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Research Report
of the
1981-82 EGYPT FOLLOW-UP SURVEY
ON FAMILY LIFE AND FAMILY PLANNING

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RURAL AVAILABILITY OF CONTRACEPTIVE SERVICES

By

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EXECUTIVE SUMMARY

Contraceptive service availability is an important factor of family planning use in many developing countries. Rural populations customarily have limited access to modern facilities and services, including health and family planning services. If national family planning managers can be made aware of how contraceptive services in both the public and private sectors are perceived by the rural childbearing public, they can better plan for the effective placement of supplies and services.

This study finds that currently married men and women in childbearing activity living in the rural areas of Egypt perceive contraceptive services to be widely available. Knowledge of public health centers and their provision of contraceptive services is quite good, and access to the centers is generally viewed as easy. A majority of the rural respondents has heard of modern contraception, usually the pill, and knows of at least one, but usually only one, place to obtain services. The sources of contraceptive services, in order of their public recognition and acceptability, are the public health center, pharmacy, private doctor, and hospital. However, men primarily select the public health center and pharmacy for family planning servicing while women include private doctors as a third strong alternative. Those who are unaware of any source of contraception tend to be female, residents of Upper Egypt, poor, uneducated, or farm-based. In fact, over one quarter of the rural poor women do not know of a service source.

There is considerable awareness among rural respondents of the pill's low price at public health centers. This finding is significant when one considers that the average reported price for the pill at pharmacies is four times higher. Knowledge of the IUD and its prices is much more limited, especially among men in rural areas. Past experience with contraception does reduce the range of prices reported for the pill and IUD.

When the perceived availability of family planning services of men reporting for contracepting wives was compared to that of contracepting wives (reporting for themselves), an interesting difference appeared. Men identified public health centers as the source for services more frequently than women did; conversely, women reported the use of private doctors more frequently than men did. This sex difference in responses lead to longer travel times to sources perceived by women since doctors or hospitals tend to be remotely located.

Perceived distance did not appear at first to be related to the level of current contraceptive use. However, when the type of method used and the respondent's sex were controlled, a significant relationship emerged for current pill use reported by women. Further analysis, in the multivariate mode, established that, net of the effects from respondent background, his or her sex was an important predictor of contraceptive source preference and perceived distances. In turn, these latter two measures of perceived availability, in addition to overall knowledge of contraceptive sources, independently and significantly affected the level of current and future pill use. Socioeconomic status measures (education, social class rating,

husband's occupation) also figured importantly. Measures of the perceived availability of public health centers were not causally related to pill prevalence.

The relative appeal of the main sources for contraceptive services to men and women has held consistently in the various analyses of this study. A more detailed understanding of the factors influencing user (and non-user) perceptions of the various service outlets and impacting on decisions for their use is an important topic for later initiatives in family planning data collection and research. Because there is strong interest in future adoption of contraception, primarily the pill, it will also be important to consider developing various options for service delivery that are acceptable to rural couples.

RURAL AVAILABILITY OF CONTRACEPTIVE SERVICES

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RURAL AVAILABILITY OF CONTRACEPTIVE SERVICES

Introduction

The research findings reported below, and in companion reports in this series of secondary analyses of the 1981-82 Egypt Follow Up Survey, address a selected set of problems that impact on the provision and acceptance of contraceptive services in the Arab Republic of Egypt. These problems have been identified in the main report of the above survey by the State Information Service, Central Agency for Public Mobilisation and Statistics (CAPMAS) and Social Development Center (1982). Areas defined as critical to the contraceptive innovation process and in need of program and policy attention include public attitudes and beliefs about family planning, information-education-communication programs, fertility norms and preferences, and contraceptive service delivery.

The present report is focussed on the level and patterns of contraceptive service availability as reported by rural respondents in the survey. Although the main report found that knowledge and access of contraceptive services were relatively good in Egypt, it also found that strong regional differences existed and that rural areas were expectedly the most handicapped in this regard. Thus, a special focus on the manner in which access to and availability of family planning services are perceived by rural residents will be of value. The results are organized so as to answer three important questions:

1. How available are contraceptive services perceived to be?
2. Do rural perceptions of contraceptive service availability vary by sex and other background characteristics?
3. Does perceived availability influence preferences for contraceptive service sources and use of contraception?

