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**TWELVE MONTH PROGRESS REPORT FOR YEAR 2**

**COST REIMBURSEMENT TYPE CONTRACT**

**Contract No. AID/DSPE-C-0084**

**Project No. 932-0632**

**Community Distribution of Contraceptives in Rural Areas of Colombia**

**Period Covered:**

**1 October 1981 to 30 November 1982**

**July 1983**

## SECOND YEAR PROGRESS REPORT

October 1, 1981 to November 30, 1982

AID/DSPE-C-0084

This is the Second Year Narrative Report describing activities carried out under the PROFAMILIA-Population Council-AID rural CBD project in Colombia for the period October 1, 1981 to November 30, 1982. Although the original contract specifies September 30, 1982 as the cut-off date for Year II (see calendar page 2), a two month no-cost extension was granted to PROFAMILIA extending the second year to the end of November. As such, this report will cover the 14 months which were needed to complete Year II's activities but it will primarily focus on the last 8 months of this period (April 1 to November 30, 1982). This is because the previous Progress Report described in detail those achievements of the first 6 months of the Second Year (October 1, 1982 to March 31, 1982).<sup>1</sup>

### Second Year Objectives and Summary of First 6-Month Achievements

According to the Second Year Plan, re-supply experiments were to continue in the maintenance zones of Nariño and Santander until December 31, 1981. These experiments were to test for less costly re-supply models through the provision of incentives to (1) distributors for traveling to a central distributor to be re-supplied (2) a central distributor for his/her increased work load to re-supply outside distributors and (3) outlying distributors who cannot be reached by mail and who would travel in to the promoter. Incentives were lunch and bus fare except in the case of the central distributor who received a fee of \$50 pesos (about 70 US cents) for each distributor re-supplied. Also implemented on an experimental basis was a model to re-supply distributors by sending contraceptives to them by public transportation systems and they, in turn, would remit service statistics and money from sales to PROFAMILIA in the mail.

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<sup>1</sup>See M. Townsend's "Six Month Progress Report, October 1, 1981 to March 31, 1982", October, 1982. (Mimeograph)

CALIFORNIA 40 1980-1982 PROJECTS COMPLETED DURING THE FIRST TWO YEARS  
 ALLIANCE-CO-100

1980-1982

1980-1982

FIRST YEAR

SECOND YEAR

NOVEMBER 1, 1981 - SEPTEMBER 30, 1982

OCTOBER 1, 1981 - SEPTEMBER 30, 1982

POST  
 EXTENSION

NOV. DEC. JAN. FEB. MARCH APRIL MAY JUNE JULY AUG. SEPT. OCT. NOV. DEC. JAN. FEB. MARCH APRIL MAY JUNE JULY AUG. SEPT. OCT. NOV.

Maintenance phase in Barriles and Santander  
 (Service delivery in 12 counties among 191,367 MFA)  
 Re-supply maintenance experiments in Santander

End of  
 project  
 support  
 of Meri-  
 do, San-  
 tander

Financial support of promotion phase experiment in Cesar and Cauca control zones  
 (Service delivery in 17 counties among 56,000 MFA)

Instruction phase  
 Services implement-  
 ed in promotion con-  
 trol zones in Cesar  
 and Cauca

Baseline Sur-  
 vey in Cesar  
 and Cauca

Second Round  
 Survey in Ce-  
 sar and Cauca

Promotion phase team experiment in Cesar  
 (service delivery in 4 counties among 19,070 MFA)  
 Promotion phase team experiment in Cauca  
 (service delivery in 6 counties among 19,070 MFA)

Maintenance phase in Cesar/Cauca control & experi-  
 mental zones .. (service delivery in 27 counties  
 among 93,000 MFA)

Promotion phase in control zones of Magdalena,  
 North Santander & Cauca (service delivery in 19  
 counties among 72,000 MFA)

Promotion phase in experi-  
 mental four zones of Bolivar  
 & Magdalena (service  
 delivery in 7 counties  
 among 19,000 MFA)

Promotion phase in experimental team  
 zones in Barriles, Cauca  
 (service delivery in 11 counties among  
 43,500 MFA)

Third year  
 protocol  
 required

400-4

Best Available Document

2

All of these activities were carried out but the service statistics record keeping was so inadequate that costs per new acceptor and active user could not be calculated. Field reports from the promoters who implemented these experiments and their supervisors were submitted which indicate that the only system which seemed to function was re-supplying distributors by sending contraceptives to them on a bus. The other systems suffered severe problems when distributors were asked to travel into a central distributor and when central distributors were requested to cooperate with outside distributors. Unfortunately, under the bus model, distributors who received their drugs this way forgot (or were not told) to remit sales money in the mail so it is not known if the complete system works.

The second major service component of the Year II Plan was the continuation in Cesar and Cauca of the promotion phase promoter/team experiment until March 31, 1982 to allow approximately 12 months to elapse between the First and Second Surveys as shown in the calendar on page 2. The 27 counties serviced under these two models were placed on maintenance on April 1, discontinuing promotion activities there.

A cost analysis was presented in the October 1, 1981 - March 31, 1982 6-Month Progress Report for the whole 12-month period Cesar and Cauca were exposed to the experiment and for the last 6 months of activity (which comprise the first semester of this report). It was found that when measured by cost per couple year of protection, the team experiment in Cauca was the least costly system (US\$1.44) as compared to the Control group in Cauca (US\$4.48), the Experimental group in Cesar (US\$9.29) or the Control group in Cesar (US\$4.00).<sup>1</sup> The experimental team in Cauca was again the least expensive model when costs were measured according to the number of new acceptors (US\$14.05 per new acceptor). Cost per new acceptor for the other three groups ranged from US\$22.64 in Cauca Control to US\$27.79 in Cesar Control. As compared to the cost estimates for the Nariño and Santander project funded by the Council and AID from 1976 to 1979, those for all four groups in Cesar and Cauca were less except for cost per CYP in the Experimental zone of Cesar.

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<sup>1</sup>See the October-March 6-Month Progress Report for details.

The policy implications of the cost data are that the team model can be significantly cheaper than the promoter model. It must be stressed, however, that it is possible for the team delivery system to be equally or more expensive than the promoter model as the Cesar team experience showed. Upon examining possible reasons for the high Cesar team costs, it is suspected that the supervisory system was weak in Cesar affecting (1) the team's planning and communication strategies; (2) the organization of sterilization activities and their coordination with the PROFAMILIA clinics in Bucaramanga and Valledupar and (3) continuing education of the team.<sup>1</sup> Although both teams received incentives (not paid by the project) to promote sterilizations, the Cauca team was able to organize 787 sterilizations for the Popayán PROFAMILIA clinic as compared to 94 by the Cesar team.

#### Project Activities from April 1 to November 30, 1982

From April 1 to November 30, 1982 the project was expanded from the original 27 municipalities in Cesar and Cauca to 39 additional ones located in the departments of Cauca, Magdalena, Bolivar and North Santander (refer to Table 1 on page 5). These 66 counties where more than 1 million people reside were organized according to zones: maintenance, experimental and traditional. Maintenance zones were the 27 counties covered in the First Year experiment in Cesar and Cauca. Three promoters were assigned to collect service statistics and re-capacitate distributors in these counties, 1 in Cesar and 2 in Cauca. The experimental zones refer to 11 counties in Cauca and 7 in Bolivar and Magdalena to which the teams were transferred for promotion and establishing new posts. The two traditional zones were formed of 14 counties in Magdalena and North Santander in which 3 promoters worked and 7 in Cauca where 2 promoters were assigned. They were to provide family planning services according to the traditional promoter system:

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<sup>1</sup>No systematic documentation of the supervisory system was kept so that these are explanations based on periodic observational visits by project directors.

TABLE 1.- Project counties by department, total population and women in fertile age for each zone October 1, 1981 to November 30, 1982

ZONE	DEPARTMENT	COUNTY	TOTAL POPULATION	WOMEN 15-- (22)	
Maintenance	Cesar	Chiriguana	19,517	4,224	
		Chimichagua	21,460	4,722	
		El Copey	24,828	5,462	
		Curumaní	17,900	3,938	
		Pailitas	9,517	2,092	
		Tamalameque	13,233	2,911	
		La Gloria	7,408	1,630	
		Aguachica	26,013	5,723	
		Gamarra	11,200	2,404	
		San Alberto			
		Río de Oro	30,008	6,602	
		González	6,382	1,404	
		La Paz	25,303	5,567	
Sub-Total	1	13	212,769	46,810	
Maintenance	Cauca	La Vega	15,944	3,508	
		Rosas	8,043	1,709	
		La Sierra	8,151	1,793	
		El Tambo	35,526	7,816	
		Puracé	8,199	1,804	
		Sotará	6,050	1,331	
		Balboa	12,290	2,704	
		Bolívar	39,909	8,780	
		El Bordo	19,587	4,309	
		Mercaderes	21,185	4,661	
		Santa Rosa	6,176	1,359	
		Argelia	8,859	1,940	
		Almaguer	13,356	2,938	
		San Sebastián	6,810	1,498	
Sub-Total		14	210,085	46,210	
Total		27	422,854	93,020	
Experimental	Magdalena	El Banco	36,078	7,937	
		Guamal	20,038	4,408	
		El Difícil	17,183	3,780	
	Bolívar	Plato	47,521	9,135	
		Margarita	18,465	1,862	
	Bolívar	San Fernando	17,729	1,700	
		Zambrano	19,013	1,983	
Sub-Total		7	140,027	30,805	

Cont. Table 1

ZONE	DEPARTMENT	COUNTY	TOTAL POPULATION	WOMEN 15-45 (22%)
Experimental	Cauca	Buenos Aires	20,098	4,422
		Caloto	18,243	4,013
		Morales	15,114	3,325
		Padilla	6,557	1,422
		Caldono	15,336	3,371
		Toribio	11,229	2,473
		Santander de Quilichao	35,060	7,713
		Puerto Tejada	21,674	4,768
		Piendamó	13,324	2,932
		Miranda	15,211	3,346
		Corinto	12,234	2,692
		11	184,080	40,405
Sub-Total		18	324,107	71,300
Promotion	Magdalena	Pivijay	31,558	6,943
		Tenerife	13,566	2,985
		Pedruza	10,930	2,405
		Cerro S. Antonio	13,270	2,910
		El Peñón	11,400	2,508
		Salamina	6,899	1,518
	Norte San-tander	Ocaña	55,574	12,226
		Convención	16,236	3,572
		El Carmen	10,770	2,369
		Abrego	22,447	4,938
		Teorama	10,869	2,392
		La Playa	7,874	1,732
		Hacarí	8,467	1,863
San Calixto	14,462	3,182		
Sub-Total		14	234,322	51,551
Promotion	Cauca	Cajibío	21,351	4,697
		Belalcazar	14,456	3,180
		Timbío	14,699	3,232
		Inzá	11,169	2,457
		Totoró	9,965	2,192
		Silvia	17,434	3,832
		Jambaló	3,852	852
Sub-Total		7	92,926	20,442
Total		21	327,248	71,993
GRAND TOTAL		66	1,074,209	236,322

### Maintenance Zones

The two promoters assigned to cover the 14 counties in Cauca and the promoter in Cesar to service the 13 municipalities there were to work from a home base for 6 months from which they were to travel out and return each night except when it was impossible to do so. This 6 month period was divided into two blocks of 3 months and during every 3 month period the promoter was to spend 1 month on IEC and 2 on re-supply. Re-supply experiments testing for cheaper systems through central distributors, mail and public transportation and PROFAMILIA clinics were implemented in 5 counties in Cauca. Table 2 on page 8 shows the number of new acceptors and contraceptives sold by method for the period April 1 to September 30, 1982 by zone.<sup>1</sup> The total number of new acceptors registered in maintenance Cauca reached 3,996, nearly four times the number registered in Cesar maintenance (1,054). In comparison with the preceding 6 month period (October 1, 1981 - March 31, 1982) as shown in Table 3, on page 9 there were slightly less new acceptors recruited in Cesar indicating a slowing down of activity once the maintenance phase began. In Cauca, however, it appears as if the effects of the promotion phase were still being felt since the number of new acceptors rose (Items 1 and 2). From October 1, 1981 to March 31, 1982 1,744 new acceptors were registered during the second half of the promotion phase, less than half of the number recruited during this last semester.

While in Cesar the service statistics appear to be fairly consistent between the two semesters, those reported for Cauca are not. The drastic decline in the number of sterilizations and extremely high increase in the number of new acceptors of other methods (mostly orals) indicate possible reporting problems probably in the second period and/or the effect of the team. With regards to the latter, since the team was heavily utilized to promote sterilization services and coordinate the Popayán mobile unit, it seems plausible that sterilization services suffered once the team was withdrawn in the second semester.

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<sup>1</sup> See Appendix I for service statistic summaries by county according to zone and for the promoter-distributor reports.

TABLE 2.- Number of new acceptors by method according to work zone: April 1 to September 30, 1982

WORK ZONE	NUMBER OF COUNTIES	NUMBER OF POSTS	NUMBER OF NEW ACCEPTORS				TOTAL
			ORALS	CONDOMS	VAGINALS	STERILIZATIONS	
Cesar Maintenance	13	97	464	191	77	322	1054
Magdalena/Bolivar Experimental	7		22	8	2	154	186
Magdalena/N. Santander Promotion	14		577	105	87	51	820
Sub-total	34		1028	284	143	527	2060
Cauca Maintenance	14	72	2240	1505	121	130	3996
Cauca Experimental	12	13	1769	505	56	73	2403
Cauca Promotion	7		736	464	68	102	1370
Sub-total	33		4850	2078	226	305	7769
Total	67		5878	2362	369	832	9829

8

**TABLE 3.-** Number of new acceptors by method according to department for each semester of the project year October 1, 1981 - September 30, 1982 (Maintenance Zones)

PERIOD	NUMBER OF NEW ACCEPTORS					
	CESAR		TOTAL	CAUCA		TOTAL
	Sterilizations	Others <sup>1</sup>		Sterilizations	Others	
(1) October 1, 1981 - March 31, 1982	344	798	1,142	1,091	693	1,744
(2) April 1, 1982 - September 30, 1982	322	732	1,054	130	3,866	3,996
(3) October 1, 1981 - September 30, 1982	666	1,530	2,196	1,181	4,559	6,745

<sup>1</sup>Includes new acceptors of orals, condoms and vaginales

It is possible that without the team, more emphasis was placed on recruiting new acceptors of other methods but, again, the difference between the two periods appears excessively large (693 versus 3,866 new acceptors of other methods).

This over-reporting of new acceptors of other methods in the second semester becomes more evident upon examining the volume of sales for that period shown in Table 4 on page 10. Although there were 3,996 new acceptors in Cauca of which 56 percent (2,240) were new acceptors of the oral, only 7,161 cycles of orals were sold for all active users plus new acceptors for the period. In comparison, 15,315 cycles of orals were sold in Cesar between April 1 and September 30 and only 464 new acceptors were reported.

Despite these problems, both cost per couple year protection and cost per new acceptor have been calculated for each zone for the second semester. The results are presented in Table 5 on page 11. In Cesar

TABLE 4.- Number of contraceptives sold by method and work zone:  
April 1 to September 30, 1982

WORK ZONE	CYCLES	NUMBER OF CONTRACEPTIVES SOLD		
		CONDOMS (UNITS)	VAGINAL TABLETS (BOX OF 12)	DIAPHRAGM (2% TUBES)
Cesar Maintenance	15,318	6,829	594	272
Magdalena/Bolivar Experimental	752	773	15	13
Magdalena/North Santander Promotion	12,121	7,756	320	129
Sub-total	28,221	15,358	929	419
Cauca Maintenance	7,151	4,424	326	69
Cauca Experimental	2,976	647	52	23
Cesar Promotion	2,661	1,283	84	18
Sub-total	12,738	6,354	462	110
Total	41,019	6,354	1,391	529

TABLE 5.- Cost per couple year protection and cost per new acceptor by zone for the period April 1, 1982 to September 30, 1982 (US Dollars)

ITEM	MAINTENANCE		EXPERIMENTAL		TRADITIONAL	
	Cesar	Cauca	Bolivar/ Magdalena	Cauca	Magdalena/ N. Santander	Cauca
(1) Total costs	11,338	11,340	10,540	14,384	15,935	11,244
(2) Number years of protection <sup>1</sup>	5,396	2,283	1,999	1,159	1,712	2,543
(3) Cost CYP	2.10	4.97	5.27	12.41	9.31	7.29
(4) Number of new acceptors	1,054	3,686	186	2,403	820	1,370
(5) Cost per new acceptor	10.76	3.08	56.67	5.99	19.43	8.21

<sup>1</sup>Includes orals, IUDs, condoms, vaginals and female sterilization. For each method the following years were assigned: 13 cycles = 1 year; 100 units of condoms = 1 year; 100 units of vaginals = 1 year; 1 sterilization = 12.5 years.

the cost per CYP in the maintenance zone is US\$2.10 while in Cauca it is US\$4.97. Cost per new acceptor for Cesar maintenance is US\$10.70 and in Cauca US\$3.08.<sup>1</sup> These have been contrasted in Table 6 with what it cost to provide service under the first semester. Maintenance level activities were around one-third the cost of the promotion expenditures. Since the number of new acceptors declined only slightly in Cesar while the volume of sales increased and expenditures declined costs per new acceptor and CYP during the second semester were considerably lower there. For Cauca, however, even though expenditures declined the cost per CYP doubled as compared to the preceding 6 month period due to the effect of so few sterilizations on the CYP calculations.

TABLE 6.- Cost per couple year protection and new acceptor according to department for each semester of the project year October 1, 1981 to September 30, 1982 (Maintenance Zones) (US Dollars)

PERIOD	COST PER CYP		COST PER NEW ACCEPTOR	
	Cesar	Cauca	Cesar	Cauca
(1) October 1, 1981 - March 31, 1982	5.46	2.25	25.19	17.55
(2) April 1, 1982 - September 30, 1982	2.05	4.59	10.57	2.84
(3) October 1, 1981 - September 30, 1982	3.74	2.59	18.14	7.57

Experimental Zones

Because it was found that the Cesar male team member was not complying with those responsibilities assigned to him by the project he was asked to leave as of March 31, 1982.<sup>2</sup> The female team member was

<sup>1</sup>Total expenditures for the period April 1 to September 30, 1982 in US dollars for maintenance zones are \$11,338 in Cesar and \$11,340 in Cauca. See Appendix II for detailed expenditures for all three service zone models.

<sup>2</sup>See Appendix III for Cauca team field reports.

then transferred to the new experimental zone in the departments of Magdalena and Bolivar. One of the project promoters (female) who had worked in Santander since 1976 was selected to replace the male team member to cover this zone in the same way the team was to have functioned in Cesar, except that there was no longer a male figure hypothesized to be better suited to meet male family planning needs in the community. The team functioned this way in El Banco and Plate until July 30 when the person who had been employed in Cesar as the female team member was re-assigned to work as a collector in all three zones (maintenance, experimental and traditional) and the promoter was asked to leave PROFAMILIA. The project supervisor, who had been offered the position of a team member and who refused, withdrew from PROFAMILIA on July 15. The experimental zone was then collapsed in to the promotion zone where promotion service activities were offered from August 1 to November 30 by 1 promoter. Supervision of the two remaining zones was carried out by the Regional Coordinator who traveled out from Bogotá. This person also supervised project activities in Cauca because the Cauca Supervisor was asked to leave in September, 1982.

In Cauca, the same team members who implemented the First Year experiment were transferred to the 11 municipalities programmed for the new experimental zone there. The results of their efforts in terms of new acceptors and contraceptive sales are shown in Table 2 on page 8 and Table 4 on page 10 of this report. The same data for the experimental zone in Bolivar and Magdalena can be found in these tables as well.

As evidence of the unsatisfactory results which the Cesar team experiment was producing, only 186 new acceptors were reported during the 4 months in which it functioned during the second semester of the project year. This contrasts very sharply with the 2,403 new acceptors recruited in the Cauca experimental zone where the same team which had performed so well during the previous year-long experiment was working. It must be pointed out, however, that as in the maintenance zone service statistics, inconsistencies exist here as well. The number of contraceptives sold appears to be grossly under reported or the number of new acceptors highly over reported in both zones

since the volume of sales covers not only methods sold to new acceptors but, as well, to all active users. A clear example of this situation is that 1,769 new oral acceptors were registered in Cauca yet only 2,976 cycles of orals were sold.

In Table 5 on page 11 the cost per CYP and cost per new acceptor for the two experimental zones can be found. The cost per CYP in Cauca of US\$5.99 is more than 9 times less than what the cost is in Cesar US\$56.67. However, since twice as many sterilizations were reported in Cesar than Cauca, the cost per CYP is considerably lower in Cesar: US\$5.27 as compared to US\$12.41.

### Traditional Zones

Tables 2 and 4 indicate the number of new acceptors and the volume of contraceptive sales for the 21 municipalities constituting the two traditional or control zones. Although the number of new acceptors in Cauca reached 1,370 for this period as compared to 820 recruited in Cesar the quality of the information reported for Cauca must be questioned given that only 2,661 cycles of orals were reported to have been sold when 55 percent (760) of the new acceptors there were oral acceptors. From the large volume of sales in the Cesar promotion zone (over 12,000 cycles of orals), it is clear that considerable service activity has been occurring in the area for some time.

Costs for the promotion areas are shown in Table 5. Although there is some difference between the two zones in the CYP cost (\$9.31 in Magdalena/North Santander versus US\$7.29 in Cauca), the cost per new acceptor in Cesar is more than double (US\$19.43) the cost in Cauca (US\$8.2).

### Discussion

Because the objective of the project has been to search for service delivery models which are less costly than the Nariño-Santander CBD model, in past reports cost comparisons have been made between the traditional and team approaches. Although the experiment to test these two models was run from April/1981 to March 31, 1982, and the 6 month period following this experiment (which is covered in this re-

port) was not intended to serve as a test for policy making, it can be pointed out that the Cauca experimental zone cost per new acceptor (US\$5.99) was around two dollars less than that of the promotion zone (US\$8.21). At the same time, the cost per CYP where the team worked in-Cauca was US\$12.41 as compared to US\$7.29 in the promoter traditional zones of that department. Since the team was cancelled after 4 months in Cesar and so many personnel changes occurred introducing time lags and communication difficulties into the flow of services there, it is inappropriate to make that same cost comparison between the Bolivar/Magdalena team zone and that of the Magdalena/North Santander promoter zone. Finally, it is clear that the inadequate reporting on project activities through the service statistic system has been damaging to the cost estimates and therefore they should be used with caution.

#### The Second Survey in Cesar and Cauca

Also scheduled as a project activity during the last semester of Year II was the Second Survey in Cesar and Cauca. Its purpose was to collect the same information as was gathered in the First Survey so that any changes in contraceptive use and knowledge since that time in the control and experimental zones could be detected.<sup>1</sup> As will be discussed later on in this report, the Second Survey was employed, as well, to explore a series of additional areas of interest, like knowledge of the PROFAMILIA team, which were inappropriate for the previous study given that experimental services had not yet been introduced.

