach [14]. In contrast, Hubacher used a randomized trial of two groups of contraceptive users (short and long-acting) to

study adherence to long-acting methods [15]. As for Puria and Carlo Bastianelli, they used a prospective follow-up of a cohort of women gradually registered in the FP registers to study respectively the interruption of contraception after abortion [16,17] and the observance of users combined oral contraceptives [18]. The choice of retrospective monitoring of these two cohorts in the present

is justified by the insufficient resources available and the need to obtain reliable data in a relatively short time. It also has the advantage of reducing the biases that could be linked to observation. The majority of the sample in this study was Muslim (66.1%). This figure confirms the representativeness of this sample insofar as according to the RCE monograph, 71.4% of the population is Muslim [18]. Almost two thirds (61.3%) of the users recruited during the SNPF had chosen implants against 42.3% of the users recruited in the routine FP services. In the group of users recruited into the routine, injectable methods were the most used (43.6%). This revealing finding of an unmet need relating specifically to a contraceptive method is linked either to free contraceptive methods during SNPF, or to the outsourcing of the supply of this method in peripheral health centers during SNPF. Indeed, the implant not only remains one of the most expensive contraceptive methods in the context of RCE, but it is not offered in all health centers in the region due to the lack of qualified personnel. However during the SNPF, midwives go to health centers as needed to offer this method [9]. The proportion of implant users in routine is similar to that found in the PMA2020 survey (Performance Monitoring and Accountability 2020) where 44.1% of users were implanted [19]. According to Ndikom, only 9.5% of women used implants in Nigeria in 2015 [20]. In the cohort followed by Puria, 1.4% of women used the implants [16].

Regarding adherence to contraceptive products, more than 36% of the women in this study stopped their contraceptive methods a year

after adopting them. Although there was no statistically significant difference between the proportion of discontinuers among users recruited during the SNPF and those recruited into the routine, the proportion of abandonments of modern contraceptive products was higher in the group of women recruited during routine FP services (42.2% versus 32.7%). Women recruited for routine consultations who had not received counseling more often discontinued their contraceptive methods. In addition, drop-outs were much more common among users of oral contraceptives (66.7%) and injectables (51.0%). They were much less affected by implants (24.4%) and IUDs (9.1%). If these findings invalidate the study's hypothesis, they suggest questions relating to the quality of the supply of modern contraceptive methods in these two groups of women. The proportion of discontinued contraceptive methods is lower than that found by Puria in Nepal where 62% of women had abandoned their contraceptive method after one year of use [16]. According to a meta-analysis carried out by Diedrich on 12 African studies, 26% of IUD users had removed it after one year while 16% had removed the implants [21]. In China, dropouts affected around 36% of oral contraceptive methods [17]. In Pakistan, 25.5% of IUD users had abandoned their contraceptive method one year after insertion [22]. As in the American study by Chiles, women over the age of 25 were more likely to drop their contraceptive method [14]. The reasons cited by users to justify abandoning the contraceptive method were: the spouse's trip to a foreign country, the desire for pregnancy, the persistence of side effects (spotting or metrorrhagia). If Puria found a similar result in Nepal, Pakistan, it was rather irregularities in the menstrual cycle, family pressure, recurrent infection and misconceptions that were cited as reasons for stopping contraception [16,22].

Notwithstanding the results of this study, limitations related to the methodology used could be identified. Indeed, the data having been collected retrospectively, there is a risk of an information bias which may hide confounding factors. In addition, a larger sample size would have improved the reliability of the results. Conclusion This contraceptive compliance study noted that users recruited during SNPF were more likely to use long-acting methods, particularly implants. They were also more likely to keep contraceptive products for much longer than users recruited for routine FP services. The factor regularly associated with abandoning the contraceptive method (individual counseling) remains an inherent factor in the health system, the organization of the provision of FP services, or a lack of skills. Also, to improve adherence to contraceptive products among modern contraceptive users, it will be necessary to systematically provide counseling to all clients while ensuring the quality of the interview. However, to reduce the confounding factors and take into account the different variants of the SNPF in other regions of Burkina Faso, it is desirable to carry out this study on a larger scale and in several regions at the same time. It would also be a good idea to study contraceptive adherence over a longer period (3 to 5 years) in order to measure its tangible effects on birth spacing and its contribution to the demographic transition.

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