Significance

A considerable amount of research evidence has accumulated recently indicating that contraceptive service availability is an important factor behind adoption levels in developing countries (e.g. Entwisle et al. 1984; Rodriguez, 1978; Cornelius and Novak, 1983; Tsui, 1985). With the growing interest in this topic as a research area, issues about the concept and measurement of contraceptive availability are also being seriously considered (e.g. Hermalin and Entwisle, 1985; Welti et al., 1985; Chayovan et al., 1984). The causal relationship between the characteristics of the service environment and the likelihood of adopting contraception will continue to be investigated as existing analytical techniques are refined and additional survey data become available. However, perhaps more essential for the family planning program administrator is information about the childbearing public's perceptions and knowledge of sources for

contraceptives and their accessibility. A service infrastructure that can claim to have distribution points available within 15 minutes for 75 percent of its population may be underutilized if only 10 percent are aware of this access. Likewise, the extent to which specific supply sites are favored or used more than others make certain shifts in personnel and material resources or development of delivery strategies desirable to capitalize on the preferences. In other words, the significance of contraceptive service availability is that while physical access is a necessary condition for adoption, the perception of its availability is also necessary.

Rural populations have long been at a disadvantage with their limited access to modern facilities and services, such as paved roads, piped water, electricity, waste and sewage disposal systems, hospitals and secondary schools. Access to family planning services in rural areas is likewise limited with clinics often located inconveniently or open at inconvenient hours. Supply distribution tends to be irregular and a chronic shortage of trained medical and paramedical personnel exists. Contraceptive demand in rural areas also tends to lag significantly behind that in urban areas. Nonetheless, the extent to which rural couples are interested in controlling their fertility, either now or in the future, makes the effective placement of clinic services and other supply points essential.

Examining the rural population's perceptions of available contraceptive supply sources gives some insight into motives for and experience with modern contraception. One study of rural women in Korea and Mexico (Tsui, 1982) compared external (objective) measures of contraceptive availability against individual women's perceptions of it (subjective). The effect of availability on modern contraceptive use was more positive for those overreporting service availability as compared to those underreporting. In this series of further analyses, Report 4 on contraceptive discontinuation found that service availability had a significant positive effect on sustaining use of the first method through the first year. This suggests that the perceived accessibility of services and supplies is important for reinforcing initial practice. Unfortunately, no objective measures of access to contraceptive services are available for the Follow Up Survey to compare with subjective ones, but we can implicitly control for fertility demand in this rural sample.

The main report for the Follow Up Survey emphasized the need to deliver family planning services to the rural areas, where knowledge and use of methods lagged far behind urban area levels. Because popular approval of the family planning concept was found to prevail throughout the country, it is likely that the difference in the levels of contraceptive use for the two population sectors might be traced to varying demand and varying environments of service availability. This report intends to provide specific information about the rural servicing environment, identifying, for example, which outlets are not only known but are highly acceptable to noncontraceptors and which are used by current contraceptors. In this manner we may be able to identify any potential problems for the existing delivery system due to variations in source recognition and public acceptance.

Objectives

This report supplies basic and recent information on the rural public's view of the availability of contraceptive services. It will enable family planning program managers determine whether these perceptions accurately reflect the national effort. In Egypt the problems of service delivery are especially compounded by the unique geographic distribution and urban concentration of its population. By selectively examining rural conditions of family planning services, the findings may facilitate the development of any necessary outreach or community-based distribution programs to supply contraception to isolated areas. Additionally a later part of the report presents a multivariate analysis of the determinants of source preference and of current and future pill use.

Source of Data

The 1981-82 Egypt Follow Up Survey on Family Life and Family Planning was conducted primarily to assess the impact of a two-year national population communication campaign organized by the State Information Service of the Government of Egypt. (An earlier baseline survey had been taken in 1980, conducted by a team of researchers from Cairo University.) Fieldwork on the Follow Up Survey was performed by the Population Studies and Research Centre (PSRC) of CAPMAS between December 1981 and March 1982. Through the survey, 3,283 currently married men and women -- 1,462 men with wives under 45 years of age and 1,821 women under 45 years of age -- were interviewed. The respondents were drawn scientifically from the household sampling frame developed for the 1980 Egypt Fertility Survey, which was part of the World Fertility Survey program, and which also was fielded by the PSRC. Expectedly a number of field personnel involved in the EFS participated in the Follow Up Survey as well. Our reference to the Egyptian public hereafter denotes this sample of married adults in childbearing activity.

Basic information for each respondent was collected in the survey questionnaire relating to the following topics -- family life and the value of children, awareness of Egypt's population problem, awareness of and attitudes toward family planning, communication about family planning, knowledge and use of family planning methods, contraceptive brand awareness (for metropolitan respondents), attitudes and opinions regarding oral contraceptives, IUDs, condoms and foam tablets, mass media habits, and background socioeconomic characteristics. Further details on the survey methodology are available in Appendix B.

Several dimensions of information useful for assessing contraceptive service availability have been collected in the survey:

1. the nature and extent of knowledge of sources for contraceptive information and services
2. the relative use of different service outlets among past family planning users and their acceptability among never users
3. the accessibility of different service outlets in terms of mode and time for travel

4. the reported convenience to access oral contraceptives and IUD insertion services
5. the perceived costs of four program methods (oral contraceptives, IUD, condom and foam tablet)

Such information is reported separately for male and female respondents and by method, when appropriate. Because of the inclusion of males in this survey sample, much unique and valuable information on their perceptions of modern contraception has been obtained (see also Reports 1 and 4 in this series).