The reason for wanting to detect changes in knowledge and use has been to determine the effectiveness of the team in meeting the users' needs. At the time when the team model was designed, the project objectives were to search for a delivery system which would be less costly than the Nariño Santander promoter model while at the same time meeting the family planning needs of the community. It was hypothesized that the team would be able to expand coverage and meet user

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<sup>1</sup> Here the control and experimental zones refer to the areas which were under promotion during the second half of the first year and the first half of the second year (April 1, 1981 to March 31, 1982).

needs at a lower cost than the traditional promoter CBD system. In the first year project protocol measuring whether user needs were being met or not (the effectiveness of the model) was to be determined by changes in contraceptive method and source knowledge and contraceptive use as well as user opinions of methods and of service provision. Once the most effective CBD delivery system of the two was identified, then the cost per new acceptor and cost per CYP for each work zone were to be estimated. Then the promotion service system for the next phase of the project was to be selected, modified or re-designed depending on the results of the cost analysis and the survey comparative results.

The cost analysis and coverage rates for this experiment were reported on in the previous progress report and briefly reviewed at the beginning of this narrative. For the preparation of the Third Year project protocol, in November, 1982, a discussion of those findings in relation to some preliminary results of the surveys was included to support the decision taken to continue with the team model in the final phase of the project.

The remaining portion of this report, then, will be centered on a presentation of the Second Survey results as they compare with those from the First Survey. Since the second study questionnaire was expanded to collect additional programmatic information, some of the results will be shown as well. The findings will be organized according to sub-sections which are the following: organization of the Second Survey, characteristics of women interviewed, knowledge of contraceptive methods, contraceptive use, knowledge and use of family planning sources, characteristics of women sterilized, conclusions and discussion.

Organization of the Second Survey. -- As in the First Survey, a household schedule was utilized to identify the ever married women 15 to 49 all of whom were to be interviewed through the individual questionnaire. The Second Survey schedules contained the same questions as the First but they were expanded to include questions on fertility and exposure to the project's specific activities.<sup>1</sup> A new sample was

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<sup>1</sup>A description of the Second Survey's household and individual questionnaires can be found in M. Townsend's memo to J. Bailey, May 3, 1982.

drawn to avoid possible contamination from re-interviewing especially since only 10 months had transpired in Cauca from the first survey and 12 in Cesar. The number of urban segments was doubled in the Second Study to increase the size of the sample so that certain analyses could be carried out with regards to current users by source.<sup>1</sup>

While PROFAMILIA promoters and project field supervisors were employed to carry out the field work in the First Survey, individuals not affiliated with PROFAMILIA were recruited and trained to do the interviewing and supervision in the Second. The project field supervisors participated again but this time as assistants to the survey supervisors to help organize and plan the field work schedule but not to manage the field work. They also served as drivers (which they did in the first survey) since the interviewers were mobilized in their jeeps. The project research assistant from PROFAMILIA's Evaluation Unit served as the Field Work Director.

Interviewing was initiated on April 26 in Cauca and on April 27 in Cesar and was finished in both departments by June 3. The number of household and individual questionnaires completed were 2,657 and 2,310 respectively. Table 1 on page 18 shows the break down of those totals by department. The completion rate for the Second Survey individual questionnaire in Cauca (96 percent) was clearly more satisfactory than that of the First Survey. In Cesar, however, the rates for both studies were similar: 91 percent in the First and 96 percent in the Second.

Characteristics of Women Interviewed.-- The mean age, mean number of years of formal education, mean number of live births, and pregnancy exposure status for the ever married women 15 to 49 according to intervention group by department for each of the two surveys are presented in Table 1 on page 18. As can be observed women in the 4 project areas for both surveys are in their early thirties. (Item 3) have completed about 3 years of formal schooling (Item 4) and have had around 4 live births (Item 5). As shown in Item 6a, in Cesar a higher percentage of the women in both the control and experimental groups for

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<sup>1</sup>See Appendix IV for a technical description of the sample.

TABLE 1.- Characteristics of all ever-married women by intervention group:  
First and Second Surveys in Cesar and Cauca

I T E M	C O N T R O L		C E S A R E X P E R I M E N T A L		T O T A L		C O N T R O L		C A U C A E X P E R I M E N T A L		T O T A L	
	First	Second	First	Second	First	Second	First	Second	First	Second	First	Second
(1) Number of women interviewed	507	620	283	496	790	1,116	300	623	214	570	514	1,193
(2) Number of weighted cases	20,357	14,251	9,659	11,300	30,016	25,551	10,487	11,300	5,055	11,335	15,542	22,635
(3) Mean age	30.3	30.1	31.1	31.2	30.6	30.5	30.8	31.2	33.2	32.3	31.6	31.7
(4) Mean number of years of formal education	2.7	2.8	2.9	2.9	2.8	2.9	2.9	2.9	2.7	3.0	2.8	2.9
(5) Mean number of live births	4.1	4.0	4.9	4.7	4.3	4.3	4.0	4.7	4.6	4.1	4.2	4.4
(6) Exposure Status												
a. Currently pregnant	15	14	16	14	15	14	10	9	11	8	10	9
b. Widowed, divorced, separated	13	18	11	18	12	18	17	24	12	19	15	21
c. Couple sterilized	5	5	12	13	8	8	7	8	6	9	7	9
d. Other impairment	0	2	0	0	0	1	1	1	0	1	1	1
e. Reported fecund	67	61	61	55	65	59	65	58	71	63	67	60
Percent Total	100	100	100	100	100	100	100	100	100	100	100	100

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the two surveys (around 15 percent) were reported currently pregnant as compared to Cauca (about 10 percent). The consistency within each survey of the percentage of women who said they were widowed, divorced or separated (Item 6b) and then the differences between the percentages from one survey to the next, lead to speculation that perhaps the interviewers in each survey affected that response. At any rate, in comparison with the previous Nariño-Santander surveys, percentages over 15 percent seem high. The percentage of couples where one of the two was sterilized (Item 6c) for contraceptive purposes was highest in the Cesar experimental group both in the First and Second Survey (12 and 13 percent). Nonetheless, the only group where a noteworthy change occurred was in the Experimental zone of Cauca where the increase from 6 to 9 percent represents a 50 percent relative change. The fourth category of exposure status (Item 6d) is Other Impairment and it refers to infecundity. It was detected in both surveys by first determining if the respondent had had any children and any pregnancies. If not, then she was asked if she thought she and her spouse were able to have children. Women who perceived themselves and their partners as unable to have children were classified infecund. The percentages in Table 1 for this category are similar to the level of infecundity reported in previous surveys in Colombia. Finally, the last category under exposure status (Item 6e) refers to the women who are most exposed to the risk of pregnancy for they are currently in union, not pregnant or sterilized and are fecund. As compared to the Nariño-Santander Baseline-Posttest where the percent of rural ever-married women 15 to 49 in this category was between the high 50's and low 60's these statistics seem reasonable except perhaps for the high 71 percent in the Cauca Experimental zone in the First Survey.

Knowledge of Contraceptive Methods.-- Total knowledge rates of at least one contraceptive method for the currently married fecund women by intervention group according to survey are shown in Item 1 of Table 2 on page 20. In Cesar the percent of women naming a method for both the Experimental and Control groups remained high in the Second Survey rising only by 2 percentage points (97 to 99 percent) in the Control area and remaining the same (98 percent) in the Experimental

TABLE 2.- Percentage of currently married fecund women who know of contra-  
ceptive methods by age, number of live births, level of education  
and place of residence: First and Second Surveys in Cesar and  
Cauca

I T E M	C E S A R		C A U C A		TOTAL		C E S A R		C A U C A		TOTAL	
	CONTROL First	EXPERIMENTAL Second										
1) All	97	99	98	93	97	98	80	98	73	99*	77	90
(2) Age												
15-19	93	95	88	91	91	94	79	91	65	99	76	93
20-24	98	99	100	98	99	99	89	100	65	100	84	100
25-29	98	100	100	100	99	100	91	100	77	97	86	98
30-34	95	99	100	93	97	99	71	100	70	100	71	100
35-39	99	100	97	100	98	100	83	100	78	100	81	100
40-44	100	100	100	96	100	97	60	94	74	95	65	95
45-49	94	93	94	100	94	96	75	95	75	100	75	98
(3) Number of live births												
0	89	95	100	85	91	92	78	88	35	100	72	92
1	97	99	89	100	95	100	82	99	67	100	78	99
2	100	100	100	97	100	99	87	96	77	100	84	98
3	93	99	96	94	94	97	78	100	65	100	75	100
4	96	100	100	100	97	100	82	100	68	100	77	100
5 +	99	98	98	100	97	99	74	99	78	97	76	98
4) Education												
none	93	97	97	94	95	96	73	100	58	94	68	97
1-2	98	97	97	99	98	98	73	98	71	100	72	99
3-4	99	100	96	100	98	100	80	96	75	96	79	97
5	98	100	100	99	98	99	91	100	82	100	92	100
more than 5	100	100	100	100	100	100	98	100	80	100	94	100
5) Place of residence												
urban	96	100	98	98	97	99	92	100	83	100	69	100
rural	98	97	98	98	98	97	77	97	72	99	75	98
Number of cases												
unweighted	436	481	250	387	686	870	256	464	187	453	443	917
weighted	17,700	11,458	8,566	1,220	20,200	20,684	8,605	8,688	4,442	6,741	13,047	15,200

20

zone. As can be seen in Table 2 on page 20, however, knowledge rates in Cauca increased from 80 to 98 percent in the Control zone and from 73 to 99 percent in the Experimental zone. After 10 months of service delivery in the Cauca team area and 12 in the Cauca traditional promoter-zone, women's knowledge of contraceptives there is now equal to that found in Cesar. Because the purpose of the project has been to test the team's impact on meeting user needs, it is noteworthy that despite the substantial increase in knowledge among the Cauca Control women, that change was not found to be statistically significant while the difference for the observed values between the First and Second Survey for Cauca Experimental was. In other words, the increase in knowledge which occurred among the women in the Experimental group in Cauca was probably due to the team effort while in the other 2 project areas (Cesar and Cauca Control), the sample selected failed to show the observed differences as significant (probably no program effect).<sup>1</sup> In Cesar the high pre-intervention levels indicate that there must have been active family planning campaigns in the project areas before the experiment was introduced. This implies that perhaps Cesar was not a department in need of the kind of campaign for which the project was designed and/or other measures of meeting user needs should be considered rather than knowledge to detect program impact there.

Also shown in Table 2 on page 20 are knowledge rates by age of the respondents (Item 2), number of live births (Item 3), education and place of residence (Items 4 and 5) for the two surveys according to intervention group. It appears that the slight change in total knowledge which occurred in Cesar Control took place among the women with no live births (now 95 percent can name a method as compared to 89 percent in the First Survey) and among those respondents who have no formal schooling and who reside in the county seats or urban areas of the project counties. In the Cauca Control zone, knowledge of contraceptive methods rose most among the women in older age groups who have had more live births and who have less education. This is graphically shown in Figures 1, 2 and 3 on pages 22, 23 and 24 respectively.

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<sup>1</sup> Both the estimated standard errors and confidence intervals for contraceptive knowledge and use by intervention group are shown in Appendix IV.

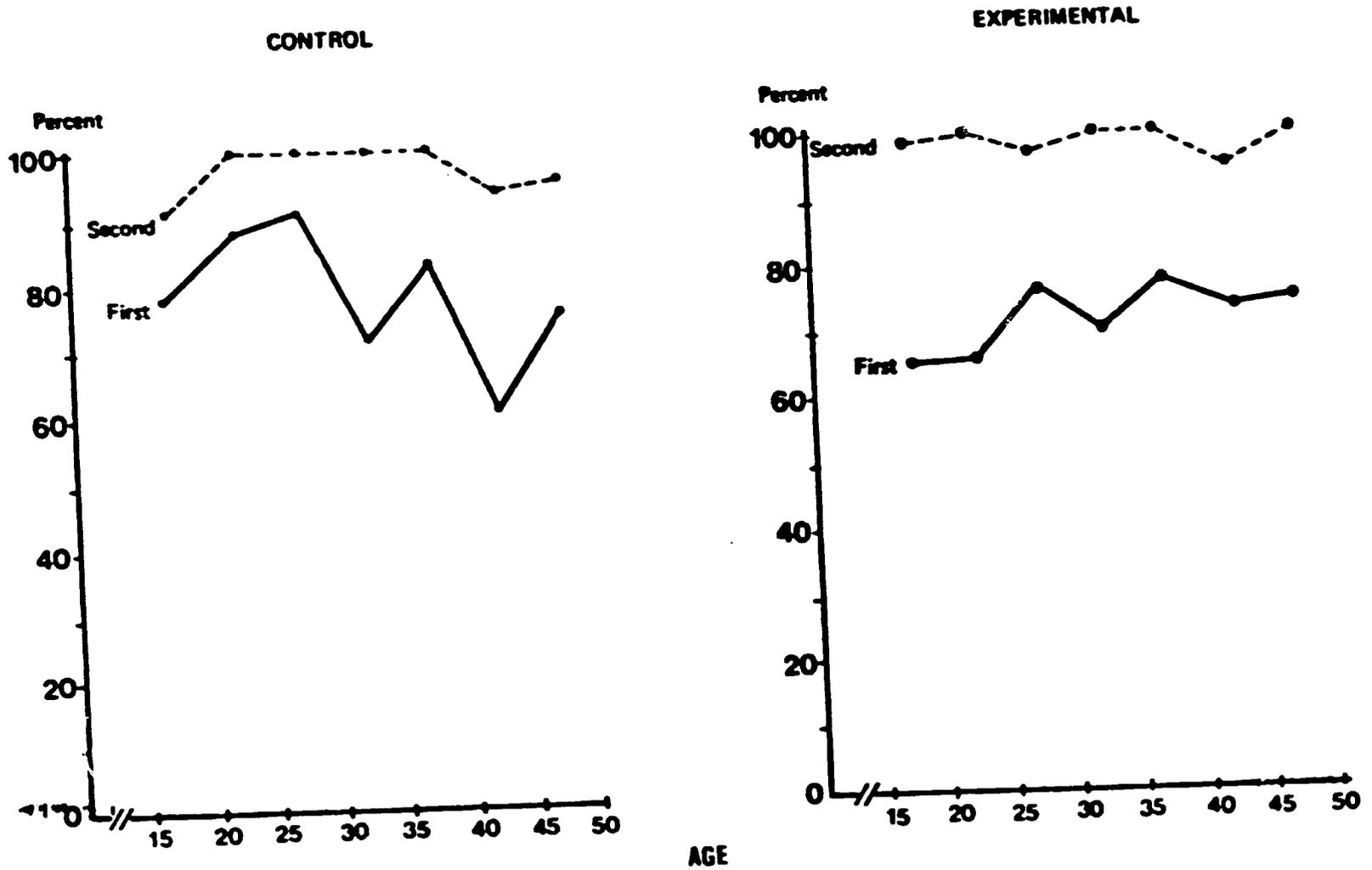


FIGURE 1.- Knowledge of at least one contraceptive method of currently married fecund women by age according to survey and zone: Cauca.

22

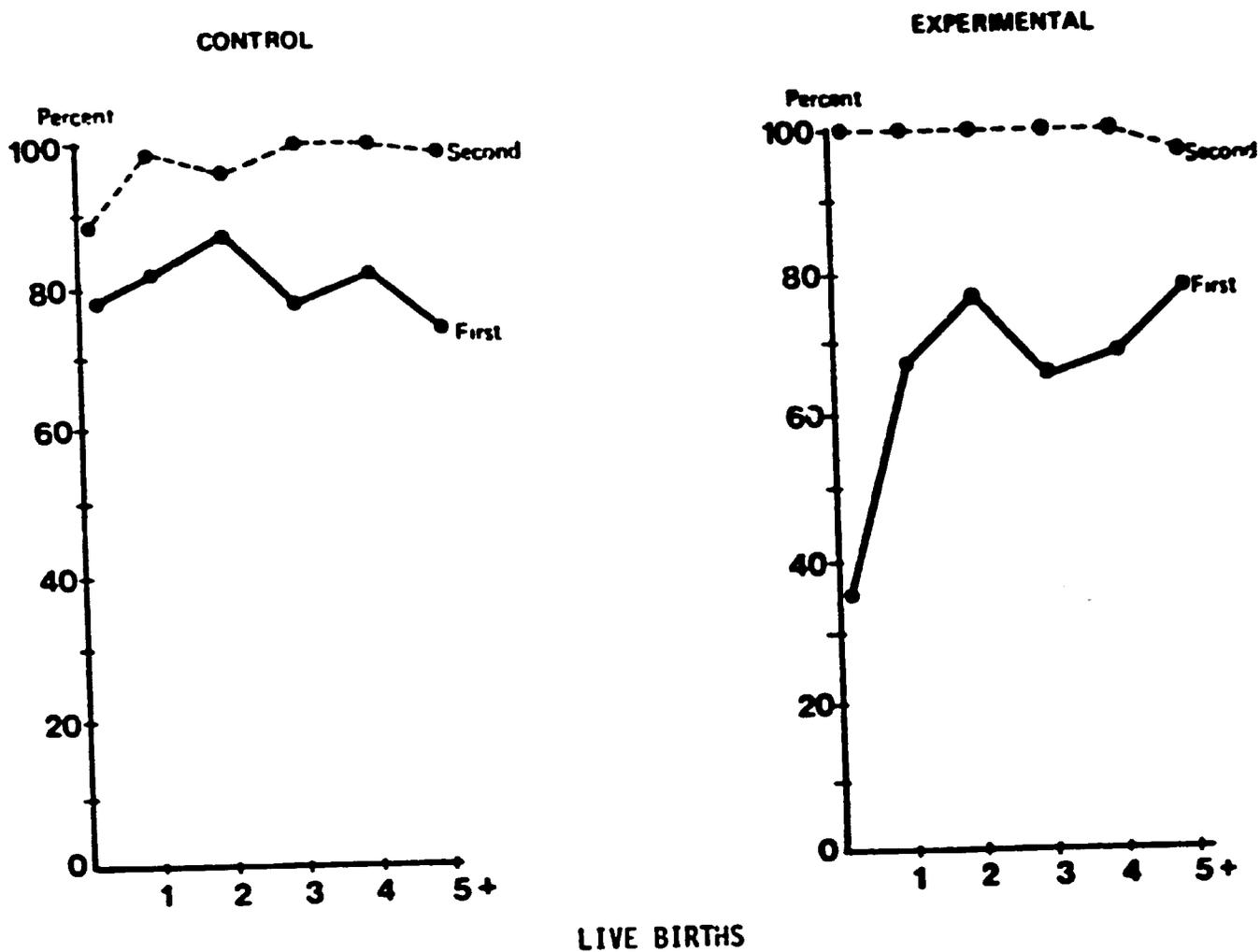


FIGURE 2- Knowledge of at least one contraceptive method of currently married fecund women by number of live births according to survey and zone: Cauca

23

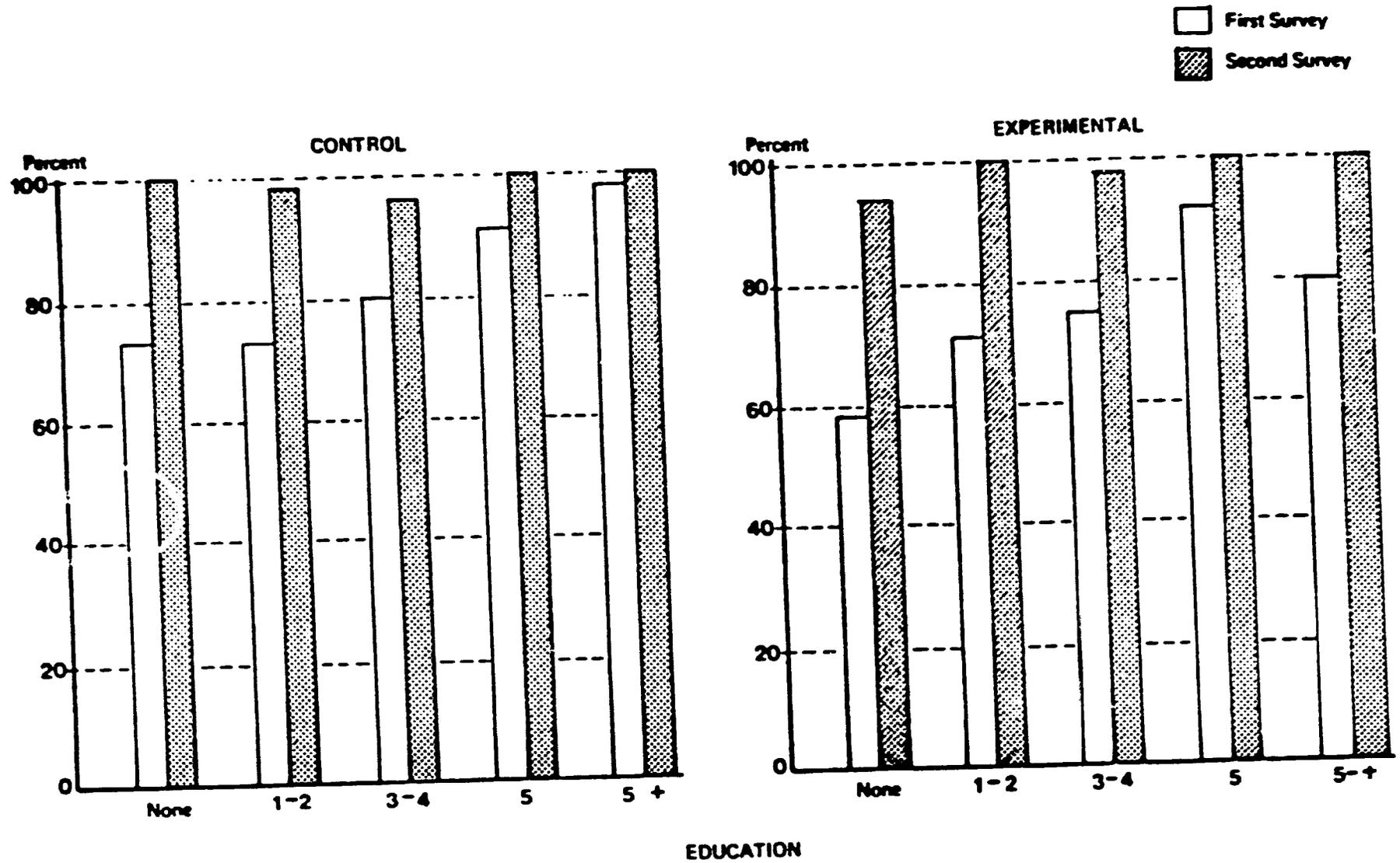


FIGURE 3 Knowledge of at least one contraceptive method of currently married fecund women by education according survey and zone: Cauca

In Cauca Experimental, on the other hand, greater increases were observed for women who were younger (Figure 1 on page 22), with 4 or less live births but particularly with no live births (Figure 2 on page 23) and who had completed 4 years or less of formal schooling (Figure 3 on page 24). By place of residence (refer to Table 2 on page 20), the percent of women in Cauca naming a contraceptive method rose in both the urban and rural areas to where 100 percent of the urban respondents now can name a method and 97 and 99 percent of the rural women in the Control and Experimental areas, respectively can. Most change was registered in the Experimental group in Cauca where knowledge levels increased 27 percentage points in 10 months of service delivery. In that zone before the project began more than one-fourth of the currently married fecund women could not identify at least one contraceptive. Now nearly all can.

Knowledge by specific method is shown in Table 3 on page 26. Excluding the Control group in Cauca for the Second Survey, the method best known by the project women for both surveys was the oral followed by female sterilization. However, for respondents in Cauca Control in the second study, the percent naming female sterilization was only 1 point higher (90 percent) than that naming the oral (89 percent). The third method most mentioned in both surveys among all groups except Cauca Experimental in the second study was injection which is not offered by either PROFAMILIA nor the Ministry of Health but can be obtained through drugstores. As the third most recognized method in Cauca Experimental is the IUD, a contraceptive which in many areas of Colombia in the past was equally as well known as the oral and which now in the other project areas is less well known than the oral, female sterilization and injection.

Although some changes occurred between surveys in knowledge levels for specific methods in Cesar Control and Experimental groups, the most noteworthy differences were found in Cauca. For the Control group knowledge of the condom increased from 22 to 52 percent of the currently married fecund women and withdrawal from 12 to 40 percent. The percent of women naming the IUD, female sterilization and rhythm rose around 20 percentage points each. In the experimental zone of Cauca

TABLE 3.- Percentages of currently married fecund women who know of contraceptive methods according to specific methods: First and Second Surveys in Cesar and Cauca

I T E M	CONTROL		C E S A R EXPERIMENTAL		TOTAL		CONTROL		C A U C A EXPERIMENTAL		TOTAL	
	First	Second	First	Second	First	Second	First	Second	First	Second	First	Second
No method	3	2	2	2	3	2	20	2	27	1	23	2
Oral	96	96	98	96	97	96	78	89	73	97	76	93
IUD	75	76	80	81	77	78	51	73	54	87	52	79
Condom	59	61	60	69	60	65	22	52	19	60	21	55
Suppository	72	69	82	80	75	74	42	53	25	55	36	54
Sterilization												
female	90	90	96	94	92	92	68	90	57	92	65	91
male	30	25	21	26	27	25	16	20	9	25	14	22
Rhythm	53	41	42	49	50	45	19	39	12	47	17	43
Withdrawal	42	28	32	33	39	30	12	40	9	41	11	41
Injection	88	88	92	91	89	89	61	76	45	73	52	75
Other	5	7	6	7	5	7	1	3	0	5	1	4
Number of cases												
un-weighted	436	483	250	387	686	870	256	464	187	453	443	917
weighted	17,700	11,458	8,566	9,226	26,266	20,684	8,605	8,588	4,442	6,741	13,047	15,329

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22

the method where knowledge increased the most was the condom (19 to 60 percent) followed by female sterilization (57 to 92 percent), and rhythm (12 to 47 percent).

Contraceptive Use.-- The pattern of contraceptive use of the currently married fecund women according to intervention group and survey is presented in Figures 4 and 5 on pages 28 and 29. In Cesar Control the percent of women stating they were current users before the project began was 42 percent, higher than the other three post-intervention groups, but after one year of service delivery that statistic actually declined to 37 percent. According to the Second Survey, results, the highest proportion of women who are current users is now in Cauca Experimental (49 percent) and it was in that zone where most change occurred: current use more than doubled. There was a reduction in exposed women who were past users in Cesar from the First Survey to the Second, especially for the experimental group (33 to 18 percent). In Cauca Control past users nearly tripled from 9 to 26 percent. In the Second Survey in Cesar Control and Experimental the percent of exposed women who had never used unexpectedly increased while in Cauca never users represented over half (58 and 65 percent in the Control and Experimental zone, respectively) of the exposed women in the First Survey but by the Second only 29 percent of the Control and 35 percent of the Experimental women reported having never used a contraceptive.

Current use at the time of each survey for the currently married non-pregnant fecund women in all four project sites is shown in Table 4 on page 30. Although the percent of these women presently contracepting declined slightly from 50 in the First Survey to 46 percent in the Second in Cesar Control, the prevalence of use rose by 12 percentage points in Cesar Experimental (36 to 48 percent), 14 in Cauca Control (37 to 51 percent) and 30 points in Cauca Experimental (20 to 50 percent). Despite the substantial increase in use in Cesar Experimental, the change was not statistically significant while the differences for the observed values in use between the two surveys for the women in the Control and Experimental zones of Cauca were. Now the level of contraceptive use in both zones of Cauca is similar to the 1980 CPS rate of 42 percent for the rural exposed women.

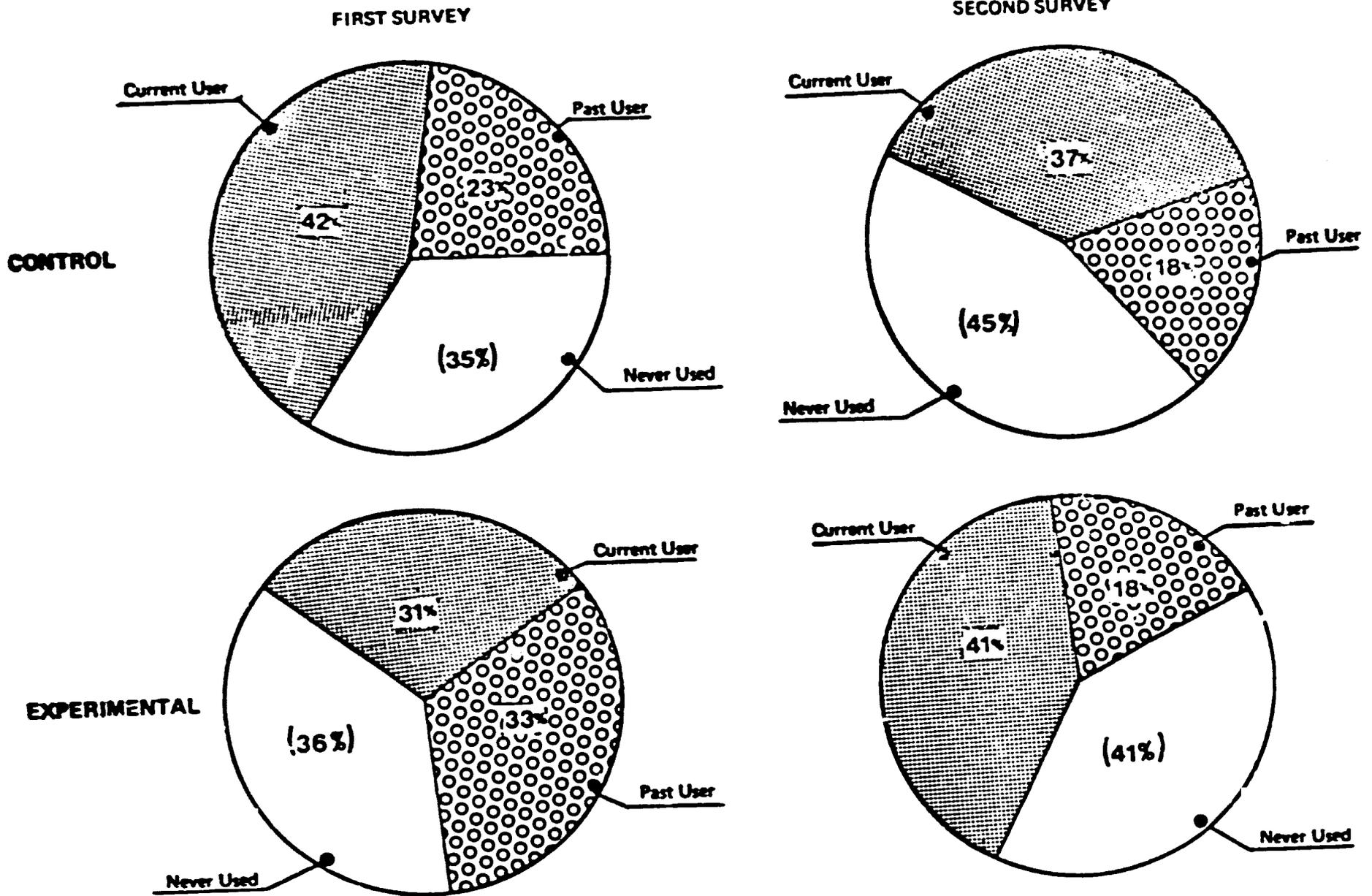


FIGURE 4.- Pattern of contraceptive use for currently married fecund women by intervention group according to survey: Cesar

28

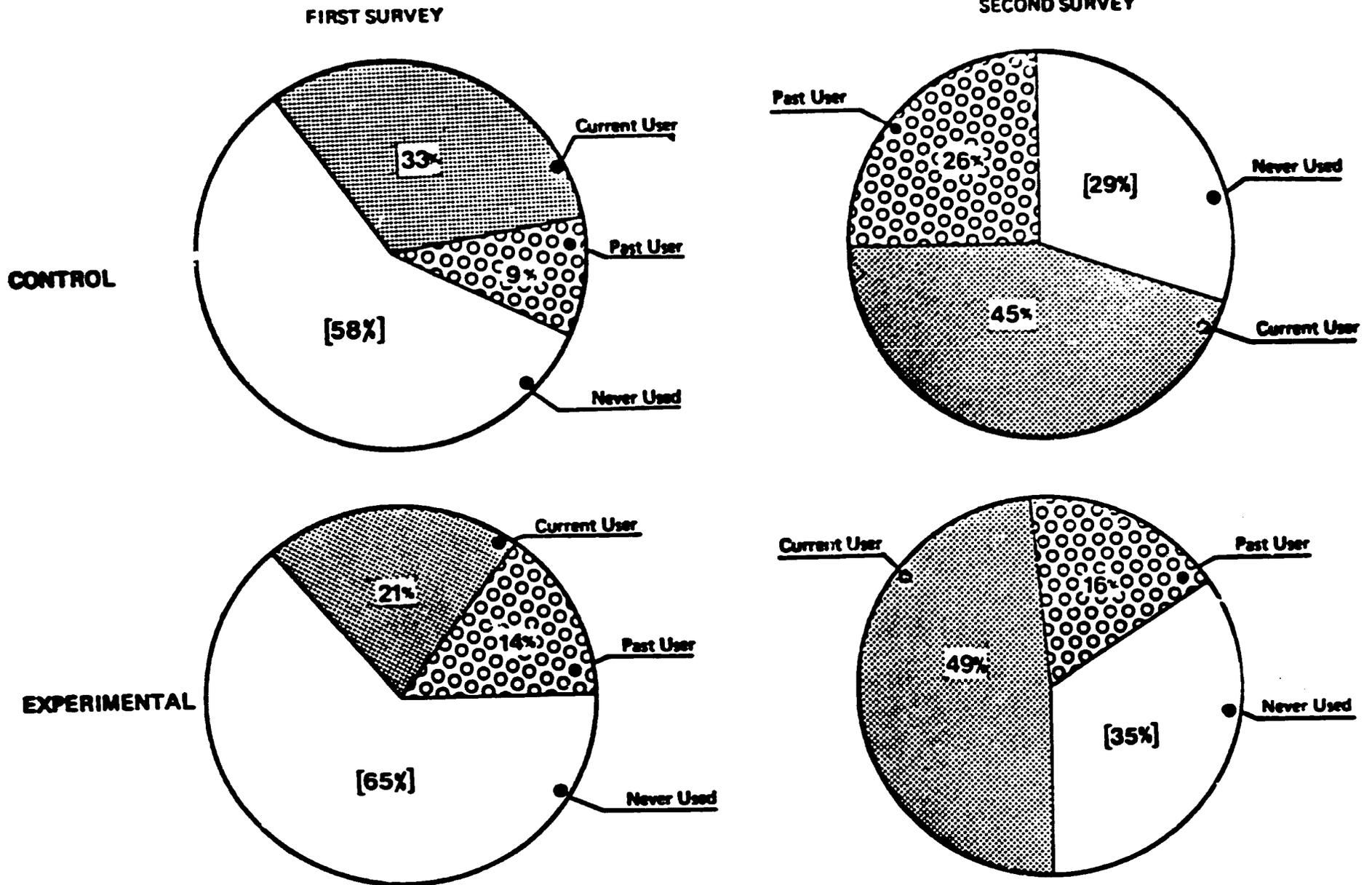


FIGURE 5.- Pattern of contraceptive use for currently married fecund women by intervention group according to survey: Cauca.

29

TABLE 4.- Percentage of currently married non-pregnant fecund women who are currently using contraception (including sterilization) by age, number of living children, level of education and type of residence: First and Second Surveys in Cesar and Cauca

CHARACTERISTICS	CONTROL		C E S A P EXPERIMENTAL		TOTAL		CONTROL		C A U C A EXPERIMENTAL		TOTAL	
	First	Second	First	Second	First	Second	First	Second	First	Second	First	Second
All	50	44	36	43	46	46	37	51*	24	54*	32	52
Age												
15-19	32	23	19	22	27	23	35	54	29	72	34	59
20-24	30	43	46	42	56	42	38	60	39	44	38	54
25-29	55	58	33	56	52	57	50	47	15	60	37	54
30-34	63	49	41	77	45	59	52	58	30	74	45	65
35-39	59	56	33	48	48	53	23	70	17	66	20	69
40-44	28	48	47	38	34	42	22	38	16	49	20	43
45-49	19	15	35	31	25	22	18	18	25	34	21	27
Number of live births												
0	16	15	-	3	13	11	11	48	-	2	6	35
1	38	53	21	38	33	48	39	62	20	42	34	51
2	61	52	50	60	57	55	42	48	38	56	41	51
3	60	50	41	43	56	47	31	65	26	73	55	68
4	61	39	49	59	57	52	51	37	19	59	39	48
5	49	43	36	51	44	47	32	48	22	53	27	50
Education												
none	40	28	24	40	35	33	21	40	14	36	18	38
1-2	47	47	25	45	40	46	23	54	19	51	21	53
3-4	61	48	45	54	56	51	43	37	27	58	38	45
5	58	59	48	59	56	59	55	71	32	67	48	62
more than 5	54	66	61	53	57	60	68	76	57	61	66	70
Place of residence												
urban	56	53	49	46	54	51	61	67	51	73	59	68
rural	48	32	34	40	43	42	31	44	21	51	27	48
Number of cases												
unweighted	4,131	2,000	2,008	1,604	5,739	3,604	2,228	2,511	1,003	2,700	3,231	5,201
weighted	14,719	9,440	12,001	10,000	21,780	17,140	7,568	7,515	3,801	6,068	11,369	13,203

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Statistics for the contraceptive prevalence rates by age, number of live births and education for the currently married non-pregnant fecund women are also presented in Table 4 on page 30 but Figures 6 through 11 give a better sense of the change which occurred from the time of the First Survey. It is clear that in Cesar use increased among the Experimental group women aged 25 to 34, those who had 2 and 5 or more live births and women in that group who had none or only 1 to 2 years of formal schooling (Figures 6-8 on pages 32 through 34 respectively).

By place of residence in Cesar (see Table 4 on page 30), the only area where prevalence rates improved was in the rural zone where the team was functioning. There use rose from 34 to 49 percent of the women.

In contrast with Cesar Control, higher prevalence rates for respondents in the Control zone of Cauca were reported among most age groups and live birth and educational categories as shown in Figures 9-11). The most noteworthy increase was found for women aged 35 to 40 (Figure 9 on page 35) where use rose from 23 to 70 percent, women with none and with 3 live births (Figure 10 on page 36) and respondents with 2 or less years of formal education (Figure 11 on page 37).

For the Cauca Experimental women, where contraceptive prevalence increased strikingly more than for either Cauca Control or Cesar Experimental respondents, that change occurred for all age, live birth and education categories (Figures 9, 10 and 11). The least increment in use was found for women 20 to 24 and 45 to 49 years of age and for those with more than 5 years of formal education.

According to place of residence, the statistics in Table 4 on page 30 indicate that the increased prevalence of use in both the Control and Experimental groups took place in both the urban and the rural zones but that the most noteworthy change occurred in the rural area of Cauca Experimental where now 51 percent of the exposed women are planning their families as compared to 21 percent previously.

The pie charts on pages 38 and 39 show the changes between the

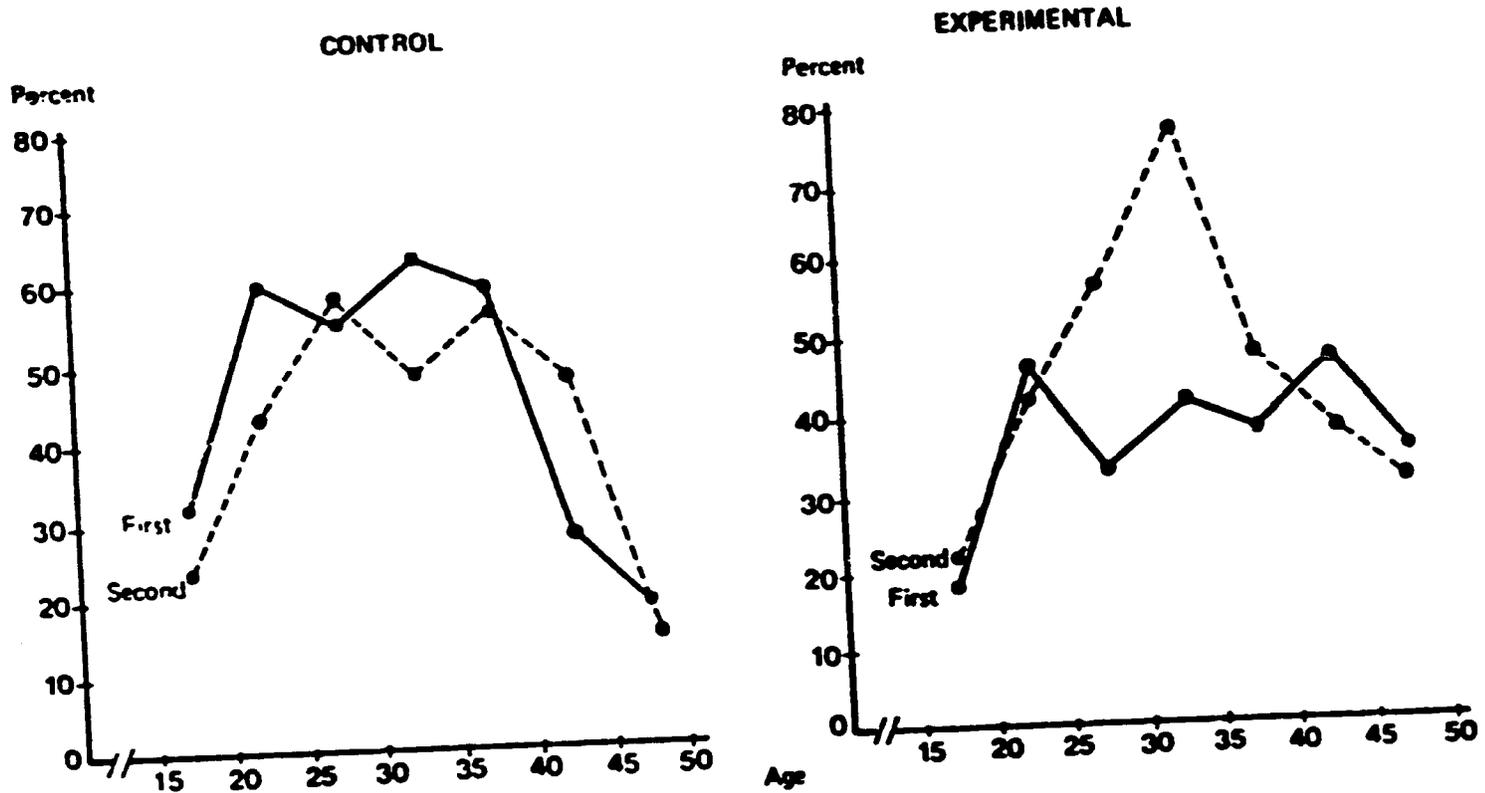


FIGURE 6 .- Current use of contraception by age of currently married non-pregnant fecund women according to survey by intervention group: Cesar.