Organization of the Report:

The analysis of the broad range of data collected on this area has been organized into four sections. The first section details the level of rural contraceptive service availability and its differentials due to respondent background. The second section examines the relative knowledge of method costs, i.e. economic accessibility of contraceptives, as they are supplied through public and private sources. The third section assesses levels of perceived availability under various settings of contraceptive demand: among current users; among future users; and for three special-needs populations -- where wives are at high risk of child loss or maternal morbidity, where wives are currently pregnant but intend to use family planning later, and where there is a desire to limit fertility but only traditional methods are used. In the fourth section the results of a multiple classification analysis of the impact of rural service availability on current and future contraceptive use are presented. Variable definitions and measurements are given in Appendix A.

Results

Perceived Access to Sources for Contraceptive Information and Services

Based on rural respondents' reports, the overall level of contraceptive service availability is quite high and the respondents are quite aware of the existence of government facilities for family planning. In Table 1 only about 10 percent of the rural area residents have no knowledge of a source for contraceptive information or services. Regardless of sex, three quarters of them can mention only one information source. The same proportion, however, can mention up to two sources for servicing, again with little sex difference. The averages indicate, though, that men are more informed than women.

We find strong differences in type of source reported by respondent sex. The sources of information, in order of reported frequency, are the public health center, a private doctor, the pharmacy, and neighbor or friend. Male and female rankings differ visibly -- men mention public health centers most frequently (70 percent), then pharmacy (19 percent) and private doctor (15 percent). Women, on the other hand, mention private doctors (35 percent) and public health centers (32 percent) frequently. Neighbors or friends are mentioned by 10 percent of female respondents

Table 1. BASIC MEASURES OF CONTRACEPTIVE SERVICE AVAILABILITY
AS REPORTED BY RURAL MALE AND FEMALE RESPONDENTS

Availability Measure	Total	Respondent Sex	
		Male	Female
<u>Percent who mention</u>			
0 information sources	11	7	14
1 information source	74	73	75
2 information sources	13	17	9
3 or more information sources	3	4	2
Average	1.07	1.19	0.98
<u>Percent who mention, as an information source^a</u>			
Public health center	49	70	32
FP center or clinic	6	10	3
Private doctor	26	15	35
Pharmacy	14	19	9
Nurse or health worker	2	2	2
Neighbor or friend	6	1	10
Mass media	1	1	1
Other	4	2	6
<u>Percent who mention</u>			
0 service sources	9	6	12
1 service source	41	41	41
2 service sources	37	38	36
3 or more service sources	13	15	11
Average	1.56	1.67	1.46
<u>Percent who mention, as a supply or service source^b</u>			
Public health center in town	51	65	40
Public health center in nearby town	10	15	6
FP clinic	8	9	7
Private doctor	26	15	34
Pharmacy	45	52	39
Nurse or PH worker	0	1	0
Local midwife	--	--	--
FP distributor	0	--	0
Market, shops	1	2	0
Hospitals or private health maintenance units	14	8	19
Other	0	0	0

^a Respondent can mention more than one source.

-- = Not mentioned by any respondent.

0 = Less than 1 percent.

compared to 1 percent among males. This difference highlights the importance of informal communication networks for women in acquiring contraceptive information. Pharmacies are mentioned by 9 percent of the women, a level ten percentage points lower than men's. These results imply women would clearly seek contraceptive information from a doctor, if possible, or public health center while men are almost uniformly willing to (or have their wives) resort to using the health center.

The overall situation with regards to perceived servicing outlets is similar to that of information outlets except in one respect -- the pharmacy is now viewed more often, and quite logically, as an available servicing point. Hospitals and health insurance units are also mentioned with some frequency. Interestingly, community-level sources, such as public health workers, local midwives, and shops, are not viewed as principal service providers by either male or female respondents.

Large proportions of men and women mention public health centers as a source for family planning services although men do so more frequently than women (65 to 40 percent for in-town sites and 15 to 6 for nearby-town sites). Men also mention pharmacies frequently (52 percent). Women mention the public health center and pharmacy with near equal frequency but, unlike men, also report private doctors and private hospitals or health units as available service outlets (34 percent and 19 percent respectively).

What is encouraging from these results is the high degree of awareness of family planning sources for information and services. What is interesting are the differences in the quantity and quality of that knowledge by respondent's sex (see Figure 1).

In Table 2 we examine the relationship between the sources of information reported and the social, economic and demographic background of the respondent. First, those who know of no sources for contraceptive information tend to be female, of low parity, residents of Upper Egypt, poor, uneducated, farm-based, or never users of family planning. Indeed one-third the rural poor women can not report an information source.