32

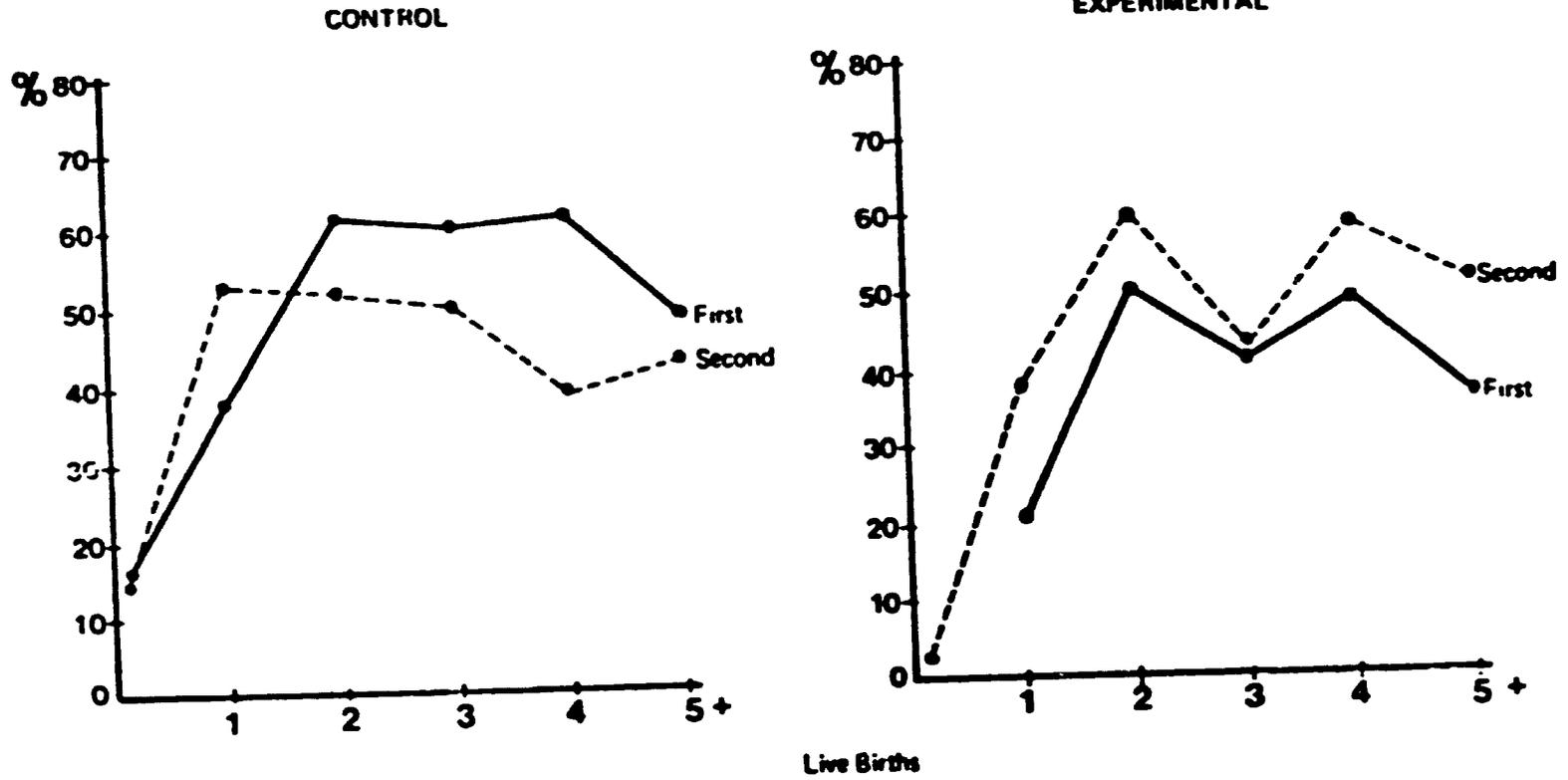
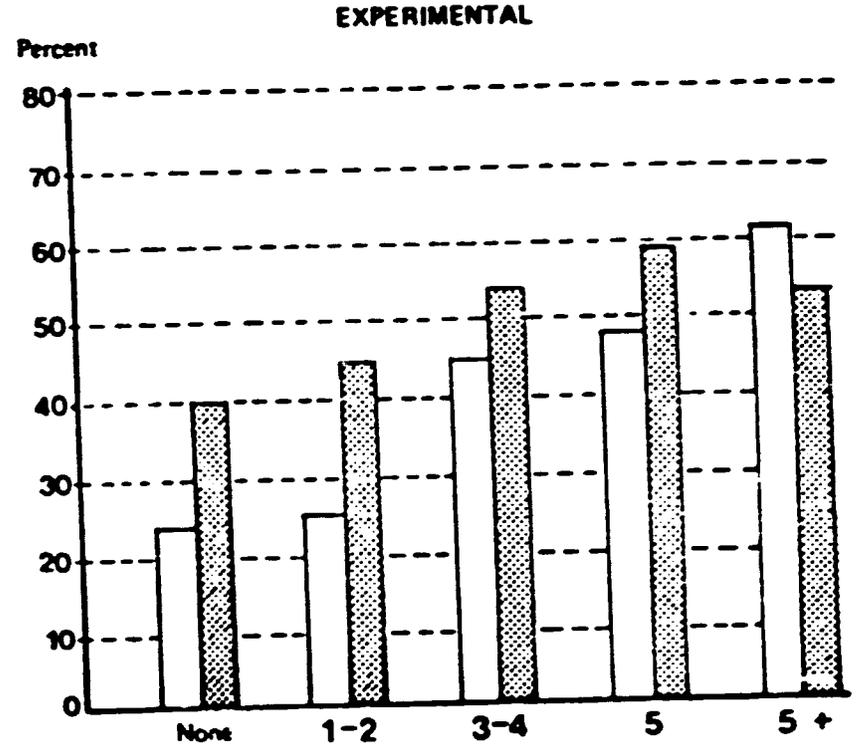
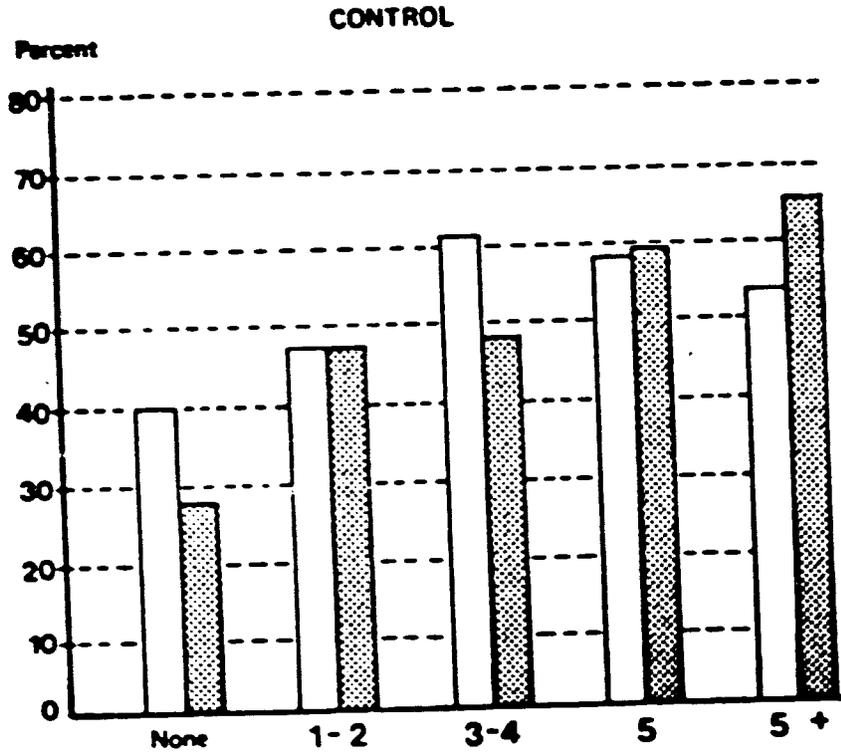


FIGURE 7 . Current use of contraception by number of live births of currently married non-pregnant female women according to survey by intervention group: Cesar.

□ First Survey  
▨ Second Survey



**EDUCATION**

FIGURE 2.- Current use of contraception by formal education level of currently married non-pregnant fecund women according to survey by intervention group: Cesar.

34

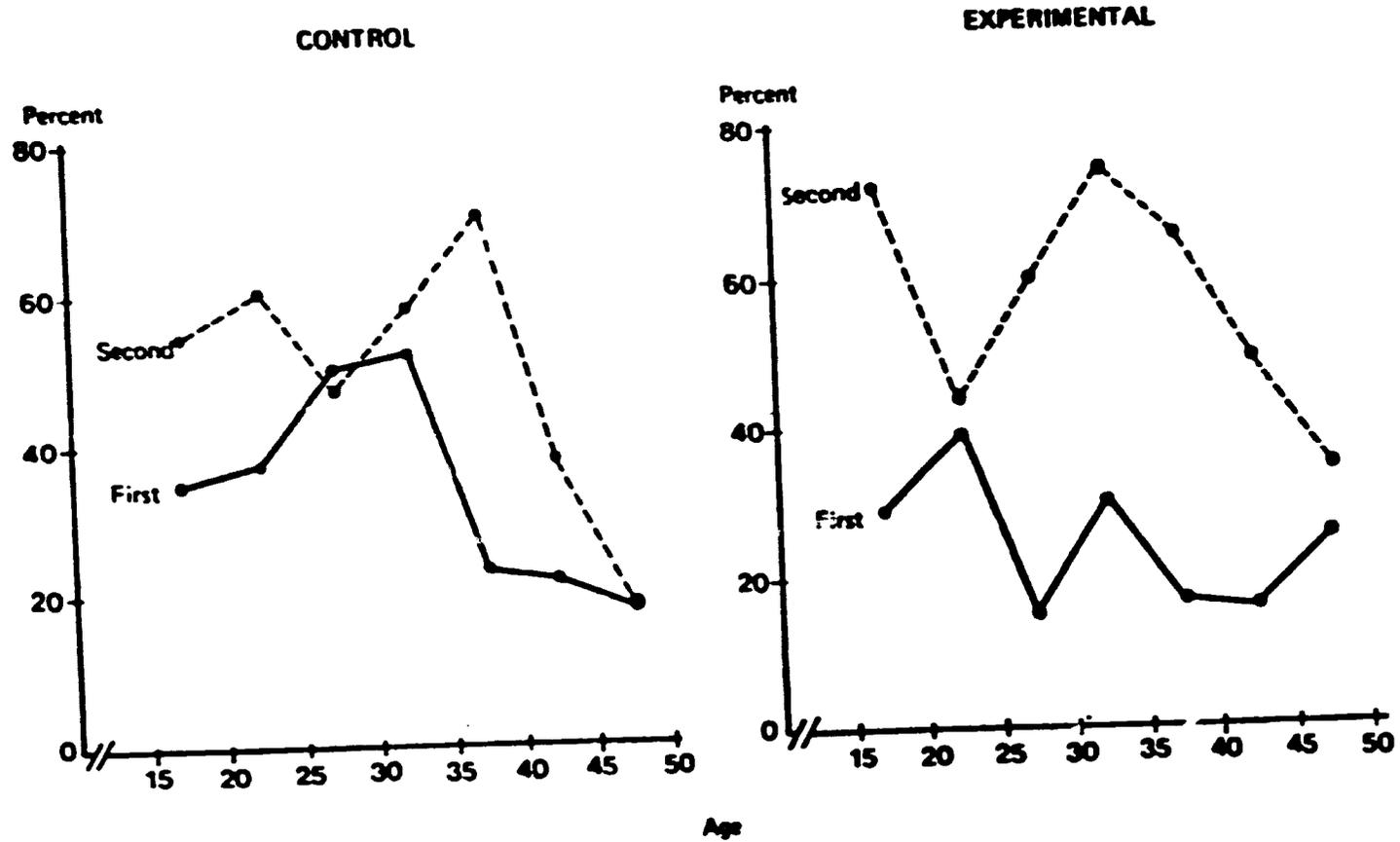


FIGURE 9 . Current use of contraception by age of currently married non-pregnant fecund women according to survey by intervention group: Cauca.

35

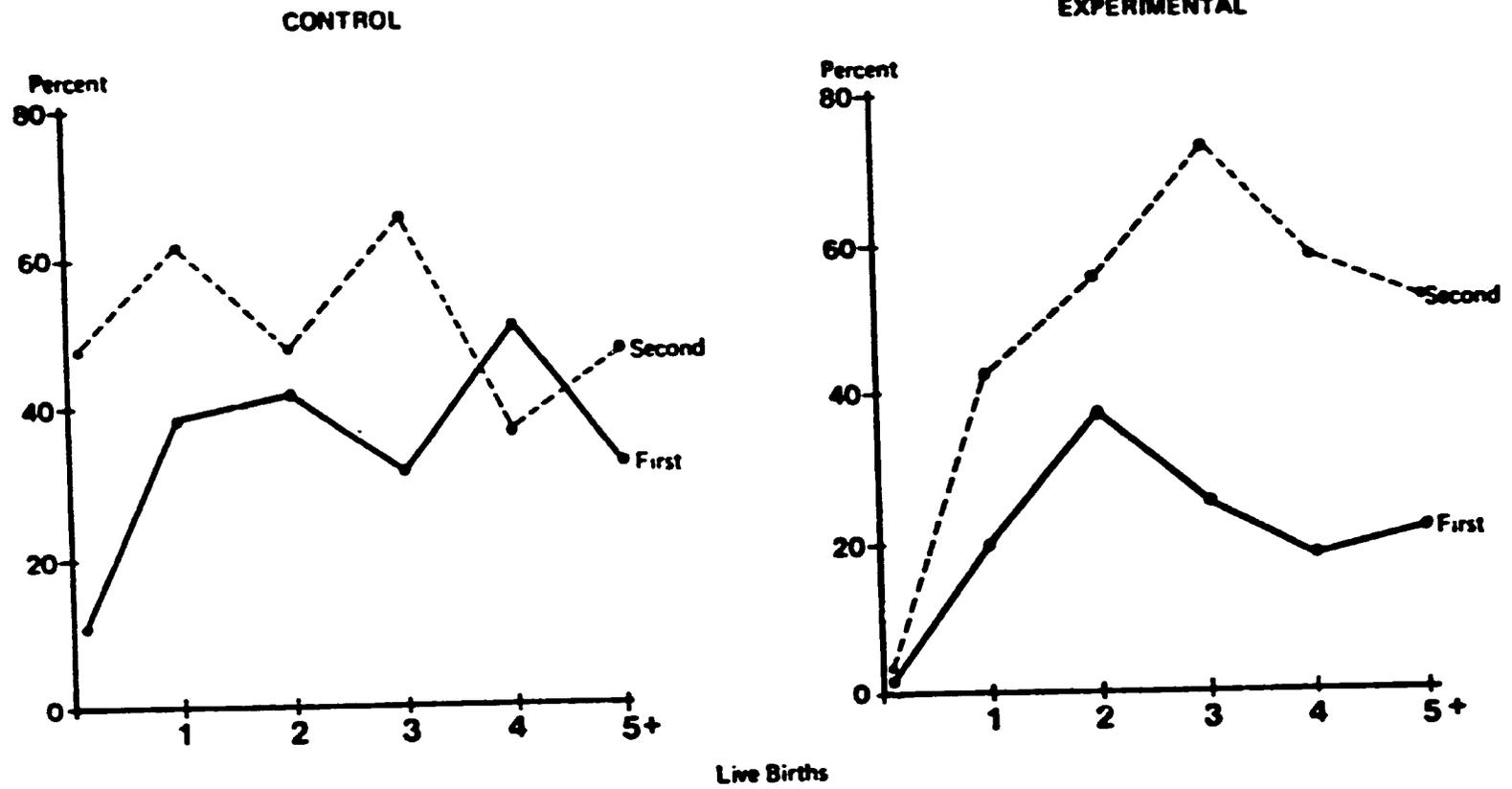


FIGURE 10.- Current use of contraception by number of live births of currently married non-pregnant fecund women according to survey by intervention group: Cauca.

26

□ First Survey  
▨ Second Survey

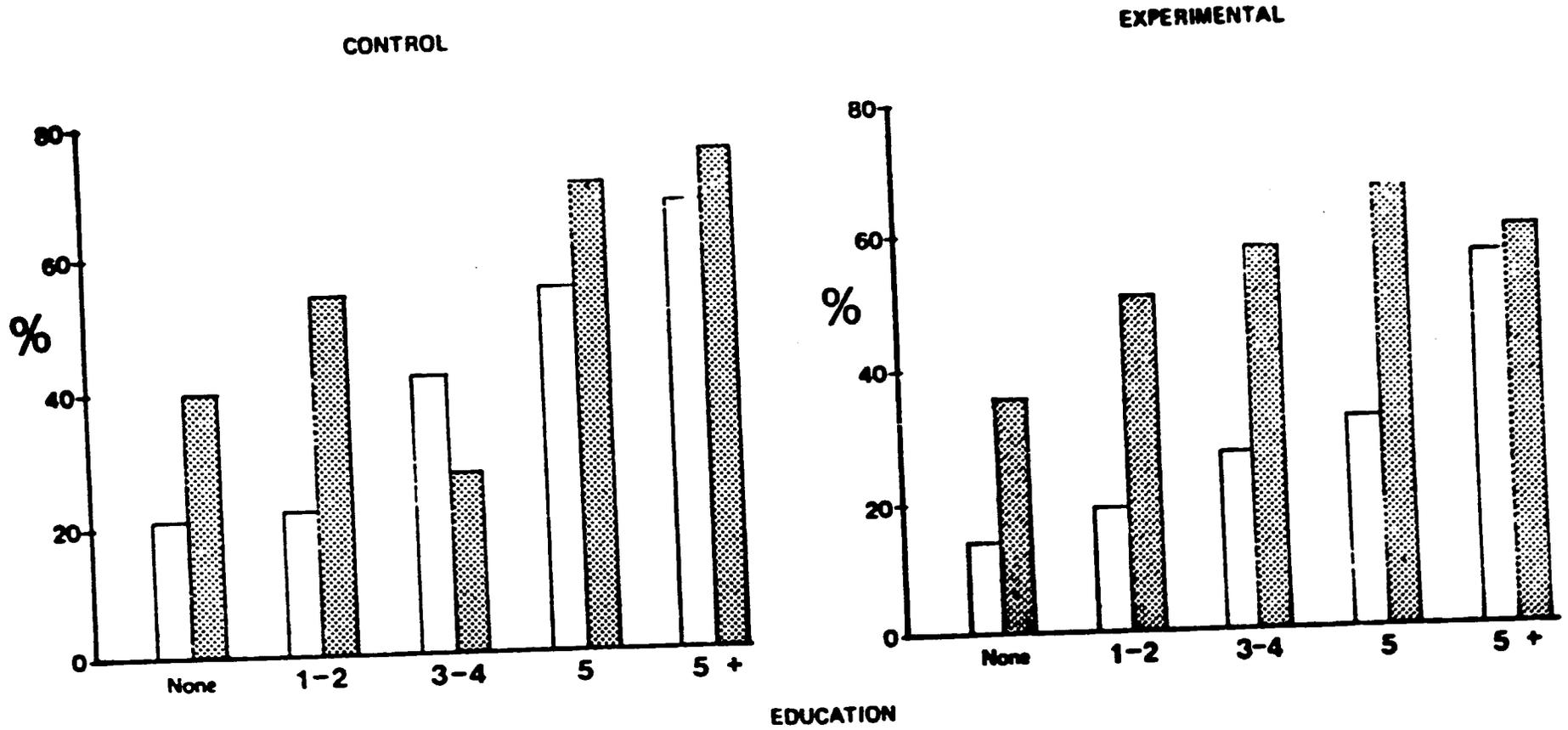
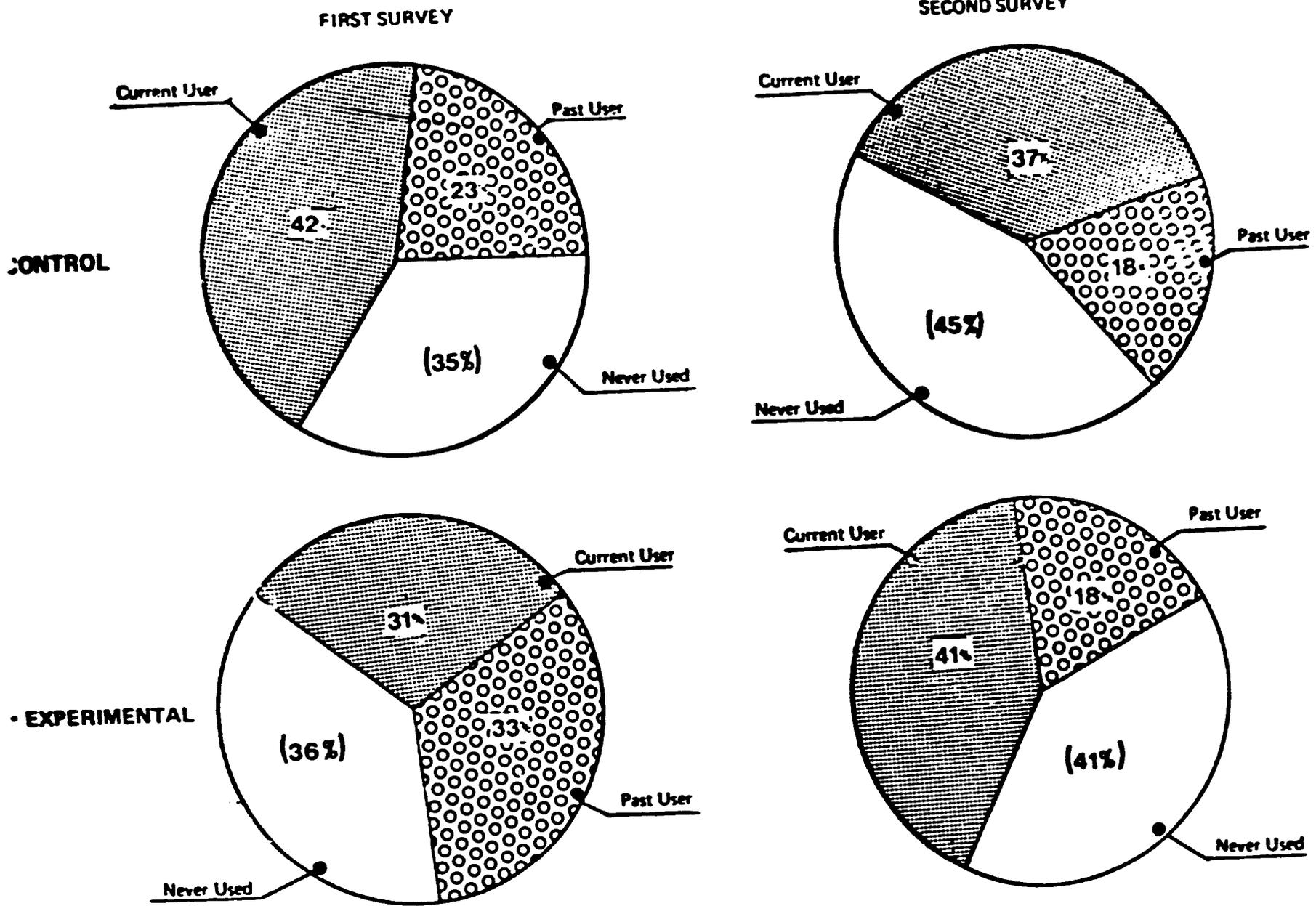


FIGURE 11- Current use of contraception by formal education level of currently married non-pregnant fecund women according to survey by intervention group: Cauca.



39

FIGURE 12 Pattern of contraceptive use for currently married fecund women by intervention group according to survey: Cesar

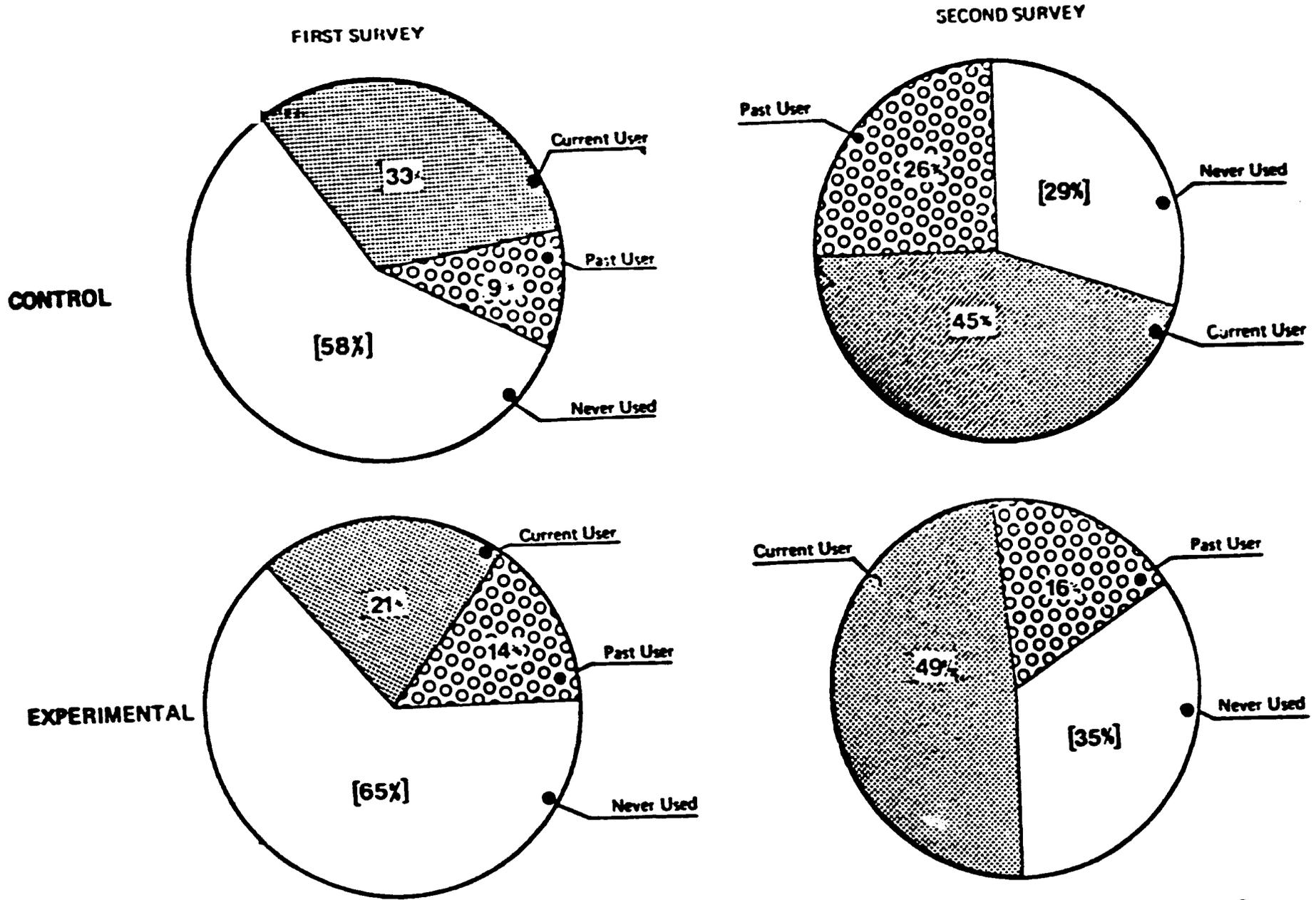


FIGURE 13- Pattern of contraceptive use for currently married fecund women by intervention group according to survey: Cauca.

39

First to the Second Survey in the distribution of the non-pregnant fecund currently married women by current use and type of method being used for Cesar and Cauca Control and Experimental areas. By the Second Survey the percent of exposed women using the oral in Cesar Control had declined from 24 to 19 percent yet that method continues to be the far most popular method there followed by female sterilization (8 percent use among the exposed women). In Cesar Experimental, use of the oral increased from 11 to 19 percent of the respondents, a gain which places it now as a method equally as popular as female sterilization (18 percent are now using this method). In the First Survey 17 percent of the exposed women were sterilized for contraceptive purposes making it the preferred method at that time.

Use of the oral also declined in the Control Group of Cauca from 16 to 11 percent of the exposed women but, as in Cesar Experimental, it increased in popularity in Cauca Experimental where now 3 times as many (9 percent) project area women are using this method than before the project began. Although the use of sterilization rose in both groups in Cauca (10 to 13 percent and 8 to 12 percent in the Control and Experimental areas, respectively) perhaps the statistics which attracts most attention are those for withdrawal. In Cauca Control the percent of women using this method rose from none to 12 percent and in Cauca Experimental, from 3 to 14 percent.

If this method is grouped with the other traditional methods (rhythm, other), it can be seen in Table 5 on page 41, Item II, that of all current users, one-third who are planning their families in Cauca Control and 40 percent in Cauca Experimental are contracepting with these methods, as compared to 3 and 21 percent recorded in the First Survey. Even though the reduction in the percent of exposed women not using a contraceptive method was strongest in the project areas of Cauca, it was there that the percent contracepting with modern methods (Item I, Table 5 on page 41) declined by 29 and 19 percentage points in the Control and Experimental zones respectively. In Cesar the mix of methods remained fairly stable along with the comparatively small increase in use.

TABLE 3.- Percentage distribution of current users according to type of method being used: First and Second Surveys in Cesar and Cauca

	C E S A R				C A U C A			
	CONTROL		EXPERIMENTAL		CONTROL		EXPERIMENTAL	
	First	Second	First	Second	First	Second	First	Second
I. EFFICIENT	84	84	90	90	97	68	79	60
a. Oral	48	43	29	40	43	22	13	17
b. IUD	10	14	5	2	16	9	29	11
c. Condom	2	2	3	0	3	0	0	4
d. Suppository	4	5	5	6	3	2	0	4
e. Sterilization	14	18	45	38	27	25	33	22
f. Injection	6	2	3	4	5	10	4	2
II. INEFFICIENT	16	16	10	10	3	32	21	40
a. Rhythm	8	7	5	6	3	8	8	13
b. Withdrawal	4	9	0	4	0	24	13	25
c. Other	4	0	5	0	0	0	0	2
TOTAL	100	100	100	100	100	100	100	100

Knowledge and Use of Supply Sources.-- From the statistics in Table 6 on page 43, it can be seen that the percent of ever married women unable to name a specific source for family planning services has dramatically declined since the First Survey, particularly in the Experimental zone of Cesar (68 to 28 percent) and in both intervention groups in Cauca (63 to 18 and 60 to 13 percent in the Control and Experimental zones, respectively). Nonetheless still around one-third of the women in the project counties of Cesar (32 percent) cannot name a service source.

In the First Survey the best known service source was the Ministry of Health posts in all four project sites. By the Second Survey, in Cesar Control, drugstores became the source most named followed by the MOH posts. The percent of women who identified the MOH posts there rose only 5 percentage points (27 to 32 percent) as compared to the increase in knowledge about drugstores which more than doubled (17 to 40 percent). Recognition of PROFAMILIA as a service outlet actually decreased among the Cesar Control women dropping from 22 to 13 percent.

Among the experimental group respondents in Cesar, drugstores now are equally as well known as MOH posts while knowledge of PROFAMILIA as a family planning source for services rose from 12 to 17 percent of the ever married women.

In Cauca in both intervention zones the MOH posts continue to be the best known service source and now around three-quarters of the married women in the Experiment group can name this source. As can be seen in Table 6 on page 43 the increased knowledge of family planning service outlets in Cauca occurred for each specific source except "other" in both the Experimental and Control groups. Knowledge of PROFAMILIA in Cauca Control quadrupled (6 to 23 percent) and in Cauca Experimental it tripled (9 to 28 percent).

Tables 7 and 8 on pages 44 and 45 show the percentage distribution of current users of all methods and oral users according to most frequent supply source by intervention group for both surveys. In Cesar (Table 7 on page 44) the drugstore continues to be the source

TABLE 6.- The percent of all ever married women who named a specific source for family planning services: First and Second Survey in Cesar and Cauca

SOURCE	CONTROL		C E S A R EXPERIMENTAL		TOTAL		CONTROL		C A U C A EXPERIMENTAL		TOTAL	
	First	Second	First	Second	First	Second	First	Second	First	Second	First	Second
No place	59	35	68	28	62	32	63	18	60	13	62	16
Health post	27	32	46	38	33	35	41	58	39	79	40	67
Drugstore	17	40	12	38	15	39	7	27	4	14	6	22
Profamilia	22	13	12	17	19	15	6	23	9	28	7	25
Physician	6	3	8	3	7	3	5	22	1	8	4	16
Other	11	1	7	0	10	1	7	3	6	4	7	3
Total number of un-weighted cases	507	620	283	496	790	1,116	300	623	214	570	514	1,193
Total number of weighted cases	20,357	14,251	9,659	11,300	30,016	25,551	10,487	11,335	5,055	8,361	15,542	19,696

TABLE 7.- The percentage distribution of current users by source of most frequent contraceptive service or supply source: First and Second Surveys in Cesar and Cauca

SOURCE	CONTROL		C E S A R EXPERIMENTAL		TOTAL		CONTROL		C A U C A EXPERIMENTAL		TOTAL	
	First	Second	First	Second	First	Second	First	Second	First	Second	First	Second
NOH	21	22	28	19	23	21	66	33	69	41	66	36
Drugstore	30	53	37	49	31	52	10	33	6	24	9	29
Profamilia	21	14	9	23	18	17	2	15	11	20	4	17
M.D.	12	10	13	2	12	7	21	18	3	6	17	14
Other	16	1	13	6	16	3	1	1	11	9	4	4
Percent total	100	100	100	100	100	100	100	100	100	100	100	100
Number of cases unweighted	163	142	48	89	211	231	86	147	39	137	125	284
weighted	6,568	3,033	1,498	2,059	8,066	5,092	2,171	2,036	614	1,275	2,785	3,311

TABLE 2.- The percentage distribution of oral users by source of supply according to intervention group: First and Second Surveys in Cesar and Cauca

SOURCE OF SUPPLY	CONTROL		C E S A R EXPERIMENTAL		TOTAL		CONTROL		C A U C A EXPERIMENTAL		TOTAL	
	First	Second	First	Second	First	Second	First	Second	First	Second	First	Second
Health post	20	12	25	19	21	15	72	27	55	36	70	30
Drugstore	44	68	51	43	45	57	12	37	3	33	11	35
Profamilia	20	16	11	29	18	21	3	26	34	23	5	25
Physician	4	5	13	2	6	3	13	9	8	3	13	7
Other	12	1	0	7	10	4	0	1	0	5	1	3
Percent total	100	100	100	100	100	100	100	100	100	100	100	100
Number of cases												
unweighted	90	88	26	64	116	152	51	87	12	63	63	150
weighted	3,657	1,974	803	1,563	4,460	3,537	1,372	1,115	134	626	1,506	1,741

most utilized by current users in both the Control and Experimental areas for obtaining contraceptives. By the time of the Second Survey half of all users reported purchasing their method in drugstores as compared to about one-third in the baseline survey. PROFAMILIA is now the second source most used in Cesar Experimental replacing the MOH outlets. The percent of current users in the Experimental zone accruing to PROFAMILIA more than doubled (9 to 23 percent) in one year's period. The tendency in both zones in Cesar during the project was for current users to accrue to the organized programs and drugstores leaving private physicians and other sources. In Cauca the percent of current users obtaining their method from the MOH outlets declined sharply during the 10 months of the project service delivery there. As can be seen in Table 7 on page 44, now only 33 percent reported accruing to the MOH in Cesar Control as compared to 66 percent previously. A similar experience occurred in Cauca Experimental where the percent of users whose method source is the MOH declined 28 percentage points (69 to 41 percent). As in Cesar, use of drugstores and PROFAMILIA in both zones sharply increased with perhaps the most noteworthy change occurring for PROFAMILIA where only 2 percent of all current users were obtaining their method at the time of the Baseline and now 15 percent do.

For the women contracepting with the oral in Cesar Control (Table 8 on page 45), the drugstore remains the most popular place to go to obtain the method. In fact, from the statistics in Table 8 it appears that all other sources there are becoming less utilized as the drugstores become the key source. Now nearly 70 percent of all oral users buy this contraceptive in drugstores. Although this method source also remains dominant in the Experimental area of Cesar, a slight decrease in its utilization was found (51 to 43 percent of oral users) and the percent of oral users accruing to PROFAMILIA more than doubled (11 to 29 percent).

In Cauca Control in the First Survey, the primary service source for oral users was clearly the MOH since 72 percent reported purchasing the oral there. By the Second Survey, however, only 27 percent said

they most frequently obtained their method in MOH outlets placing that source now second to drugstores as the most popular. The percent of oral users who recur to drugstores tripled (12 to 37 percent) while users purchasing their orals from PROFAMILIA rose from 3 to 26 percent.

Over half (55 percent) of all oral users in Cauca Experimental obtained their method from MOH outlets in the First Survey and around one-third (34 percent) from PROFAMILIA. Unexpectedly the percent of oral users accruing to PROFAMILIA declined by 11 percentage points (33 to 23 percent) by the Second Survey and now only about a third of the respondents contracepting with that method obtain it from the MOH. Replacing PROFAMILIA as the second most utilized source is the drugstore where now 33 percent of the oral users obtain their method.

Finally, as part of this section on service sources, a presentation of the statistics on the source of operation for women sterilized for contraceptive purposes is given in Table 9 on page 48. Since the number of women in the sample sterilized was fairly small in the First Survey, a comparison between Control and Experimental groups according to source by department was not considered very meaningful. Table 9, then, is a percentage distribution of these women by source and department for each of the surveys. In Cesar around half of the women sterilized in both surveys reported being operated on in MOH hospitals. Before the project began in Cesar, private clinics followed the MOH as the second source for sterilizations but now it has been replaced by MOH Health Centers so that 75 percent of the women who have been sterilized in the project counties were operated on in MOH facilities. This fact must not be interpreted as 75 percent of all sterilizations in Cesar being carried out by MOH physicians, since the PROFAMILIA clinic doctors in the project areas performed sterilizations in the MOH Health Centers when they traveled out to these small counties in the mobile unit.

A similar situation exists in Cauca where the percent of women sterilized in an MOH hospital increased from 39 to 53 percent. Although PROFAMILIA maintains a clinic in Popayán, the PROFAMILIA MD performs all sterilization operations in the MOH hospital. Women

TABLE 3.- The percentage distribution of sterilized women by source of operation according to intervention department: First and Second Surveys in Cesar and Cauca

SOURCE OF OPERATION	C E S A R		C A U C A	
	First	Second	First	Second
Hospital	57	58	39	53
Health Center	7	17	9	9
Profamilia Clinic	13	13	5	9
Private Clinic	16	11	36	27
Other	7	1	11	2
Percent total	100	100	100	100
Number of cases				
unweighted	68	112	44	150
weighted	2,433	2,275	1,103	1,984

reporting being operated on in a PROFAMILIA clinic in Cauca are women who probably traveled to Cali or possibly Pasto. As Table 9 on page 48 shows, the percent of women sterilized in the Cali/Pasto clinics nearly doubled from 5 to 9 percent.

Characteristics of Women Sterilized.-- In the Second Survey questions were incorporated into the questionnaire to explore (1) how current oral users say they use the pill (2) what current and past users of other methods say about how to use the oral, vaginal tablets, IUD and female sterilization (3) reasons for non-use and discontinuation of use (4) how the project's services were being utilized by respondents and (5) aspects of female sterilization services in the project counties. Partial results obtained on sterilization services and the women sterilized will be presented here.<sup>1</sup>

As shown in Item 1 of Table 10 on page 50, 27 percent of the women sterilized for contraceptive purposes in Cesar and 32 percent in Cauca reported having experienced secondary effects related to the operation. Effects most commonly experienced in Cesar were hemorrhage and vaginal discharge, pain and infection and vaginal and ovary pain. Seventy-five percent of the sterilized women reporting secondary effects in Cesar listed one of these three reasons. In Cauca, vaginal pain was experienced by 12 percent of all sterilized women and 10 percent reported having had hemorrhages and vaginal discharge. Together nearly 70 percent of the sterilized women in Cauca who reported a secondary effect had suffered from one of these two.

The percent of women sterilized who said they had experienced a secondary effect for each operation source by department is presented in Item 2 of Table 10 on page 50. Of the total number of women operated in an MOH hospital in Cesar, 17 percent complained of some post-operation problem and 83 percent did not. Fifty-four percent of the respondents sterilized in a PROFAMILIA Clinic reported having experienced some side effect. In Cauca, as in Cesar, a higher percent of women operated on in PROFAMILIA stated they suffered secondary effects as compared to respondents treated in the other sources. This

<sup>1</sup>Information on the other areas of interest is not included in this report but will be presented in the next 6-month narrative.

TABLE 10.- Selected characteristics of women sterilized for contraceptive purposes: Second Survey in Cesar and Cauca

I T E M	C E S A R	C A U C A
(1) Percentage distribution of women sterilized by secondary effects experienced		
none	73	65
hemorrhage, vaginal discharge	6	10
tumor	1	0
pain, infection	7	0
faulty operation	1	0
hernia from the operation	1	0
vomit, diahrrea, headache, waist and leg aches	4	9
temporary menstruation	0	1
vaginal and ovary pain	7	12
Percent total	100	100
(2) Percent of women sterilized with secondary effects by source of operation		
MOH hospital	17	30
MOH health center	23	45
Profamilia clinic	54	65
private clinic	50	25
other	50	0
(3) Percent of women sterilized by source of operation receiving poor service		
MOH hospital	16	12
MOH health center	12	20
Profamilia clinic	12	0
private clinic	41	10
other	0	0
(4) Percentage distribution of sterilized women by amount paid for operation		
gratis	11	5
less than \$200	10	4
\$200 - \$500	31	29
\$501 - \$1,000	10	12
\$1,001 - \$1,500	2	7
\$1,501 +	36	43
Percent total	100	100
(5) Weighted number of cases	2,275	1,954

result could reflect the influence of the IEC campaign by project personnel which was designed so that all aspects of each method would be clearly explained, including secondary effects. This could have sensitized women to the problem.<sup>1</sup>

Despite the high percent of women operated on in PROFAMILIA reporting side effects due to the operation, Item 3 in Table 10 on page 50 shows that only 12 percent in Cesar and none in Cauca complained of having received poor service from PROFAMILIA. Unexpectedly 41 percent operated on in a private clinic in Cesar reported having received poor service since it would seem that the best quality could theoretically be provided through private clinics.

Item 4 in Table 10 and Table 11 on page 52 refer to the costs paid for sterilization in these small counties in Colombia. In Cesar (Item 4) one-third (36 percent) had paid more than \$1,500 pesos (around US\$25) for the operation while in Cauca 43 percent said they had paid that amount.<sup>2</sup> Around 50 percent of the women sterilized in Cesar reported paying \$500 pesos or less and in Cauca 38 percent of the women sterilized paid that amount. By source of operation (Table 11 on page 52), it can be seen that almost half (46 percent) of the women sterilized in MOH hospitals in Cesar paid over \$1,500 pesos and 70 and 98 percent operated on in private clinics in Cesar and Cauca respectively did so. Around two-thirds of the women operated on in PROFAMILIA clinics in Cesar and Cauca reported paying between \$200 and \$500 pesos (3 to 8 dollars) while about another third said the operation cost them between \$501 to \$1,000 pesos.

Conclusions and Discussion.-- As pointed out at the beginning of this section on the Second Survey in Cesar and Cauca, the purpose of the two surveys has been to detect changes in contraceptive method and

<sup>1</sup> During several field visits by the project directors the observation was often made to promoters and the team to not place so much emphasis on secondary effects which they were doing.

<sup>2</sup> The questions asked to get at this estimate of cost per operation to the patient were (1) Do you remember how much you paid for the operation and (2) How much did you pay. No attempts were made to detect if the cost included transportation expenditures or pre and post-operative supplies and drugs.

TABLE 11 - Percentage distribution of women sterilized by source of operation and amount paid according to department: Second Survey in Cesar and Cauca

DEPARTMENT	SOURCE OF OPERATION	A M O U N T   P A I D						PERCENT TOTAL	NUMBER OF WEIGHTED CASES
		GRATIS	LESS THAN \$200	\$200 TO \$500	\$501 TO \$1,000	\$1,001 TO \$1,500	\$1,501 +		
Cesar	MOH Hospital	10	17	15	11	1	46	100	1,133
	MOH Center	23	6	59	0	0	12	100	387
	Profamilia								
	Clinic	2	0	63	29	6	0	100	295
	Private clinic	6	0	21	0	3	70	100	228
	Other	0	0	0	0	0	100	100	12
Cauca	MOH Hospital	10	8	35	11	15	21	100	771
	MOH Center	0	2	70	28	0	0	100	174
	Profamilia								
	Clinic	0	0	68	32	0	0	100	160
	Private clinic	0	0	0	1	1	98	100	527
	Other	0	0	0	0	0	100	100	45

52

source knowledge as well as contraceptive use among the female residents in the project counties after a PROFAMILIA CBD program was implemented through a team and traditional promoter model. Given previous CBD experience in Nariño and Santander, it was expected that the team model would be more effective at a lower cost than the promoter system in increasing contraceptive knowledge and use. Cost estimates after nearly 12 months of service delivery indicated that the team model was potentially a much less expensive CBD system (cost per new acceptor was US\$14.05 and CYP was US\$1.44). The comparative findings between the First and Second Survey presented in this report show that the differences between the two surveys in Cauca Experimental in (1) the percent of women naming at least one method (knowledge increased 26 percentage points) and (2) the percent currently using a contraceptive (use rose 30 percentage points) are statistically significant. The increase in contraceptive knowledge and use among this group was probably due to the team. This fact reinforces the decision to continue experimenting with the team model in other areas of Colombia.

At the same time it cannot be ignored that substantial change occurred in contraceptive knowledge rates between the two surveys in the Cauca Control zone (80 to 98 percent) and that the difference for the observed values on contraceptive use there was statistically significant (use increased from 37 to 51 percent among the exposed women). For the 12 month intervention period in Cauca Control, the cost per couple year protection (US\$4.48) was nearly the same as the cost per CYP in Cesar Control (US\$4.40) and about half the cost in Cesar Experimental (US\$9.29). The cost per new acceptor in the Control zone of Cauca was the second lowest (US\$22.64) after Cauca Experimental.

This information leads one to compare the service program in Cauca with that of Cesar, which was not originally intended, and to wonder why both groups were relatively successful in Cauca and not in Cesar. This has been speculated on in previous reports and the reasons cited have been the inability to quickly organize a referral system and/or a mobile unit for sterilizations in Cesar and the suspected

inability of the field supervisor in Cesar to select and manage field personnel. The results from the Surveys indicate, as well, that contraceptive knowledge levels in both the Experimental and Control groups in Cesar (98 and 97 percent respectively) before project services were high as compared to Cauca (80 percent in the Control and 73 percent in the Experimental). Pre-intervention contraceptive use prevalence in Cesar Control was already at 50 percent of the exposed women. These statistics indicate that perhaps different delivery strategies than either the promoter or team are required in areas like Cesar where contraceptive knowledge and use is already prevalent.

It is worth pointing out, too, that in Cesar the mix of methods remained stable and that around 90 percent of all current users continue to plan their families with efficient methods. In Cauca, however, although use prevalence increased, the mix of methods shifted. In the Control zone, for example, before the project, 97 percent of current users were using efficient methods and now only 68 percent. For the users in Cauca Experimental, 79 percent were contracepting with efficient methods before the project and now only 60 percent. It is possible that in areas where such substantial increases in use and knowledge occur, as in Cauca, over a short time period that the contraceptive adoption pattern takes on unexpected characteristics such as first adopting an inefficient method before going on to more efficient ones. Also project teams and promoters were trained in the rhythm method so as to be able to explain it when the method was solicited.

**APPENDIX I**

**SERVICE STATISTICS SUMMARIES  
PROMOTER - DISTRIBUTOR REPORTS**

Number of new acceptors by county and method: Cauca  
 Maintenance: (2 Promoters)

COUNTY	APRIL-JUNE				JULY-SEPTEMBER			
	ORALS	CONDOMS	VAGINALS	STERILIZATIONS <sup>1</sup>	ORALS	CONDOMS	VAGINALS	STERILIZATIONS
Almaguer					90	100		4
Argelia				24	105	94		15
Balboa	113	90	14		96	82		13
Bolívar	149	19	3		122	82		3
El Bordo	176	44	2	66	133	126		8
El Tambo	243	337	20	16	83	50		3
La Sierra	78	40	8		5			
La Vega	93	28		7	88	18		3
Mercaderes	85	10	4	9	35	60		5
Puracé	111	63	3	3	36	41		1
Rosas	55	32	1		122	53		4
San Sebastián								
Santa Rosa					10	15		-
Sotará	10	15			132	100		1
Puesto Móvil	70	25	1					
Total	1,188	684	56	130	1,052	821		65
72 Posts								

Sterilizations for this period were estimated since they were reported for 4 months (March-June). The total for the 4 months was divided by 4 and then multiplied by 3.