Social class differences in knowledge of specific sources also prevail. Private doctors are known by 59 percent of the affluent women as sources of birth control information while public health centers are mentioned by 38 percent of them. Some of the difference may be accounted for by class preferences for sources and some by the greater awareness of service availability among the upper statuses. Demographic factors, like age and parity, do not appear to influence knowledge of sources as do the status variables of social class, education and husband's occupation. To a small extent, male respondents' age varies positively with knowledge of public health centers and negatively with knowledge of pharmacies. Awareness of information sources is high, not surprisingly, when the respondent reports previous family planning use. Lower Egypt residents also are more informed about information sources, except for pharmacies which is mentioned more frequently by Upper Egyptian women. Again it is notable that the strong differences in source reporting between men and women persist even after controlling for background factors.

In Table 3 the patterns of variation between knowledge of service outlets and respondent background are similar to those for information

FIGURE 1a. PERCENT MENTIONING NO OR SELECTED SOURCES FOR CONTRACEPTIVE SERVICES BY RESPONDENT SEX: RURAL EGYPT

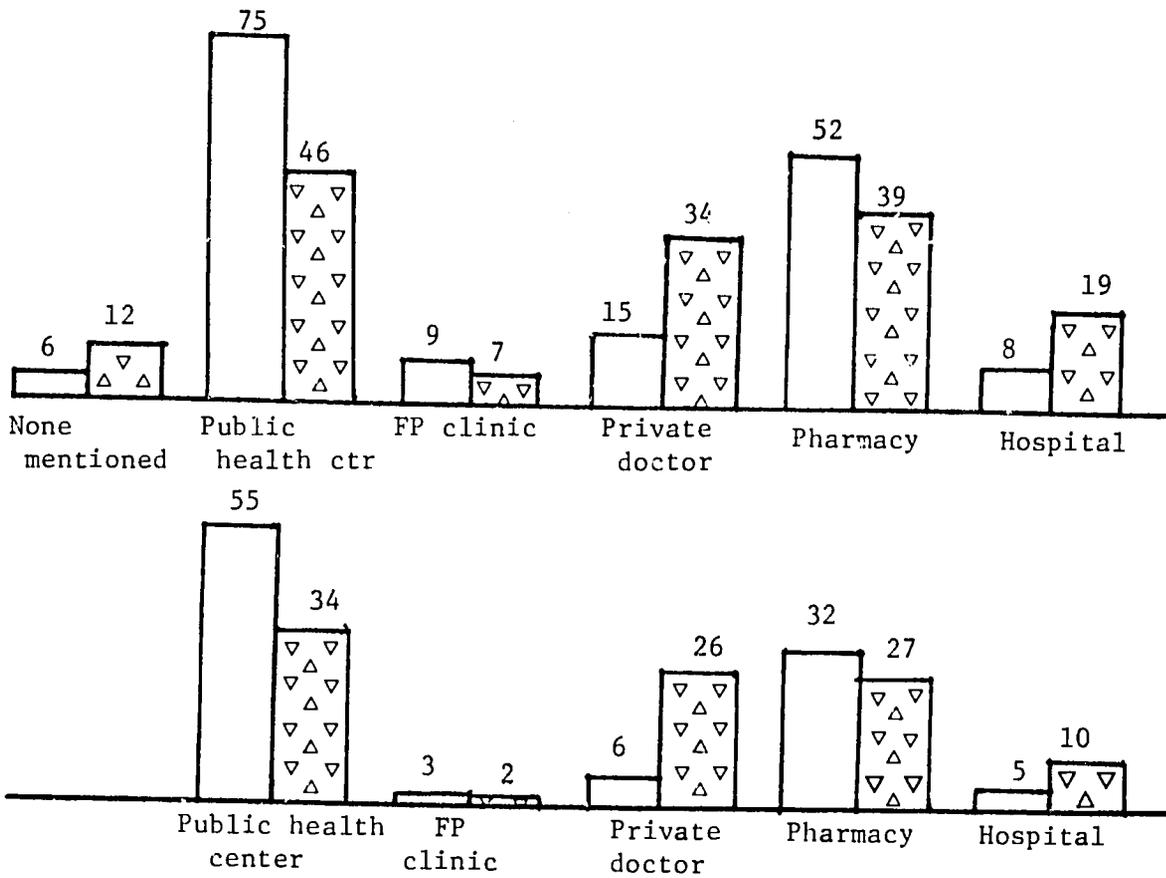


FIGURE 1b. PERCENT PREFERRING SELECTED SOURCES FOR CONTRACEPTIVE SERVICES BY RESPONDENT SEX : RURAL EGYPT

Male
 Female

outlets. Again those knowing of no single source for family planning services tend to be women, residents of Upper Egypt, young, of low parity, poor, uneducated, and farm-based. Awareness of various sources also show stronger differences by sex than by background variable. Only a moderate degree of differentiation by social background, and in no particular direction, is found in the percentages reporting pharmacies as service outlets.