Number of new acceptors by county and method: Cauca  
 Experimental (2 team)

COUNTY	AUGUST-SEPTEMBER				APRIL-JUNE			
	ORALS	CONDOMS	VAGINALS	STERILIZATIONS <sup>1</sup>	ORALS	CONDOMS	VAGINALS	STERILIZATIONS
Buenos Aires	121	39	5	4	54		4	5
Caldono	53	47	2	5				
Caloto	239	100	11		57			
Corinto	190	52						
Miranda	66	49		16				
Morales				32	26	8	3	
Padilla	24							
Piendamó								
Puerto Tejada	26							
Santander	157	44	8	3	654	118	19	8
Toribio	30	4						
Puesto Novil					72	44	4	
Total	906	335	26	60	863	170	30	13
13 Posts								

Number of new acceptors by county and method: Cauca  
Promotion (2 Promoters)

COUNTY	APRIL-JUNE				JULY-SEPTEMBER			
	ORALS	CONDOMS	VAGINALS	STERILIZATIONS <sup>1</sup>	ORALS	CONDOMS	VAGINALS	STERILIZATIONS
Belalcázar	54	45	4		12	4	1	
Cajibío	95	31	8	20	41	40	4	44
Inzá	14	16	5	20	21	28	2	
Jambaló				4	70	2	4	
Silvia	35	8	2	5	75	80	9	
Timbío	82	69	7	9				
Totoró					32	38	7	
Puerto Movel	205	103	15					
Total	485	272	41	58	251	192	27	44

Number of new acceptors by county and method: Cesar  
 Experimental (team)

COUNTY	APRIL-JUNE				JULY-SEPTEMBER			
	ORALS	CONDOMS	VAGINALS	STERILIZATIONS	ORALS	CONDOMS	VAGINALS	STERILIZATIONS
El Banco	22	8	2	84				46
El Difícil				24				
Guamal								
Margarita								
Plato								
San Fernando								46
Zambrano				108				
<b>Total</b>	<b>22</b>	<b>8</b>	<b>2</b>	<b>108</b>				

Number of new acceptors by county and method: Cesar  
Promotion (2 promoters)

COUNTY	APRIL-JUNE				JULY-SEPTEMBER			
	ORALS	CONDOMS	VAGINALS	STERILIZATIONS	ORALS	CONDOMS	VAGINALS	STERILIZATIONS
					67	24	3	
Abrego					46	11	22	
Cerro San Antonio								
Convención								
El Carmen					75	17	10	
El Piñón					24	-	13	
Hacarí					274	46	18	
La Playa								
Ocaña								
Pedraza				51				
Pivijay	91	7	21					
Salamina								
San Calixto								
Tenerife								
Teorema					486	98	66	
Total	91	7	21	51				

Number of new acceptors by county and method: Cesar  
Maintenance (1 promoter)

COUNTY	ORALS	CONDOMS	APRIL-JUNE		JULY-SEPTEMBER			
			VAGINALS	STERILIZATIONS	ORALS	CONDOMS	VAGINALS	STERILIZATIONS
Aguachica* (no tienen datos)					77	8	5	57
Chimichagua			21	51	21	63	15	13
Chiriguana	82	83	3	2	14	4	4	51
Curumaní	31	6		36				2
El Jopey	109	19	21		35			40
Gamarra	35	1	2					9
González					8	2	1	
La Gloria								
La Paz								
Pailitas					42	4	2	
Río de Oro					10	1	3	
San Alberto				61				
Tamalameque								172
Total	257	109	47	150	207	82	30	

PROPAGANDA

REPORTE DE ACTIVIDADES DE PROPAGANDA EN LA COMUNIDAD DESARROLLADO EN LAS SIETE COMUNIDADES  
Elaborado el mes de Julio de 1952

- Trujillo
- Puerto Plata
- Santo Domingo
- Santiago
- San Pedro de Macoris
- San Juan
- Puerto Rico

Elaborado por: Delia M. Pineda Pérez

Cargos: Agentes Inactivos.

OBJETIVOS DE LA ACCION

10.- Dar conocimientos a la comunidad en general, incluyendo los principales conceptos de la salud mental, sobre los beneficios de los centros de distribución, Capacitación de distribuidores, y valoración de productos de distribución, Charlas en establecimientos. Sus temas:

20.- Lograr que la mayor parte de la población adulta y joven, de las localidades mencionadas, conozca y valore los beneficios de la Organización Familiar Trujillana, y sus actividades: educación, recreación, coordinación con agentes de otras entidades.

Fecha	Lugar	Actividad	Personal
Julio 27	República Siberia	Trabaja en la oficina del Comité de la zona para los nuevos municipios y en forma de la misma se reúne en una reunión en el correspondiente de Siberia (Caldano) Compañía de la zona de la zona de películas y buscamos una película distribuidora.	Proyector, películas, etc.
Julio 10.	Caldano Grande	Se reúne en el punto de distribución, se reparten y se instalan en el punto de distribución con las películas de Evillia y el resto de la zona de distribución.	Películas, proyector
Julio 2.	Siberia Pueblo Nuevo (Caldano)	Se reúne en el punto de distribución en el correspondiente de distribución de la zona de la zona de películas y buscamos una película distribuidora.	Proyector, películas, etc.
Julio 3	Caldano Grande	Se reúne en la Distribuidora. Coordinar con las diferentes unidades que funcionan en el punto de distribución. Se reúne en el caso de principal complement. con películas, proyector y películas.	Proyector, películas, etc.
Julio 6	Padilla Urbe (Caldano) (Verificación)	Se reúne en el punto de distribución, se reparten y se instalan en el punto de distribución con las películas de la zona de distribución.	Proyector, películas, etc.
Julio 7	Santander (Carla en los Seguros Sociales)	Se reúne en el punto de distribución, se reparten y se instalan en el punto de distribución con las películas de la zona de distribución.	Proyector, películas, etc.
Julio 8	Santander (Carvajal)	Se reúne en el punto de distribución, se reparten y se instalan en el punto de distribución con las películas de la zona de distribución.	Proyector, películas, etc.
Julio 9	República Cuabaco - Caloto - El Palo - Corinto.	Se reúne en el punto de distribución, se reparten y se instalan en el punto de distribución con las películas de la zona de distribución.	Proyector, películas, etc.
Julio 12	Toribio Urbe Toribio Siberia El Palo.	Se reúne en el punto de distribución, se reparten y se instalan en el punto de distribución con las películas de la zona de distribución.	Proyector, películas, etc.
Julio 13	Toribio Urb. Toribio Siberia.	Se reúne en el punto de distribución, se reparten y se instalan en el punto de distribución con las películas de la zona de distribución.	Proyector, películas, etc.

FECHA	LOCALIDAD	ACTIVIDADES PRINCIPALES A DESARROLLAR	RECURSOS
Julio 14	Toribío El Tablazo	Promoción a través de alto parlantes una reunión y ejecutarla en horas de la noche. Charla con los líderes de la comunidad con el objetivo de detectar posibles multiplicadoras del programa en general. Divulgación al puesto de Distribución urbano. Presentación de películas.	Vehículo, alto parlantes, francógrafa.
Julio 15	La balsa (Santander) Araceli (B/aíres) Sánchez (B/aíres)	Detectar una posible distribuidora en el corregimiento de suare, capacitarla. Recapacitación a la Distribuidora del corregimiento de la balsa, programar una reunión. En horas de la noche reunión complementada con películas en el corregimiento de suare.	Vehículo, francógrafa, alto parlantes, proyector.
Julio 16	Caldono Urbano Pescador (Caldono) Mondomo (Santander)	Entrevistas con miembros de las diferentes entidades con el objetivo de dar a conocer el programa y de coordinar. Recapacitación a la Distribuidora con su respectiva evaluación. Evaluación a las Distribuidoras de Mondomo, Pescador y promoción al programa de cirugías a través de Distribuidoras, líderes, alto parlantes.	Francógrafa, alto parlantes, vehículo, fellejos.
Julio 19	Morales Urbano Morales San Isidro	Promoción a una reunión para el día 21 del presente mes en el corregimiento de San Isidro. Divulgación y promoción a todo nivel del móvil de cirugías. Evaluación a las Distribuidoras.	Vehículo, alto parlantes, francógrafa etc.
Julio 21	Caldono Pueblo Nuevo. Caldono El crucero	Promoción y ejecución de una reunión complementada con películas en horas de la noche. Charla en el Crucero de Caldono sobre el uso y efectividad de los diferentes métodos de planificación. Divulgación al puesto de Distribución urbano.	Vehículo, francógrafa, alto parlantes etc.
Julio 22	Toribío Tacualló Toribío San Pco.	Promoción y ejecución de una reunión con padres de familia sobre métodos en general. Divulgación al puesto de Distribución. Presentación de películas.	Vehículo, alto parlantes etc.
Julio 23	Toribío Urbano.	Charla con el alumnado del colegio complementada con películas. Asesoría a las Distribuidoras con su respectiva evaluación.	Vehículo, alto parlantes, francógrafa.
Julio 26	POPAYAN EPICINA	Reunión de fin de mes.	

**NOTAS:** El calendario de actividades no está saliendo estrictamente con los Municipios que deberíamos cubrir en este mes debido al atraso que hubo como también a compromisos efectuados con diferentes Instituciones.

c.c.: Archivo.  
dep.



ESTADÍSTICA DE LA ECONOMÍA AGROPECUARIA Y GANADERA  
DEL DEPARTAMENTO DE BOGOTÁ  
DEL AÑO 1972

Categoría	Subcategoría	Unidades	Valor	RENTAS (Unidades)			VEINTAS (Café)			RENTAS (Café)		
				Puestos	Contado	Total	Puestos	Contado	Total	Puestos	Contado	Total
				170	-	170	23	-	23	8	-	-
				614	-	614	44	-	44	17	-	17
				2,321	-	2,321	194	-	194	37	-	37
				477	-	477	29	-	29	10	-	10
				669	-	669	40	-	40	9	-	9
				2,103	-	2,103	132	-	132	31	-	31

  
 Director General  
 Departamento de Bogotá

Bogotá, Diciembre 2 de 1972

Reporte  
Cesor

INFORME DE NUEVAS ACEPTANTES POPULATION COUNCIL

agosto - Septiembre

Correspondencia: Abril - Mayo - Junio de 1.982

NOMBRE Municipio - Puesto de Distribución	M E T O D O S			Firma Distrib.	Cirugias realiza das por municip.
	Píldoras	Condón	Vaginales		
Agusehica					57
Chimichagua					13
c. Atzapa	11	2	3		
c. Atzapa	51	5	2		
c. Mandujilla Chumichagua	15	1	-		
San Alberto (La Huesca)	42	4	2		
La Gloria (Bajote)	8	2	1		
Excalomque - Pilapa	10	1	3		
Lanmaná - Sta. Lucía	14	4	4		
Chiguana - Hobano	21	63	15		
	172.	77.	30		70

- Indicaciones:
1. Elaborar Original y una copia
  2. Enviar Original a División IEC. con Informes de recolección
  3. Copia para sus archivos.

INFORME DE NUEVAS ACEPTANTES POPULATION COUNCIL

Corresponde a: Abril - Mayo - Junio de 1.982

NOMBRE Municipio - Puesto de Distribución	M E T O D O S			Firma Distrib.	Cirugías realiza das por Municip.
	Píldoras	Condón	Vaginales		
El Banco Lael Seal	7		1		73
El Banco Telmirefucate	7	2	1		
El Banco Ana-Sosa	4	3			
Lidia Jimenez El Banco	4	3			
El Banco Yarembé de Frío					
2 Suicida Mejora en control					
Los nuevos aceptantes concuer					
den ellos que por falta de					
tiempo					

- Indicaciones:
1. Elaborar Original y una copia
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  3. Copia para sus archivos.

INFORME DE NUEVAS ACEPTANTES POPULATION COUNCIL

Corresponde a: Abril - Mayo - Junio de 1.982

NOMBRE Municipio - Puesto de Distribución	M E T O D O S			Firma Distrib.	Cirugias realiza das por Municipio.
	Píldoras	Condón	Vaginales		
Distr. Silvia (Caldono)	15	41	2	M. P. ...	5
Frente al Corral (Caldono)	33	-	-	M. P. ...	
Monserrate (Montalvo)	44	10	2	X. ...	3
Hilla Rica (Montalvo)	109	24	6	X. ...	3
Pto. Tejada. Kra 16 # 6-44	26	-	-	R. ...	2
Puerto Verde Kra 60 # 6-56	-	-	-	V. ...	-
Padillo miscelaneo Portafio	24	-	-	D. ...	-
Misericordia miscelaneo Portafio	66	49	-	F. ...	-
Porinto. Kra 10 # 1-300	140	52	-	L. ...	-
Plaza principal - El Palmar (Caldono)	29	-	-	V. ...	-
Calle 14 # 13-55 (Caldono)	154	100	7	M. ...	-
Kra 5 # 3-27 Timba (Caldono)	77	-	3	P. ...	-
Plaza principal - Estancia (Caldono)	42	30	1	M. ...	-
Descartes (Montalvo)	4	-	-	L. ...	-

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**INFORME DE NUEVAS ACEPTANTES POPULATION COUNCIL**

Corresponde a: Abril - Mayo - Junio de 1.982

NOMBRE Municipio - Puesto de Distribución	M E T O D O S			Firma distrib.	Cirugías realiza das por municip.
	Píldoras	Condón	Vaginales		
Almacén Carolina (mercado)	-	-	-	Delia J. J.	
Toribio Plaza de Mercado - <sup>El Combito</sup>	25	1	-	Colonia de Toribio	
Toribio Torullo.	5	3	-	Guillermo J.	
Buenos Aires Calle G. #1-35	-	-	1.	José Prado.	
Puerto Rico - La Balsa	2.	4		Excelsior J.	
Palto - Guachani.	56.		4	Ana Nidia P.	
Santander Calle 2 #12-54	-	10	-	Carmona C.	
Total . . . . .	904	3/2	2.6.		5
	904				

Indicaciones: 1. Elaborar Original y una copia  
 2. Enviar Original a División IEC. con Informes de recolección  
 3. Copia para sus archivos. *NOTA: Los puestos de Puerto Rico y*  
*San Juan deben usar el programa de distribución*

70

INFORME DE NUEVAS ACEPTANTES POPULATION COUNCIL

Corresponde a: (Abril - Mayo - Junio de 1.982) julio - 5 brv/8

NOMBRE Municipio - Puesto de Distribución	M E T O D O S			Firma Distrib.	Cirugías realiza das por municip.
	Píldoras	Condón	Vaginales		
Quixadá - Persona de Ocaña	3.	4	-	Maribel Parra	
San Juan - Persona de Ocaña	5	-	-	Fanny Irujo	
Quixadá - Persona de Ocaña	4	3.	-	Souigne Irujo	
Quixadá - Persona de Ocaña	1.	-	-	Alicia de Irujo	
Quixadá - Edilora Paredes	20.	5.	-	Chedy Irujo	
Quixadá - Aida Ely de Ocaña	8	-	-	Lucía Eche	
Quixadá - Olaya Landa de Ocaña	3.	-	-	Olivia Eche	
Quixadá - Antonia de Ocaña	4	-	-	Antonia de Irujo	
Quixadá - Ana Julia Dily	15.	6.	-	Horaciano Torres	
Quixadá - Teresa de Ocaña	10.	-	-	Alfonsina Torres de H	
Quixadá - María de Ocaña	11	1	1.	María Belinda Torres	

- Indicaciones:
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  3. Copia para sus archivos.

INFORME DE NUEVAS ACEPTANTES POPULATION COUNCIL

Corresponde a: (Abril - Mayo) - Junio de 1.982 a Sobre 1/82

NOMBRE Municipio - Puesto de Distribución	M E T O D O S			Firma Distrib.	Cirugias realiza das por municip.
	Píldoras	Condón	Vaginales		
Quinta San Antonio de los Baños	10	6	-	María del Sol	
Quinta - Ciénega María Inés	15	1	1	Elida Jara	
Quinta - Piedad Guayas	30	-	-	L. Cortés Palis	
Quinta - Ciénega Torres de S. L. de S.	5	-	-	Alba de S. L. de S.	
Quinta - T. de S. J. de S. de B.	7	-	-	J. de S. J. de S.	
Quinta - T. de S. J. de S.	2	-	-	Elida Jara	
Quinta - Elida Jara	15	4	9	Elida Jara	
Quinta Macacaluma Segura	6	-	-	Alba de S. L. de S.	
Quinta - Ciénega San Antonio	10	4	2	Ana Divo Santiago	
Quinta - Ciénega San Antonio	7	5	2	Elida Jara	
Quinta - Ciénega San Antonio	2	-	-	Elida Jara	
Quinta - Ciénega San Antonio	-	-	-	L. de S. J. de S.	
Quinta - Ciénega San Antonio	10	-	-	Bertha Torres	

- Indicaciones:
1. Elaborar Original y una copia
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  3. Copia para sus archivos.

1.

INFORME DE NUEVAS ACEPTANTES POPULATION COUNCIL

Anexo # 3

Corresponde a: julio, agosto, Septiembre

NOMBRES Municipio - Puesto de Distribución	M E T O D O S			Firma Distribuidor	Cirugías realiza das por Municip.
	Píldora	Condón	Vaginales		
La Playa - <sup>zona industrial</sup> Lira de Puchito	4	—	7	[Firma]	
La Playa - Marketing de Pucallanda	20	—	6	[Firma]	
Hacienda - [Firma]	40	5	7	[Firma]	
Hacienda - [Firma]	14	6	2	[Firma]	
Hacienda - [Firma]	3	—	—	[Firma]	
Hacienda - [Firma]	18	6	1	[Firma]	
Hacienda - [Firma]	3	1	1	[Firma]	
Hacienda - [Firma]	3	1	—	[Firma]	
Hacienda - [Firma]	30	10	—	[Firma]	
Hacienda - [Firma]	3	—	2	[Firma]	
Hacienda - [Firma]	26	10	—	[Firma]	
Hacienda - [Firma]	2	—	—	[Firma]	

- Indicaciones:
1. Elaborar Original y una copia
  2. Enviar original a División IEC. con informes de recolección
  3. Copia para sus archivos

INFORME DE NUEVAS ACEPTANTES POPULATION COUNCIL

Anexo # 3

Corresponde a: junio - Sbre / 82.

NOMBRES Municipio - Puesto de Distribución	M E T O D O S			Firma Distribuidor	Cirugias realiza das por municip.
	Píldora	Condón	Vaginales		
1. Oaxaca - San Juan de los Rios	10.	—	—	Estelita Muñoz	
1. Oaxaca - San Juan de los Rios	6.	5	—	Estelita Muñoz	
1. Oaxaca - San Juan de los Rios	15.	2.	3.	Estelita Muñoz	
1. Oaxaca - San Juan de los Rios	20	—	—	Estelita Muñoz	
2. Oaxaca - San Juan de los Rios	10	—	4	4	
2. Oaxaca - San Juan de los Rios	30	1	13		
2. Oaxaca - San Juan de los Rios	6	—	5		
1. Oaxaca - San Juan de los Rios	2	—	—		
1. Oaxaca - San Juan de los Rios	16	—	—		
	786	100.	66.		

- Indicaciones:
1. Elaborar Original y una copia
  2. Enviar original a División IEC. con informes de recolección
  3. copia para sus archivos

INFORME DE MUJERES ACEPTANTES POPULATION COUNCIL

Correspondencia: Abril - Mayo - Junio de 1.982

NOMBRE Municipio - Puesto de Distribución	M E T O D O S			Firma Distrib.	Cirugías realiza das por municip.
	Píldoras	Condón	Vaginales		
Pueblo El Hincapi	11		2	Sister S. O. K. ...	
Pueblo El Hincapi	2		3	H. ...	
Pueblo Palmar	13			H. ...	
Pueblo ...	8	2	2	B. ...	
Pueblo ...	11		3	B. ...	
Pueblo ...	20			H. ...	
Pueblo ...	4	4		H. ...	
Pueblo El Hospital	17	1	11	H. ...	52
especimen por municipio					
	41	7	21		

- Indicaciones:
1. Elaborar Original y una copia
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  3. Copia para sus archivos.

17

INFORME DE NUEVAS ACEPTANTES POPULATION COUNCIL

Corresponde a: Abril - Mayo - Junio de 1.982

NOMBRE Municipio - Puesto de Distribución	M E T O D O S			Firma Distrib.	Cirugías realiza das por municip.
	Píldoras	Condón	Vaginales		
El Espejo, Boqueron Antio	25	0	2	[Signature]	5
El Espejo, Boqueron Antio	32	1	10	[Signature]	4
El Espejo, Calle 107302	33	6	6	[Signature]	18
El Espejo, San Francisco	4	1	2	[Signature]	8
El Espejo, Guadalupe	15	1	1	[Signature]	5
El Espejo, Guineá	-	-	-	-	-
	109	19	21		40

- Indicaciones:
1. Elaborar Original y una copia
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  3. Copia para sus archivos.

26

INFORME DE NUEVAS ACEPTANTES POPULATION COUNCIL

1982

Corresponde a: Abril - Mayo - Junio de 1.982

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estad.?  
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NOMBRE Municipio - Puesto de Distribución	M E T O D O S			Firma Distrib.	Cirugías realiza das por Municip.
	Píldoras	Condón	Vaginales		
Camacho Camino # 8-23	35	1	2	Amor... J. del... 9	9
Agueda Calle 5 # 12-72	-	-	-	J. del...	-
Camacho Calle 9 # 655	7	2	2	Olivero...	-
" San Roque	3	3	-	San... Juan...	-
" Barrio San Isidro	21	+	7	J. del... R....	-
Almaguer Calle...	32	1	1	...	-
Almaguer Calle el pajar	4	70	1	-	-
Almaguer Calle la Esperanza	12	6	10	...	-
San Polvitas Almaguer	-	-	-	-	-
La Aurora	-	-	-	-	-
Almaguer la Zona	7	2	1	...	10
Almaguer la Zona	22	3	3	...	-
Almaguer Pinar Monte	5	1	5	...	-
Bosonia Zona Colorado	-	-	-	-	-

- Indicaciones:
1. Elaborar Original y una copia
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  3. Copia para sus archivos.

**INFORME DE NUEVAS ACEPTANTES POPULATION COUNCIL**

Corresponde a: Abril - Mayo - Junio de 1.982 - Nueva Zona - Tradicional - (Sierra) / 12

NOMBRE Municipio - Puesto de Distribución	M E T O D O S			Firma Distrib.	Cirugias realiza das por municip.
	Píldoras	Condón	Vaginales		
CASASO - Com. Casado. Telón	28	1	2	Ped. Tolao	
SILVERA - C. 2 <sup>a</sup> # 10-84	20	2	1	[Signature]	
SILVERA - Almacen Lendo. P. Pal	15	6	1	[Signature]	
CASASO - Fuente Plaza Central	67	30	6	[Signature]	42
SILVERA - Fuente Plaza Central	40	31	5	[Signature]	
TAMBOZO - Calle 19 # 20-21	12	8	2	Mania Ferrer G.	
TAMBOZO - K- 15 # 21-26	30	30	-	[Signature]	
Puerto Hercul. Rosalba Esco.	65	99	10	[Signature]	
Totales	277	261	26		

- Indicaciones:
1. Elaborar Original y una copia
  2. Enviar Original a División IEC. con Informes de recolección
  3. Copia para sus archivos.



INFORME DE NUEVAS ACEPTANTES POPULATION COUNCIL

Correspondencia: Abril - Mayo - Junio de 1.982

Nueva Zona en parajes 1° y 2° / s.  
PROGRAMA EXPERIMENTAL DEL DPTO DEL CAUCA.

NOMBRE Municipio - Puesto de Distribución	M E T O D O S			Firma Distrib.	Cirugias realiza das por municip.
	Píldoras	Condón	Vaginales		
SANTANDER PESCADOR	8		3	Lidia de Moya	
MORALES SAN ISIDRO	2	6		Yolanda Gonzalez	
MORALES URBANO	24	2	3	Elvira Rios	
SANTANDER MONDOMO	25	18	1	Pablo S. Hurtado	8
				<del>XXXXXXXXXXXXXXXXXXXX</del>	
SANTANDER URBANO (1)	448		4	Carman Cigayeta	
CALOTO URBANO	57			Carman Cigayeta	
SANTANDER URBANO (2)	173	100	12	Carman Cigayeta	
BUENOS AIRES URBANO	54		4	Carman Cigayeta	5
PUESTO MOVIL	72	44	4	Carman Cigayeta	
					13
<b>TOTAL:</b>	863	170	31		
	<del>778</del>	<del>126</del>			

- Indicaciones:
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  2. Enviar Original a División IEC. con Informes de recoleccion
  3. Copia para sus archivos.

**INFORME DE NUEVAS ACEPTANTES POPULATION COUNCIL**

Corresponde a: Abril - Mayo - Junio de 1.982

Zona Incubadora desde a partir 1º Abril/82

NOMBRE Municipio - Puesto de Distribución	M E T O D O S			Firma Distrib.	Cirugias realiza das por Municipio.
	Pildoras	Condón	Vaginales		
Rosario - Privanza	15	2	1	Maria Dey...	-
Rosario - urbano	40	30	-	Il. C. S...	
La Vega - urbano	45	15	-	Victor...	
La Vega - Guachicoco	4	-	-	Jenny...	
La Vega - Valencia	8	2	-	Alfons...	
La Vega - San Miguel	8	-	-	Luz Lina...	
La Vega - Alamosa	25	1	-	Bella...	
La Vega - Santa Ana	3	10	-	Emilia...	
La Siema - urbano	45	40	8		
La Siema - la Depresión	20	-	-	Enlia...	
La Siema - Abela	10	-	-	Plata...	
La Siema - la Cuchilla	3	-	-	F. Cris...	
Pinar - Palelaci	16	25	2	Maria...	
Pinar - urbano	10	10	-	Ra...	

- Indicaciones:
1. Elaborar Original y una copia
  2. Enviar Original a División IPC. con Informes de recolección
  3. Copia para sus archivos.

Total

251

135

11

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91

INFORME DE NUEVAS ACEPTANTES POPULATION COUNCIL

Corresponde a: Abril - Mayo - Junio de 1.982

Zona Mantenimiento a partir 1<sup>o</sup> de Junio/82

NOMBRE Municipio - Puesto de Distribución	M E T O D O S			Firma Distrib.	Cirugias realiza das por Municip.
	Píldoras	Condón	Vaginales		
Purace - Crecencia	15	26	1	Lilalye huaita	
Purace - Sabana	40	2	-	Chuli	
Tambo - la fada	20	90	-		
Tambo - la paz	25	16	2		
Tambo - San Jacinto	10	8	1	S. duval machuca	
Tambo - 4 esquinas	30	20	4		
Tambo - guayas	10	16	-	Patricia Fierro	
Tambo - Sabana	80	200	10	Milvia Quintero	
Tambo - Pizarra	8	7	-	Yolanda Quiroz	
Tambo - Sabana	30	40	2	Graciela de Z.	
Tambo - unibe	15	-	-	Regina Quiroz	
Tambo - Zanzul	15	10	1	Yolanda Quiroz	
Salasa - Chapa	10	15	-	M. de Z.	
Puesto - unibe	25	10	-	Regina Quiroz	

- Indicaciones:
1. Elaborar Original y una copia
  2. Enviar Original a División IEC. con Informes de recolección
  3. Copia para sus archivos.

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12

INFORME DE NUEVAS ACEPTANTES POPULATION COUNCIL

Correspondencia: Abril - Mayo - Junio de 1.982

Zona Mantenimiento a partir 1º (línea) 1982

NOMBRE Municipio - Puesto de Distribución	M E T O D O S			Firma Distrib.	Cirugías realiza das por Municip.
	Píldoras	Condón	Vaginales		
Bahía - Valparaíso	35	20	16	Marta Torres	
Bahía - Valparaíso	45	25	1	Blanca Fajardo	
Bahía - San Alfonso	25	5	3	Miriam Estay	
Bahía - Playa	10	30	1	Bertha Cruz	
Bahía - Estrecho	15	5	1	Elisa Estay	
Bahía - F. L. L. J.	22	2	-	Elisa Pérez	
Bahía - Patía	12	-	-	Marta Pérez	
Bahía - Casapalca	4	2	-	Dolores Sutil	
Bahía - C. de Antofagasta	4	-	-	Graciela Cruz	
Bahía - Puerto	15	-	-	Luz Mary Valenciano	
Bahía - H. J. J.	25	2	1	Pepe Betancourt	
Bahía - Valparaíso	15	-	-	Carolina Pérez	
Bahía - Valparaíso	35	-	-	Bertha Torres	
Bahía - Valparaíso	15	-	-		

- Indicaciones:
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  3. Copia para sus archivos.

Total                      334                      124                      16

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47



REGISTRO DE NUEVAS ACEPTANTES

Nombre del Puesto de Distribución: Proijay Hospital Pro Hijos

Municipio: Proijay FECHA: Mayo 5/82

PILDORAS: ||||| = 17

CONDONES: 1

MORFORMS: ||||| = 11  
O NEOSAMPOON

REMITIDAS PARA CIRUGIA: 5

NOTA → Para uso exclusivo del Distribuidor.

REGISTRO DE NUEVAS ACEPTANTES

Nombre del Puesto de Distribución: Alcaldía Lerma Benavente Veracruz

Municipio: Piñay FECHA: Mayo. 6/82

PILDORAS : + + + + + + + + + + = 11

CONDONES : \_\_\_\_\_

MORFORMS: + + + = 3  
O NEOSAMPOON

REMITIDAS PARA CIRUGIA: 15-

NOTA: Para uso exclusivo del Distribuidor.



Pulujaca Titicaca  
Guayo/82.

Picifay.

Pildora ..... = 13

Condres .....

Perforans  
Prosempen .....

...

El Mercado San Antonio

RECIBIDO = Piñón ..... FECHA: Mayo/82.

PILDORAS II ..... = 2

CONDONES :

BORRACHOS = 1 ..... = 3  
RESERVA II

Remisoros a virgenia: 10.

.....

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REGISTRO DE NUEVAS ACEPTANTES

Nombre del Puesto de Distribución: Medica Surco Antioquia Envuelto

Municipio: Pijoy FECHA: Mayo 13/82

PILDORAS : ..... = 20

CONDONES : \_\_\_\_\_

NORFORMS : \_\_\_\_\_  
O NECSAMPOON

REMITIDAS PARA CIRUGIA: \_\_\_\_\_

NOTA: Para uso exclusivo del Distribuidor.

REGISTRO DE NUEVAS ACEPTANTES

Nombre del Puesto de Distribución: el Centro Puyay Cienca Postal

Municipio: Puyay FECHA: Mayo / 82

PILDORAS : 1111 = 4

CONDONES : 1111 = 4

NORFORMS: \_\_\_\_\_  
O NEOSAMPOON

REMITIDAS PARA CIRUGIA: 1111 = 4

NOTA: Para uso exclusivo del Distribuidor.

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Pinuela ... Bethia de Paredes.  
... mayo 1822.

	Pinoyoy ...	
platas		= 8
condones		= 2
		= 2

Recibidas a Crispetia: 4

92

INFORME DE NUEVAS ACEPTANTES POPULATION COUNCIL

Anexo # 3

Corresponde a: JULIO, AGOSTO, SEPTIEMBRE DE 1964

NOMBRES Municipio - Puesto de Distribución	M E T O D O S			Firma Distribuidor	Cirugías realiza das por Municip.
	Píldora	Condominios	Vaginales		
INZA	21	28	2		
BELALCAZAR	12	4	1		
BORDO	122	82	11		
BALBOA	105	94	15		
BOLIVAR	96	82	13		
BOSAL	60	3	4		
ARGELIA	90	100	4		
MERCADERES	35	60	5		
CAJIBIO	41	40	4		
SILVIA	70	2	4		
TIMBIO	75	60	9		
PUESTO MOVIL - ROSALBA ERAZO G.	32	33	7		

- Indicaciones:
1. Elaborar Original y una Copia
  2. Enviar original a División IEC. con informes de recolección
  3. Copia para sus archivos

*K. Bucheli*

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99

INFORME DE MUJERES ACEPTANTES POPULATION COUNCIL

Anexo # 3

CORRESPONDENCIA: JULIO, AGOSTO, SEPTIEMBRE DE 1972

NOMBRES Municipio - Puesto de Distribución	M E T O D O S			Firma Distribuidor	Cirugías realiza das por Municipio
	Píldora	Condón	Vaginales		
LA VEGA	22	18	3		
EL TAMBO	133	126	8		
PURACE	36	41	1		
ROSAS	122	53	4		
LA SIERRA	83	50	3		
PUESTO MOVIL - MATILDE DELGADO	132	100	1		
	-----	-----	-----		
	1.353	1.001	99		

- Indicaciones:
1. Elaborar Original y una Copia
  2. Enviar original a División IEC. con informes de recolección
  3. Copia para sus archivos

*Francisco...*

44

**APPENDIX II**  
**DETAILED EXPENDITURES**

Expenditures for the period October 1,  
1981 to September 30, 1982

	<u>PESOS</u>	<u>DOLLARS</u>
<b>I. PERSONNEL</b>		
A. Regional Coordinator	308,160	4,868
B. Supervisors	341,392	5,415
C. Coordinators	342,213	5,428
D. Promoters	829,338	13,154
E. Team	528,386	8,380
Sub-total	2,349,489	37,265
<b>II. PROJECT EXPENSES</b>		
A. Regional Coordinator	176,943	2,806
B. Supervisors	368,538	5,845
C. Coordinators	120,917	1,918
D. Promoters	422,248	6,697
E. Distributors	2,066	33
F. Team	470,635	7,464
Sub-total	1,561,347	24,764
<b>III. ADMINISTRATIVE</b>		
A. Rent and utilities	140,441	2,227
B. Paper and supplies	9,764	155
Sub-total	150,205	2,382
Total (I, II, III)	4,061,041	64,410
<b>IV. OVERHEAD</b>		
TOTAL	609,156	9,661
TOTAL	4,670,197	74,071 <sup>1</sup>
<b>V. ADDITIONAL COSTS</b>		
A. New material	8,193	130
B. Training	20,469	325
C. Evaluation	1,937,225	30,725
Sub-total	1,965,887	31,180
GRAND TOTAL	6,636,084	105,251

<sup>1</sup>Cost estimates were based on expenditures for all items excluding Additional Costs. The total reported in the October 1, 1981 - September 30, 1982 financial report was US\$74,071 as shown here. When these expenditures were broken down by work zone the total amount was US\$74,841 or \$770 over the amount reported. We have been unable to account for that difference.

9/2

Expenditures by item for maintenance, experimental and promotion zones used to calculate cost per new acceptor and cost per CYP (US Dollars)  
April 1, to September 30, 1982

ZONE	ITEM	EXPENDITURES	
		CESAR	CAUCA
MAINTENANCE	I. PERSONNEL (Salary+Benefits)		
	A. Regional coordinator	951	815
	B. Supervisor	711	1,390
	C. Promoters (2)	4,045	4,007
	Sub-total	5,707	6,212
	II. PROJECT EXPENSES (Perdiem, travel)		
	A. Regional coordinator	549	471
	B. Supervisor	647	1,000
	C. Promoters	2,099	1,000
	Sub-total	3,295	3,121
	III. ADMINISTRATIVE EXPENSES	463	397
	Sub-total	463	397
	Total (I,II,III)	9,465	9,730
	IV. OVERHEAD (PROFAMILIA)	1,873	1,610
GRAND TOTAL	11,338	11,340	
EXPERIMENTAL	I. PERSONNEL (Salary+Benefits) <sup>1</sup>		
	A. Regional coordinator	543	815
	B. Supervisor	711	1,390
	C. Team	3,104	5,570
	Sub-total	4,358	7,784
	II. PROJECT EXPENSES (Perdiem, travel)		
	A. Regional coordinator	314	471
	B. Supervisor	647	1,000
	C. Team	3,883	3,070
	Sub-total	4,844	4,541

<sup>1</sup>Experimental zone expenditures in Cesar are calculated for 4 of the 6 months given that the team was cancelled in July. Costs incurred in August and September by one of the Cesar team members who was retained by the project to collect service statistics have been divided among the maintenance and promotion zones.

Cont.

ZONE	ITEM	EXPENDITURES	
		CESAR	CAUCA
EXPERIMENTAL	III. ADMINISTRATIVE EXPENSES	265	397
	Sub-total	265	397
	Total (I,II,III)	9,467	12,774
	IV. OVERHEAD (PROFAMILIA)	1,073	1,010
	GRAND TOTAL	10,540	14,354
PROMOTION	I. PERSONNEL (Salary+Benefits)		
	A. Regional coordinator	951	815
	B. Supervisor	711	1,390
	C. Promoters (2)	5,853	4,212
	Sub-total	7,515	6,417
	II. PROJECT EXPENSES (Per diem Travel)		
	A. Regional coordinator	549	472
	B. Supervisor	647	1,040
	C. Promoters (2)	4,888	1,303
	Sub-total	6,084	2,820
	III. ADMINISTRATIVE EXPENSES	463	397
	Sub-total	463	397
	Total (I,II,III)	14,062	9,634
	IV. OVERHEAD (PROFAMILIA)	1,873	1,610
	GRAND TOTAL	15,935	11,244

98

**APPENDIX III**  
**CAUCA TEAM FIELD REPORTS**

**PROFANILIA**

**INFORME DE ACTIVIDADES PROGRAMA EXPERIMENTAL DEL CAUCA DESARROLLADAS DURANTE EL MES DE JUNIO DE 1.982**

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**Responsables.....NELBY MONTANO PEREZ  
JOSE FIDELO CANELO CASTRO**

**Cargos.....AGENTES EDUCATIVOS**

**Popayán Junio 24 de 1.982**

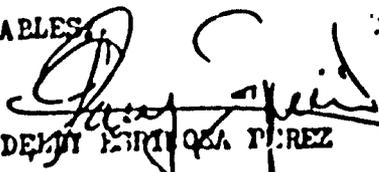
FECHA	LOCALIDAD	ACTIVIDADES PRINCIPALES DE FAMILIARAS
VI- XI	Santander-El Palo (Urbano) CO (BUENOS AIRES)	Motivación para una reunión en el CAIP y en Carvajal en Santander, Detección de una distribuidora e instalación de un puesto de distribución, Capacitación a la distribuidora y motivación para una reunión.
VI-10.	La Arrobleda	Promoción y ejecución de una reunión con padres de Familia y personal de la comunidad, se mostraron los diferentes métodos de Planificación y se explicó el uso correspondiente de cada uno? Se proyectaron películas Complementarias.
VI-2	Guachoné	Se detectó una distribuidora, se instaló un puesto de distribución, se dio la capacitación correspondiente a la distribuidora
VI-3	Santander	Reunión con algunos padres de familia del CAIP No. 1 se explicó el empleo de los diferentes métodos de Planificación Familiar.
VI-4	Suarez	Capacitación a la distribuidora, se promovió una reunión posterior, se colocaron afiches informativos y de difusión al puesto de distribución.
VI-7-8-9-	Buenos Aires (Urbano) Vereda El Palo Blanco Vereda El pedregal	Se Promovió el puesto de distribución a través de altoparlantes, se promovió especialmente el programa de ligaduras que se efectuaría el día 10 de Junio, se proyectaron películas y se dio charlas en la parte urbana y en la vereda Palo Blanco.
VI- XI	Corinto El Palo (Caloto)	Se surtieron los puestos de distribución de Corinto, se Efectó una reunión complementada con la proyección de películas en el corregimiento del Palo.

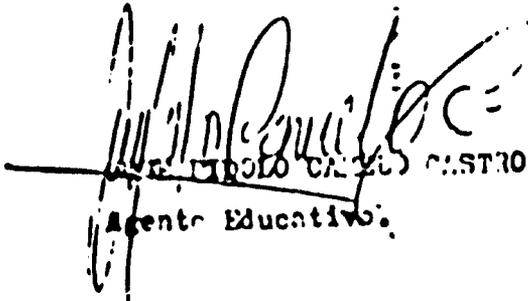
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FECHA	LOCALIDAD	ACTIVIDADES PRINCIPALES DESARROLLADAS
VI-14	Caloto Miranda	Reunión y proyección de películas al aire libre, en la parte urbana de Caloto, también se instaló allí, un puesto de distribución.
VI-15	Santander La Balsa	Promocionamos y realizamos una reunión con los padres de familia del CAIF No. 2, Se complementó con la proyección de películas. En la Balsa se dió Capacitación a la distribuidora y se motivó para una reunión.
VI-16	Padilla Corregimiento El Palo(Caloto)	Se detectó una posible distribuidora, se motivó para una reunión en el area urbana de Padilla. Se efectuó una reunión con jóvenes y adultos en el corregimiento del Palo, se complementó con películas.
VI-17	El Crucero(Caloto)	Promocionamos y realizamos una reunión en la cual se explicó el uso de los diferentes métodos de Planificación y se promocionaron los puestos donde se pueden conseguir los métodos.
VI-21-23 23	Buenos Aires Villa Rica Puerto Tejada Miranda-	Recolección de informes, Capacitación a las distribuidoras.  Se surtieron los puestos de Miranda que pasaban al programa Experimental del Cauca.  Elaboramos papelería para la reunión de fin de mes.

NOTA: La ocupación de la unidad Móvil en las encuestas del mes pasado y luego ausencia de José Fidelo Castelo por participar en la misma, retrasó notablemente el plan de trabajo establecido.

RESPONSABLES:

  
DELMY ESPINOSA PÉREZ  
Agente Educativo.

  
JOSÉ FIDELO CASTELO CASTRO  
Agente Educativo.

**APPENDIX IV**  
**SAMPLE, STANDARD ERRORS,**  
**CONFIDENCE INTERVALS**

ESTUDIO SOBRE "EFICIENCIA DE DOS MÉTODOS DE DISTRIBUCIÓN COMUNITARIA DE ANTICONCEPTIVOS, EN LOS DEPARTAMENTOS DE CAUCA Y CESAR". OYFIDEA 1981

DISEÑO DE LA MUESTRA

LUIS CARLOS GÓMEZ S.

Estadístico-Muestreista, Sociólogo

Diciembre de 1982

1. UNIVERSO DE ESTUDIO

Las mujeres en edad fértil (MEF), de 15 a 49 años, alguna vez en unión, residentes en 12 de los municipios del César y 12 del Cauca, conforman el universo del estudio sobre eficiencia de dos métodos de distribución comunitaria de anticonceptivos.

La tabla 1 presenta las estimaciones para 1981 de la población total y de las MEF objeto de la investigación, por zonas urbana (cabecera) y rural, de cada uno de los citados municipios. Los grupos control y experimental fueron constituidos previamente por las directivas del estudio. El concepto de intervención previa se refiere al desarrollo de actividades de planificación familiar con anterioridad a la fecha del estudio.

La máxima desagregación geográfica para efectos de inferencia de los resultados, se estableció a nivel de zona (urbana y rural), de cada grupo control o experimental, de cada departamento, lo cual significa ocho sub-universos de análisis rutinario.

2. TIPO DE MUESTRA

La muestra diseñada es probabilística, de conglomerados, estratificada y poliétipica.

Probabilística, dado que cada persona (MEF alguna vez en unión) del universo estudiado tiene una probabilidad conocida de selección superior a cero. Dicha probabilidad varía a nivel de las zonas urbana y rural de cada uno de los doce estratos definidos en el diseño (urbano y rural).

De Conglomerados, constituidos por los municipios o Unidades Primarias de Muestreo (UP1), y por segmentos o grupos continuos de hogares (Unidades secundarias), de tamaño promedio 10 en las zonas urbanas (cabeceras municipales) y 25 en las rurales. Las UP1 son municipios en casi todos los casos. Por razones de cercanía, accesibilidad o continuidad geográfica, y por causas operativas, en dos situaciones, la unidad primaria se constituyó juntando dos municipios. El tamaño de los estratos fue de

Tabla 1 - Población Total y MEF (alguna vez en unión) RESIDENTES EN LOS MUNICIPIOS DEL UNIVERSO DEL ESTUDIO. PROYECCIONES A 1981

Tipo Grupo	Municipio	Intervención Previa	POBLACION TOTAL			MEF- UNIVERSO		
			Urbana	Rural	Total	Urbana	Rural	Total
Zona Control	Dolivar	SI	5.136	38.915	44.051	723	5.316	6.039
	Mercaderes	SI	5.609	18.611	24.220	789	2.570	3.359
	Patía	SI	8.067	15.682	23.749	1.073	2.004	3.077
	Balboa	NO	2.437	11.885	14.322	314	1.343	1.657
	Almaquer	NO	1.756	8.461	10.317	227	1.032	1.259
	S. Sebastián	NO	615	5.028	5.563	80	738	818
Experimental	El Tambo	NO	2.179	16.196	18.375	343	3.167	3.510
	La Vega	NO	1.944	11.530	13.474	288	1.567	1.855
	Puracé	NO	661	8.716	9.377	118	1.253	1.371
	La Sierra	NO	950	7.820	8.770	139	1.040	1.179
	Rosas	NO	1.009	7.365	8.374	141	917	1.058
	Sotará	NO	400	3.481	3.881	54	481	535
Zona Control	Azuachica	SI-II	27.868	6.230	34.098	3.828	820	4.648
	Tamalameque	SI	3.029	25.047	28.076	342	3.410	3.752
	Río de Oro	SI-II	3.430	22.691	26.121	447	3.034	3.481
	Curumani	SI-II	14.036	8.614	22.650	1.874	1.120	2.994
	Pailitas	SI-II	6.254	3.714	9.978	923	548	1.471
	Génarra	SI-II	5.401	5.422	10.823	704	721	1.425
	La Gloria	SI-II	2.632	4.984	7.616	328	718	1.046
	González	NO	1.259	5.124	6.383	154	494	648
Experimental	El Copey	NO	15.810	24.124	39.934	1.910	3.131	5.041
	Chiriguani	NO	6.683	18.815	25.498	823	2.408	3.231
	Hobler	NO	6.483	17.289	23.772	785	2.030	2.815
	Chimichagua	NO	7.566	14.801	22.367	928	1.805	2.733

Notas : - Cuanlo la proyección de la cabecera disminuye en relación con el censo de 1973, se deja vigente esta población censal.

- En el Tambo, se incluye solamente dos sectores 22,23, y 24 de la zona rural, por razones, de orden público.

- Para la estimación de las MEF alguna vez en unión, se aplicó el factor " 0.75 x hogar " suministrado por los directivos del estudio. ;

establecido a partir de consideraciones de costo y precisión de resultados, deducidas de otras experiencias similares en Colombia (1).

Este tipo de muestra reduce sustancialmente los costos del trabajo de campo, a costa de un aumento razonable ( en este caso ) del error de registro.

Estratificación, por agrupación de las UMI en conjuntos homogéneos, aplicando los siguientes criterios principales: Departamento, al cual pertenece cada UMI, área control o experimental según la clasificación previamente establecida por las directivas del estudio, en función de sus objetivos, y tamaño de la UMI, procurando reunir unidades similares en cuanto al número de MEU en unión. La variable "intervención previa" también se tuvo en cuenta en el proceso de estratificación.

Se definieron tres estratos por cada área control y experimental, dentro de cada departamento ( Ver Tabla 2 ). Resultaron en consecuencia 12 estratos a fin de optimizar la selección de otras tantas UMI. Aquellas UMI cuyo tamaño era aproximadamente similar al del estrato, se constituyeron en estratos, y su probabilidad de selección fue por lo tanto igual a 1. La probabilidad del resto de UMI se calculó en función de su número de MEU en unión dentro del estrato respectivo.