Which service outlets are used or acceptable? Never users of family planning were asked to identify a preferred source and ever users the one they actually used. In the Table 4 we see that men and women perceive the acceptability of service outlets quite differently, as suggested earlier in examining their awareness of various information and service sources. Overall, the public health center is acceptable to 44 percent of those who know of a source, with the pharmacy selected by 30 percent and private doctors by 16 percent. However, more than half the men chose the health center compared to only one third of the women. Men (32 percent) and women (27 percent) had similar acceptance levels for the pharmacy. The biggest difference is with respect to private doctors, preferred by 26 percent of the women against only 6 percent of the men. Women also show more preference for hospital services than men. Interestingly enough, past experience with contraceptives did not add appreciably to the sex differences in source acceptability.

How easily accessed are the main sites for family planning services? Respondents familiar with at least one contraceptive service source were asked to estimate the travel time to the source they used or would prefer to use. Table 5 shows the reported travel time by travel means to the principal sources preferred -- the public health center, private doctor, pharmacy, and private hospital or health unit. What is striking in the table is the uniformly longer travel times reported by women as compared to men. We can not determine which group's perception is valid but note only that since oral contraceptives are predominantly used in Egypt, the travel times incurred by women probably entail some "real" costs, if only psychic.

Among those who would walk to a public health center for servicing, 43 percent of the men and 34 percent of the women report it takes no more than 10 minutes. An average of 17 minutes travel time is reported by men and 20 minutes by women. For those who must travel by vehicle, the average reported travel time is about 25 minutes; only 16 to 17 percent report vehicle access within 10 minutes.

Compared to men, women judge doctors to be much further than public health centers and report longer travel times, either by foot or vehicle. One quarter of the women who would walk and two fifths of those who would ride to the doctor's office report the trip takes more than half an hour versus one tenth and one third of the men respectively. Private doctors are a strongly preferred source for contraceptive services among rural Egyptian women, even though their accessibility clearly involves considerable travel effort.

Those who would walk to pharmacies for contraceptive services perceive them to be somewhat more accessible than those who would walk to public health centers. However, if one must travel to pharmacies by car or bus, the average trip takes longer than one to the health center. Moreover,

Table 2. PERCENTAGE OF RURAL RESPONDENTS WHO MENTION SELECTED SOURCES FOR CONTRACEPTIVE INFORMATION^a BY BACKGROUND VARIABLES AND RESPONDENT'S SEX

Background Variable	Knows of No FP Information Sources		Information Source/Respondent Sex									
	Male	Female	Public Health Center		FP Center or Clinic		Doctor		Pharmacy		Neighbors or Friends	
			Male	Female	Male	Female	Male	Female	Male	Female	Male	Female
Total ^b	7	14	70	32	10	3	15	35	19	9	1	10
<u>Region</u>												
Lower	0	6	75	36	12	4	16	36	23	6	1	14
Upper	18	25	60	28	6	2	15	34	11	12	2	5
<u>Age</u>												
15-24 yrs.	8	16	62	30	7	1	15	36	25	7	3	11
25-34 yrs.	6	12	67	32	11	4	18	37	21	11	1	10
35-44 yrs.	5	16	69	34	11	4	16	32	19	8	2	9
45+ yrs.	9	na	75	na	8	na	11	na	15	na	1	na
<u>Number of Children</u>												
0 to 2	7	18	67	29	9	2	19	37	20	9	2	10
3 to 4	7	13	72	37	12	3	15	32	18	10	0	10
5 or more	6	11	70	32	10	4	12	36	19	8	2	10
<u>Socioeconomic Class</u>												
Affluent	3	3	78	38	22	5	22	59	28	8	0	7
Upper middle	1	12	73	33	19	4	18	38	22	8	1	8
Middle	3	13	76	33	6	2	13	30	18	8	1	14
Poor	19	32	56	24	2	3	14	27	16	14	2	7
<u>Education</u>												
None	8	18	67	30	7	2	14	31	20	9	2	12
Some primary	7	8	71	34	8	3	16	43	18	9	1	8
Completed primary or more	1	0	76	46	22	12	20	46	18	5	0	2
<u>Husband's Occupation</u>												
Farm	8	18	69	30	7	1	12	30	20	9	1	12
Manual	3	12	70	29	13	3	19	40	13	9	2	9
Nonmanual	4	7	71	42	15	7	20	43	20	10	0	6
<u>Past FP User^b</u>												
Yes	0	5	76	42	16	5	18	37	22	10	2	10
No	11	20	66	27	7	2	14	34	17	9	1	10

^a More than one information source may be mentioned.

^b See Table 3 for sample sizes.