Polietápica, con tres etapas de selección:

- a) De las UMI: seleccionado una de cada estrato, con probabilidad calculada en función del número de MEU en unión.
- b) De los segmentos: seleccionado en cada uno de los ocho subnivores de estudio, 25 en la zona urbana, de tamaño promedio 10 hogares, y 25 en la zona rural, de tamaño promedio 25, con probabilidad de selección calculada en función del número total de segmentos "existentes" en las zonas en cuestión.
- c) De las MEU en unión: tomando el total de las residentes en cada uno de los hogares seleccionados, es decir, submuestreando con probabilidad 1 a este nivel.

(1) Gómez L.C. y col. "Diseño de la Muestra", Encuesta Nutricional en las áreas del Plan Nacional de Alimentación y Nutrición. Bogotá, 1971 ( mimeo ).

Tabla 2. ESTIMACIÓN DE LAS UNIDADES PRIMARIAS.- INCAPACIDADES DE SERVICIO

Estado	Dpto.	Municipio	Area	Intervención Previa	IEP alguna vez en unión			Índice 1981
					Urbana	Rural	Total	
1	Cauca	Bolívar	Control	SI	723	5.315	6.038	1.00
2	Cauca	Almaguer	Control	NO	227	1.032	1.259	0.74
				NO	80	738	818	0.72
				SE-II	314	1.343	1.657	0.99
					621	3.113	3.734	1.00
3	Cauca	Marcaderon	Control	SI	789	2.570	3.359	0.92
				SI	1.073	2.004	3.077	0.98
					1.862	4.574	6.436	1.00
4	Cauca	El Tambo	Exper.	NO	343	2.546	2.889	1.00
5	Cauca	La Vega	Exper.	NO	289	1.567	1.856	0.61
				NO	139	1.040	1.179	0.73
					427	2.607	3.034	1.00
6	Cauca	Juracé	Exper.	NO	118	1.253	1.371	0.44
				NO	141	927	1.068	0.33
				NO	54	481	535	0.21
					313	2.661	2.974	1.00
7	César	Aguacliza-Gamarra	Control	SE-II	4.532	1.541	6.073	1.00
8	César	Tanalameque	Control	SI	342	3.410	3.752	0.47
				SE-II	601	3.258	4.120	0.53
					943	6.668	7.872	1.00
9	César	Curumani	Control	SE-II	1.824	1.120	2.944	0.71
				SE-II	923	548	1.471	0.50
				SE-II	328	718	1.046	0.33
					3.075	2.386	5.461	1.00
10	César	El Copey	Exper.	NO	1.910	3.131	5.041	1.00
11	César	Chiriquand	Exper.	NO	823	2.408	3.231	1.00
12	César	Nobles	Exper.	NO	785	2.030	2.815	0.51
				NO	928	1.808	2.736	0.41
					1.713	3.838	5.551	1.00

Nota: Para la estimación del número de IEP alguna vez en unión en 1981, se hicieron estimaciones sucesivas en el siguiente orden: (1°) Población urbana y rural a 1981, (2°) Población urbana y rural en 1981, (3°) IEP urbanas y rurales en 1981, aplicando el promedio IEP por hogar, urbano y rural, existente en 1973 en cada municipio y (4°) IEP urbano y rural en unión, en 1981, aplicando el promedio 0.75 x hogar, suministrado por las Directivas del CENSA.

### 3. MARCO DE MUESTREO

Lo conforman : a) las estimaciones a 1981 de población general y de MF en unión de cada uno de los Municipios del universo de estudio, realizadas a partir de los datos del censo de 1973 y de parámetros fijados por las directivas del estudio ( promedio de MF alguna vez en unión por hogar ), y b) el material cartográfico y de recuento de los hogares del censo de 1973, a nivel municipal y por sector mínimo de un padronamiento, facilitado por el Departamento Administrativo Nacional de Estadística ( DNE ).

### 4. TAMAÑO Y PRECISION DESEADA

La muestra debe, prioritariamente, permitir el análisis de cambios, en un período de un año o más, en el conocimiento y uso de métodos y servicios de planificación familiar, a nivel de 8 subuniversos o subuniversos de MF alguna vez en unión, definidos en términos de departamento ( Cesar y Cauca ), área ( control y experimental ) y zona ( urbana y rural ).

Se estableció como requisito mínimo la identificación (a nivel de subuniversos ) de diferencias, significativas estadísticamente, de 0.10 o más, entre dos proporciones  $P_1$  y  $P_2$ , medidas en los tiempos 1 y 2 respectivamente, siendo  $P_1 \geq 0.20$ , con un nivel de confianza del 95% ( probabilidad de acortar en la inferencia,  $1 - \alpha$  )

El cálculo del tamaño de muestra con base en las anteriores premisas es el siguiente :

$$n = \frac{N ( P_1 Q_1 + P_2 Q_2 ) K}{N ( \epsilon ( P_1 - P_2 ) ) + ( P_1 Q_1 + P_2 Q_2 ) K}$$

En donde

$N =$  Es el tamaño de cada subuniverso

El más pequeño : 1.083 MF alguna vez en unión del área experimental, zona urbana, del Cauca.

El más grande : 13.003 MF alguna vez en unión del área control, zona rural, del Cauca.

$P_1$  Proporción en la primera medición

$Q_1$  Proporción complementaria en la primera medición (  $1 - P_1$  )

$P_2$  Proporción en la segunda medición.

$Q_2$  Proporción complementaria en la segunda medición (  $1 - P_2$  )

$K =$  son posibles valores del efecto de los conglomerados o efecto del diseño ( deff ), estimados a partir de múltiples experimentos en muestras probabilísticas de esta naturaleza, indispensables en la fórmula de trabajo de muestra aritmética mencionada, para modificar la propina del muestreo aleatorio simple de elementos.

$ES_{\rho_1 - \rho_2}$ : Error estándar máximo admisible para la diferencia  $\rho_1 - \rho_2$ , con un nivel de confianza del 95%, de tal forma que:  
 $2(ES_{\rho_1 - \rho_2}) = 0.10$

Por lo tanto entonces los tamaños de muestra (N) - de IEF en unión, necesarios para

N (Subuniversos)	K= efecto de diseño	
	1.3	1.4
1033	163	174
13003	190	204

#### Hogares de la muestra.

En base a lo anterior, y a un promedio de 0.75 IEF en unión por hogar, se decidió seleccionar para cada subuniversos urbano, un tamaño de muestra de 250 hogares, y para cada rural, 275 hogares. La perspectiva de una inferior cobertura de las entrevistas del estudio en la zona rural justificó el incremento en el tamaño de la muestra seleccionada en esta zona.

### 5. SELECCION DE LA MUESTRA

#### 5.1. De Unidades Primarias

De cada uno de los 12 estratos, constitución con los criterios señalados en la sección 2., se seleccionó aleatoriamente con muestra representativa una unidad primaria de muestreo (UPM), con probabilidad proporcional al número de IEF alguna vez en unión.

Las UMI que por su tamaño constituyeron un estrato ( estratos 1,4,7,10 y 11, de la tabla 2 ), tuvieron probabilidad 1, y formaron parte de la muestra por definición.

La Tabla 3 nos indica la muestra de unidades primarias y secundarias y las respectivas probabilidades de selección.

5.2. De Unidades Secundarias (sejmentos)

Para cada zona ( urbana y rural ), de cada UMI, se seleccionaron independientemente los sejmentos de la muestra señalada en la Tabla 3. La distribución de los sejmentos, de cada zona, en las distintas UMI seleccionadas en un sub-universo, se hizo aproximadamente en función de la respectiva cantidad de ICF alguna vez en unión. A este nivel la probabilidad fue igual y resultó de la relación entre número de sejmentos seleccionados y número de sejmentos existentes (teóricos).

El procedimiento comprendió las siguientes etapas :

- a- Cálculo del número de sejmentos existentes (teóricos) en los sectores mínimos de empadronamiento del Censo Nacional de la población de 1973. Dichos sectores son manzanas en las zonas urbanas y áreas bien delimitadas ( promedio de 100 hogares) en las zonas rurales.

Para la aproximación a valores enteros se aplicaron las siguientes clasificaciones :

Zona Urbana :

<u>No. de Hogares por manzana</u>	<u>No. de Sejmentos</u>
5-14	1
15-24	2
25-34	3
⋮	

Zona Rural :

<u>No. de Hogares por área</u>	<u>No. de Sejmentos</u>
13-37	1
39-62	2
63-87	3
88-112	4
113-137	5
⋮	

BOLETIN DE ESTADISTICA DE LA ECONOMIA DE DISTRIBUCION:  
 RECEPTOS DE ESTADISTICOS EN LOS DEPARTAMENTOS DE  
 CAUCA Y CESAR, COLOMBIA 1921

SEGUNDA MUESTRA

Tabla 3. (Bis) - Muestra de Unidades Primarias, Secundarias y probabilidades de selección.

Depto	Sub Univer- so	Area	Estra- to	UNIDAD PRIMARIA				MUESTRA UNIDADES SECUNDARIAS ( SEGI)				
				Nombre	Proba- bili- dad	Seg. Exist.		Urbanos		Rurales		
						Urb.	Ru- rales	No.	Prob.	No.	Probabilidades	
Cauca	1	Control	1	Bolívar	1.00	87	254	11	1/7.91	4	1/53.5	
				2	Balboa	0.44	31	65	10	1/3.10	3	1/21.67
				3	Patia	0.48	99	99	29	1/3.41	4	1/24.75
	2	Experim.	4	El Tambo	1.00	35	136	16	1/2.19	3	1/45.33	
				5	La Sierra	0.39	25	55	20	1/1.25	4	1/13.75
				6	Roscos	0.36	18	47	14	1/1.29	4	1/11.75
Cesar	3	Control	1	Aguachica	1.00	411	112	26	1/15.81	3	1/37.33	
				Ganarra	0.53	77	152	6	1/12.83	4	1/38.00	
				Rio de Oro González	0.27	89	27	18	1/4.94	4	1/6.75	
	4	Experim.	10	Paillitas	0.27	89	27	18	1/4.94	4	1/6.75	
				El Copey	1.00	139	96	22	1/6.32	4	1/24.00	
				Charaguane	1.00	117	147	9	1/13.00	3	1/49.00	
			12	Charachagua	0.49	111	130	19	1/5.84	4	1/32.50	

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- b- Cálculo de frecuencia acumulada de los segmentos teóricos.
- c- Cálculo de intervalo de submuestras, a nivel de zona y URM, así :

$$\text{Intervalo} = \frac{\text{No. de Segmentos existentes}}{\text{No. de Segmentos a ser seleccionados.}}$$

- d- Aplicación sistemática del intervalo sobre el listado ordenado de segmentos teóricos. Selección del primer segmento de la muestra tirando un No. al azar entre 1 y el valor del intervalo de muestreo. Selección de los segmentos siguientes, tirando sucesivamente al 1er. No. seleccionado, el intervalo.

Como un sector de equipamiento ( manzana y área rural ) tenía muchas veces más de un segmento teórico, en esta etapa lo que realmente se identificó fue el sector que contenía uno o más segmentos de la muestra.

- e- Identificación en la cartografía de los sectores que contenían los segmentos de la muestra.
- f- Partición de algunos de los sectores rurales grandes, cuya cartografía era lo suficientemente clara para permitir una subdivisión utilizando límites naturales, visibles, y asignación de una probabilidad a cada pedazo, en función de un supuesto No. de hogares. El criterio aplicado en este último procedimiento es la densidad de población de cada parte, deducida según la distancia de la cabecera municipal, la ubicación en función de las diferentes vías de comunicación, las características geográficas del terreno, y la cantidad de puntos de vivienda observados en la cartografía. La validez de este procedimiento ha sido verificada en diversas muestras con cubrimiento rural, la más reciente de las cuales es la de la " Encuesta PAN 1979 " (1)
- g- Selección directa en el terreno, por los encuestadores, de los hogares propiamente tales, aplicando una fracción de muestreo resultante de la relación entre número de segmentos seleccionados en la parte finalmente sorteada ( usualmente 1 ) y el número de segmentos ( teóricos ) existentes en dicha parte. Para el efecto los encuestadores debieron reconocer minuciosamente la parte muestreada.

Las HLI alguna vez en unión de la muestra son todos los residentes en los hogares seleccionados.

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## 6. PROCEDIMIENTOS DE ESTIMACION

Son las instrucciones para el manejo de los datos básicos de la muestra y para la obtención de las estimaciones estadísticas respectivas.

### 6.1. Estimaciones inferidas

A nivel de sub-universos y universo total. Dado que las probabilidades finales de selección (Tabla 4) varían en cada zona, por estrato, también son diferentes a nivel de sub-universos y del universo total, razón por la cual es necesario ponderar los datos básicos de cada hogar y MEP de la muestra por el recíproco de la probabilidad final de selección ( $1/f = F$ ), o por un factor equivalente.

La probabilidad final ( $f$ ) de cada hogar y MEP es el producto de las probabilidades de la UPM ( $f_1$ ) y del segmento ( $f_2$ ) a los cuales pertenecen (Tabla 4).

La aplicación del recíproco de la probabilidad final ó factor de inflación ( $F$ ), además de corregir el problema de las diferentes probabilidades, restituye a valores absolutos del universo de estudio, lo cual tiene gran utilidad práctica.

No obstante, si se desea trabajar con valores muestrales absolutos, la corrección por la diferente probabilidad se logra a través de un nuevo factor que resulta de la relación entre cada factor final de inflación y el promedio de dichos factores.

### 6.2. Fórmulas principales de estimación

Se utiliza la nomenclatura sugerida por Kish (2) para el muestreo de conglomerados desiguales.

#### 6.2.1. A nivel de subuniverso

$Y_u$ : Razón de estimación en el subuniversos  $u$   
( Se utiliza indistintamente para promedios y proporciones )

$$Y_u = \frac{\sum_{\alpha=1}^{a_u} \sum_{\beta=1}^{b_\alpha} \sum_{j=1}^{M_{\alpha\beta}} y_{\alpha\beta j} F_{\alpha\beta}}{\sum_{\alpha=1}^{a_u} \sum_{\beta=1}^{b_\alpha} \sum_{j=1}^{M_{\alpha\beta}} x_{\alpha\beta j} F_{\alpha\beta}}$$

(2) Kish, Leslie. "Survey Sampling", John Wiley and Sons, New York, 1965, Chapter 6.

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SEGUINDA MUESTRA

Tabla 4. (Bis) - Probabilidades parciales, finales y factores de  
inflación.

Estrato	Probabilidades Parciales			Probabilidades finales		Factores Inflación	
	UPM f 1	Seg. Urb. f 2 u	Seg. Rur. f 2 R	Urbana f u	Rural f R	Urbana F U	Rural F R
1	1.00	1/7.91	1/63.5	1/7.91	1/63.5	8	63
2	0.44	1/3.10	1/21.67	1/7.05	1/49.2	7	49
3	0.48	1/3.41	1/24.75	1/7.1	1/51.6	7	52
4	1.00	1/2.19	1/45.33	1/2.19	1/45.3	2	45
5	0.39	1/1.25	1/13.75	1/3.2	1/35.3	3	35
6	0.36	1/1.29	1/11.75	1/3.6	1/32.6	4	33
7	1.00	1/15.81	1/37.33	1/15.8	1/37.3	16	37
8	0.53	1/12.83	1/38.00	1/24.2	1/71.7	24	72
9	0.27	1/4.94	1/6.75	1/18.3	1/25.0	18	25
10	1.00	1/6.32	1/24.00	1/6.3	1/24.0	6	24
11	1.00	1/13.00	1/49.00	1/13.0	1/49.0	13	49
12	0.49	1/5.84	1/32.50	1/11.9	1/66.3	12	66

- $j = 1, 2, \dots, X_u$  son cada una de las MEF encontradas en un segmento
- $\beta = 1, 2, \dots, b_u$  son los diferentes segmentos en la UTM
- $\alpha = 1, 2, \dots, a_u$  son las diferentes UTM seleccionadas en el subuniverso  $u$
- $y_{\alpha\beta j}$  es el valor de la variable en la MEF  $j$  del segmento  $\beta$ , de la UTM  $\alpha$
- $x_{\alpha\beta j}$  es la MEF  $j$ , del segmento  $\beta$ , de la UTM  $\alpha$ .
- $F_{\alpha\beta}$  es el factor final de inflación a nivel del segmento  $\beta$  de la UTM  $\alpha$ , variable en las zonas urbanas y rurales

### 6.2.2. Para el conjunto del universo

$$Y = \frac{\sum_{u=1}^U \sum_{\alpha=1}^{a_u} \sum_{\beta=1}^{b_u} \sum_{j=1}^{X_u} y_{\alpha\beta j} F_{\alpha\beta}}{\sum_{u=1}^U \sum_{\alpha=1}^{a_u} \sum_{\beta=1}^{b_u} \sum_{j=1}^{X_u} x_{\alpha\beta j} F_{\alpha\beta}}$$

$u = 1, 2, \dots, 8$  son cada uno de los subuniversos.

## 7. CALCULO DE ERRORES DE MUESTREO

### 7.1. Para estimaciones a nivel de sub-universo

$e_s(r_u)$ : Error estándar de la razón de estimación en el sub-universo  $u$

Se propone utilizar el modelo propuesto por Fish para muestreo de conglomerados seleccionados sistemáticamente (Capítulo 6, Sección 6.5 c). Una excelente aproximación de los errores de muestreo puede obtenerse a partir de los segmentos estudiados.

La técnica de las posibles diferencias sucesivas, implica el establecimiento de las mismas de acuerdo con el orden de selección de los segmentos : 1° con 2°, 2° con 3° etc.

Entonces :

$$eS(y_u) = \frac{\sum_{x=1}^{u_n} b_x}{\left( \sum_{x=1}^{u_n} \sum_{\mu=1}^{b_x} x_{x,\mu} F_{x,\mu} \right)^2 \left( \sum_{x=1}^{u_n} b_x \right)} \left[ \sum_{y=1}^{\sum_{x=1}^{u_n} b_x - a_n} D_{y,j}^2 (1 \cdot f_{y,j}) + y_n^2 \sum_{y=1}^{\sum_{x=1}^{u_n} b_x - a_n} D_{y,j}^2 (1 \cdot f_{y,j}) - 2 y_n \sum_{y=1}^{\sum_{x=1}^{u_n} b_x - a_n} D_{y,j}^2 (1 \cdot f_{y,j}) \right]$$

En donde :

$$D_{y,j} = \sum_{x=1}^{u_n} \sum_{\mu=1}^{b_x} y_{x,\mu} F_{x,\mu}(y) - \sum_{x=1}^{u_n} \sum_{\mu=1}^{b_x} y_{x,\mu} F_{x,\mu}(y+1)$$

$\sum_{x=1}^{u_n} b_x = b_1 + b_2 + \dots + b_{u_n}$  es el número de segmentos de las unidades primarias del sub-universo u .

$\sum_{x=1}^{u_n} b_x - a_n$  es el número de posibles diferencias sucesivas entre los segmentos, separando cada  $u_{x,j}$

- y : es el primer segmento de un par sucesivo
  - y+1 : es el siguiente segmento del citado par
- 7.2. Para estimaciones a nivel del universo total

El error de muestreo se calcula aplicando el modelo descrito antes, haciendo las diferencias y acumulaciones sucesivas por el conjunto de segmentos de la muestra.

Standard errors and confidence limits for selected variables for the First Survey by intervention group: Cesar and Cauca

VARIABLE	OBSERVED VALUE (Proportion)	STANDARD ERROR (Conglomerates)	CONFIDENCE LEVEL				DESIGN EFFECT		S.E.
			95%		90%		Deff	VDeff	
			Inferior	Superior	Inferior	Superior			
<b>KNOWLEDGE OF AT LEAST ONE METHOD</b> (Currently married fecund)									
Cesar Control	0.97	0.012	0.95	0.99	0.95	0.99	2.20	1.48	63
Cesar Experimental	0.98	0.014	0.95	1.00	0.96	1.00	2.59	1.61	29
Cauca Control	0.80	0.073	0.65	0.95	0.68	0.92	8.74	2.96	29
Cauca Experimental	0.73	0.037	0.66	0.80	0.67	0.79	1.35	1.16	18
<b>CURRENT USE</b> (Currently married fecund non-pregnant)									
Cesar Control	0.50	0.005	0.49	0.51	0.49	0.51	0.037	0.193	31
Cesar Experimental	0.36	0.033	0.29	0.43	0.31	0.41	1.00	1.00	21
Cauca Control	0.37	0.049	0.27	0.47	0.29	0.45	2.340	1.530	21
Cauca Experimental	0.24	0.018	0.20	0.28	0.21	0.27	0.290	0.530	14

Standard errors and confidence limits for selected variables for the Second Survey by intervention group: Cesar and Cauca

VARIABLE	OBSERVED VALUE (Proportion)	STANDARD ERROR (Conglomerates)	CONFIDENCE LEVEL				DESIGN EFFECT		SAMP SIZ
			95%		90%		Deff	$\sqrt{Deff}$	
			Inferior	Superior	Inferior	Superior			
<b>KNOWLEDGE OF AT LEAST ONE METHOD (Currently married fecund)</b>									
Cesar Control	0.99	0.043	0.90	1.00	0.92	1.00	95.80	9.79	483
Cesar Experimental	0.98	0.050	0.88	1.00	0.90	1.00	50.00	7.07	387
Cauca Control	0.98	0.100	0.78	1.00	0.82	1.00	250.00	15.81	464
Cauca Experimental	0.99	0.018	0.95	1.00	0.96	1.00	15.00	3.87	452
<b>CURRENT USE (Currently married fecund non-pregnant)</b>									
Cesar Control	0.44	0.058	0.32	0.56	0.34	0.54	2.75	1.66	201
Cesar Experimental	0.48	0.107	0.27	0.69	0.30	0.65	7.53	2.74	161
Cauca Control	0.51	0.041	0.43	0.59	0.44	0.58	1.75	1.32	251
Cauca Experimental	0.54	0.069	0.40	0.68	0.43	0.65	5.66	2.38	271

1/2

Significance of differences between the First and Second Survey for selected variables according to intervention group: Cesar and Cauca

VARIABLE	OBSERVED VALUE				s.e. (V <sub>1</sub> -V <sub>2</sub> )	Test with 95% Difference	
	Intervention Group	V <sub>1</sub> First Survey	Intervention Group	V <sub>2</sub> Second Survey		Significant	Not Significant
KNOWLEDGE OF AT LEAST ONE METHOD (Currently married fecund)	Cesar Control	0.97	Cesar Control	0.99	0.045	-	X
	Cesar Experi.	0.98	Cesar Experi.	0.98	-	-	X
	Cauca Control	0.80	Cauca Control	0.98	0.124	X	
	Cauca Experi.	0.73	Cauca Experi.	0.99	0.041		
CURRENT USE (Currently married fecund non-pregnant)	Cesar Control	0.50	Cesar Control	0.44	0.057		X
	Cesar Experi.	0.36	Cesar Experi.	0.48	0.110	X	X
	Cauca Control	0.37	Cauca Control	0.51	0.064	X	
	Cauca Experi.	0.24	Cauca Experi.	0.54	0.073		