Table 3. PERCENTAGE OF RURAL RESPONDENTS WHO MENTION SELECTED SOURCES FOR CONTRACEPTIVE SERVICES^a BY BACKGROUND VARIABLES AND RESPONDENT'S SEX

Background Variable	Knows of No FP Service Sources		Service Source/Respondent Sex													
	M	F	PHC in Town		PHC in Nearby Town		FP Center or Clinic		Private Doctor		Pharmacy		Other Hospital/Private		Number of Cases ^b	
			M	F	M	F	M	F	M	F	M	F	M	F	M	F
Total	5	12	65	40	15	6	9	7	15	34	52	39	8	19	865	1030
<u>Region</u>																
Lower	0	4	71	43	17	10	11	9	17	37	60	39	9	26	562	584
Upper	15	23	52	37	11	1	7	3	11	31	38	39	7	10	301	439
<u>Age</u>																
15-24 yrs	7	15	53	39	17	3	7	3	10	33	57	42	7	21	60	325
25-34 yrs	4	9	63	42	14	8	9	7	19	34	59	41	10	17	285	427
35-44 yrs	4	5	65	38	17	8	11	10	17	37	52	35	8	21	263	272
45+ yrs	9	na	68	na	14	na	8	na	11	na	44	na	7	na	256	na
<u>Number of Children</u>																
0 to 2	5	16	62	38	14	5	9	5	16	33	56	40	8	19	315	452
3 to 4	6	10	68	43	15	8	10	7	17	31	53	39	7	17	242	304
5 or more	6	10	65	39	17	7	9	8	13	41	48	38	10	22	305	274
<u>Socioeconomic Class</u>																
Affluent	0	3	72	45	13	7	25	22	34	55	53	40	9	16	32	76
Upper middle	1	11	68	43	22	6	15	7	23	35	57	39	8	21	264	395
Middle	3	9	73	41	11	8	7	4	12	32	50	42	11	20	332	400
Poor	16	28	48	27	14	3	5	7	8	28	49	32	5	16	230	155
<u>Education</u>																
None	7	16	59	35	18	7	6	4	14	32	51	38	8	19	475	703
Some primary	6	5	71	49	11	4	9	9	15	36	49	43	7	19	247	270
Completed primary or more	1	0	71	56	14	7	21	30	21	53	61	37	9	25	143	57
<u>Husband's Occupation</u>																
Farm	7	16	61	35	17	6	6	3	12	32	46	38	9	19	487	585
Manual	3	10	73	42	11	6	11	13	21	37	57	45	9	16	135	166
Nonmanual	4	4	70	49	14	8	16	11	19	40	63	41	7	22	215	237
<u>Past FP User</u>																
Yes	0	2	76	48	13	8	15	13	19	40	58	43	10	24	314	381
No	9	18	58	35	17	5	6	3	13	32	49	37	7	17	545	641

^a More than one source may be mentioned.

^b Where category n's do not sum to total, this indicates missing data. For husband's occupation, there were 70 unemployed husbands excluded.

Table 4. PERCENT DISTRIBUTION OF ACCEPTABLE SOURCES FOR FAMILY PLANNING SERVICES IN RURAL EGYPT:
BY RESPONDENT SEX AND PAST FAMILY PLANNING USE^a

Acceptable Source	Total	Males			Females		
		All	Ever Used	Never Used	All	Ever Used	Never Used
(N)	(1685)	(799)	(305)	(494)	(886)	(370)	(516)
Public health center (in town or nearby)	44	55	50	58	34	34	34
Family planning clinic	2	3	4	2	2	3	1
Doctor	16	6	6	6	26	25	27
Pharmacy	30	32	35	30	27	27	28
Hospital or other private health unit	8	5	6	4	10	11	10
Other	0	0	0	0	0	1	0
Total	100	100	100	100	100	100	100

^aOf those who know of a source for contraceptive services.

Table 5. MEASURES OF REPORTED TRAVEL TIME TO MAIN SERVICE SOURCES^a
BY TRAVEL MEANS AND RESPONDENT'S SEX : RURAL EGYPT

Service Source/ Means of Travel ^b	Male				Female			
	Percent Reporting Travel Time				Percent Reporting Travel Time			
	N	<10 min	>30 min	Mean (SD)	N	<10 min	>30 min	Mean (SD)
<u>Public Health Center</u>								
By foot	383	43	5	17.1(13.6)	256	34	7	19.5(16.0)
By vehicle	48	17	15	24.1(11.7)	37	16	16	25.8(15.7)
<u>Private Doctor</u>								
By foot	11	55	9	18.5(16.2)	52	12	25	31.7(22.3)
By vehicle	32	6	34	33.9(20.3)	171	5	41	47.3(37.1)
<u>Pharmacy</u>								
By foot	114	60	7	16.1(16.4)	81	49	6	17.0(18.7)
By vehicle	137	9	24	29.5(14.6)	143	3	36	39.3(25.4)
<u>Hospitals or Other Private Centers</u>								
By foot	17	47	0	15.1(8.0)	32	47	13	20.4(17.2)
By vehicle	18	6	39	34.7(20.5)	54	6	48	44.3(28.2)

^a Source that is either reported as used or acceptable; the four sources above account for 97 percent of the reported sources.

^b Accessibility by travel using other means (non-pedestrian and non-vehicular) not shown here due to small n.

women who must rely on a vehicle to reach a pharmacy perceive an average distance of about 40 minutes travel compared to 30 minutes for men.

Hospitals are, like private doctors, less accessible in view of the long travel times incurred either on foot or by vehicle. Their perceived distances again are longer among women preferring this site than among men. Females travelling by vehicle report it takes an average of 44 minutes to reach the hospital.

These source-specific differences in travel time may reflect actual differences in the physical availability of pharmacies, health centers, private doctors and hospitals. However, they are subjective reports and are molded by a variety of factors, including the respondent's sex, tastes for health providers and motives for family planning use. While a national program may not be well served to base the location of its clinics and personnel on popular estimates of travel time, it can find in such information some useful client perceptions of its services. For rural Egypt most significant are the male-female differences in source acceptability and travel effort.

Since government services are more easily modified to fit client needs than those of the private sector, it is worth examining closely the background characteristics of those respondents who do select public health centers for contraceptive servicing. Table 6, however, indicates that few factors differentiate the proportions preferring this service site, particularly among women. If anything, the differentials indicate that middle class respondents (and those who have some primary schooling or where husbands are in manual occupations) are more likely than others to use public health centers and to report them within 15 minutes walking distance. When region or past family planning use is controlled, differences in the selection of the public health center are found among men only.

Once the health center is found to be acceptable, travel times and means differ not only by sex but also by socioeconomic background and past contraceptive use. Lower Egyptian men and women who accept public health center services report better access than their Upper Egyptian counterparts. Likewise those who are better educated, affluent and with husbands in non-manual occupation perceive health center access to be good as well.

How easy is it to access pill or IUD services in rural areas? Those knowledgeable about the methods report access to be relatively acceptable (see Table 7). About 70 percent report pill access is easy, a perception considerably stronger among those of higher than lower socioeconomic status. Compared to women, IUD access is reported by men to be somewhat more difficult. However, regional differences play a role here -- Lower Egyptian women find it much easier to obtain IUD services than their male counterparts, whereas the reverse holds true for Upper Egypt. The much lower awareness of IUDs among Upper Egyptian women than men probably accounts for part of the sex difference. The ease of access to IUD services is not influenced by respondent age and parity. Socioeconomic ranking, education, and past family planning use are positively related to the perceived ease of obtaining services and husband's occupation to a lesser extent. The effects of the first three variables are also more pronounced for women than men.

Table 6. SELECTED PERCEPTIONS OF PUBLIC HEALTH CENTER AVAILABILITY BY BACKGROUND VARIABLE AND RESPONDENT'S^a SEX: RURAL EGYPT

Background Variable	Selects PHC as Primary Source ^b		Reports The Travel Time within 15 Mins.		Reports It Is Accessible by Foot	
	Male	Female	Male	Female	Male	Female
Total	55	34	57	47	65	48
<u>Region</u>						
Lower	53	33	58	53	66	49
Upper	58	34	55	37	64	46
<u>Age</u>						
15-24 yrs.	50	31	57	48	59	48
25-34 yrs.	47	36	54	44	61	49
35-44 yrs.	54	34	56	49	64	47
45+ yrs.	65	na	61	na	72	na
<u>Number of Children</u>						
0 to 2	50	31	56	48	61	45
3 to 4	57	40	56	50	70	57
5 or more	57	30	59	43	66	43
<u>Socioeconomic Class</u>						
Affluent	44	32	59	54	75	47
Upper middle	50	33	60	49	61	49
Middle	61	36	58	46	70	50
Poor	52	29	50	40	61	41
<u>Education</u>						
None	54	33	50	43	63	45
Some primary Completed	63	36	65	52	72	55
primary or more	42	28	64	63	62	51
<u>Husband's Occupation</u>						
Farm	59	35	53	40	64	44
Manual	49	34	60	55	67	58
Nonmanual	49	32	65	54	66	51
<u>Past FP User^c</u>						
Yes	50	34	64	50	68	51
No	58	34	52	44	63	46

^a Of those who mention a source.

^b Public health center in town or nearby.

^c Ever user of any contraception, including traditional methods.

Table 7. PERCENTAGE REPORTING EASY ACCESS TO ORAL PILL AND IUD SERVICES BY SELECTED BACKGROUND VARIABLE AND RESPONDENT'S SEX:^a RURAL EGYPT

Background Variable	Easy to Access					
	Oral Pill Supply		IUD Insertion		IUD Post-Insertion Consultation	
	Male	Female	Male	Female	Male	Female
Total	73	69	35	43	37	50
<u>Region</u>						
Lower	74	75	33	51	33	57
Upper	70	61	41	26	56	34
<u>Age</u>						
15-24 yrs	60	70	(24)	42	(24)	50
25-34 yrs	72	69	35	44	36	53
35-44 yrs	72	68	35	43	39	45
45+ yrs	76	na	35	na	39	na
<u>Number of Children</u>						
0 to 2	72	66	35	40	39	48
3 to 4	75	72	34	46	40	53
5 or more	72	72	34	45	34	50
<u>Socioeconomic Class</u>						
Affluent	81	88	52	60	56	64
Upper middle	77	73	40	46	43	52
Middle	74	70	32	39	34	47
Poor	62	48	23	39	28	46
<u>Education</u>						
None	68	64	32	37	33	42
Some primary	77	78	35	54	39	63
Completed primary or more	80	84	39	57	44	67
<u>Husband's Occupation</u>						
Farm	66	62	29	38	32	48
Manual	81	80	44	54	42	52
Nonmanual	80	78	36	46	44	54
<u>Past FP User</u>						
Yes	83	83	39	54	39	58
No	66	60	30	34	36	43

^a Of those familiar with the method.

() Percentage based on under 25 cases.

na = Not applicable.

Difficulty in accessing doctors for IUD services is largely attributed to their unavailability (Table 8). Some respondents also specifically mentioned the lack of doctors trained in family planning.

The Costs of Contraceptives

Knowledge of contraceptives and their prices varies considerably in rural Egypt. This should be kept in mind when comparing the average prices reported over subgroups. In Table 9 we find a large majority of respondents familiar with the oral pill but only about two fifths know its public and private sector prices. Lack of knowledge about condom and foam tablet methods is so predominant in rural Egypt that we do not examine their price data further. Also men are much less familiar with IUDs than women.

Table 9 indicates that prices for pill and IUD are reported with about equal frequency for the two sectors. Women are more likely than men to know the public price of the pill, and those who have ever used any form of contraception are nearly twice as likely to know of method prices than those who have never used. With this in mind, we see in Table 10 that the average price of the pill from a public facility reported by women is about 1 piastre different from men (5.6 compared to 4.5) -- the actual price is 5 piastres for a cycle. Past contraceptive experience does not alter awareness of pill prices at government outlets or seemingly at private outlets. The average pharmacy price for the pill is considerably higher -- nearly 20 piastres. The consistency in average prices reported, even with sex and past family planning use status controlled, is remarkable. The data indicate a high level of awareness of pill prices possibly the result of effective marketing or mass media communication efforts.

IUD price reporting is strongly affected by the respondent's sex. Although overall less familiar with the method, those men who are familiar give average public prices twice as high as women's. The difference is more marked among past contraceptive users (29.5 piastres for women versus 69.3 piastres for men). On the other hand, overall private prices are almost identical for men and women but mask an effect from what is probably an interaction between sex and previous contraceptive use. Since knowledge of this method is so limited in rural areas, these differences should only be taken as illustrative of the influence of sex and previous contraceptive use on knowledge of contraceptive methods and perceptions of their costs.

As further illustration of the varying perceptions of costs, the average pill and IUD prices in the two sectors are broken down by respondent background in Tables 11 and 12 respectively. Small numbers of respondents in some groups reduce the reliability of the averages, and thus we will not dwell extensively on the differences. However, there is indication that economic wellbeing, measured by social class, education and to some extent by husband's occupation and region of residence, affects the perception of costs positively for men and women. The pattern is unclear only in the case of public pill costs, which are uniformly low

Respondents familiar with condom and foam tablet methods were asked whether they would be willing to try a free sample, a hypothetical question to test whether the removal of economic constraints will promote use of the

Table 8. PERCENT DISTRIBUTION OF REASONS FOR DIFFICULT ACCESS OF
POST-INSERTION CONSULTATION BY RESPONDENT'S SEX^a

Reason	Total	Male	Female
(N)	(309)	(195)	(114)
Doctor is not available	83	85	80
Doctor is too busy	4	5	3
No trained doctor	8	7	11
Other	4	3	5
Don't know	1	0	1

^a Rural respondents who reported access of doctor for IUD post-insertion consultation is difficult.

Table 9. KNOWLEDGE OF SELECTED METHODS AND THEIR COSTS IN PUBLIC OR PRIVATE SECTOR^a, BY PAST CONTRACEPTIVE USE STATUS AND RESPONDENT'S SEX^b

Sector/ Method Price Status	Percent					
	Total		Ever Used		Never Used	
	Male	Female	Male	Female	Male	Female
(N)	(859)	(1022)	(314)	(381)	(545)	(641)
<u>Pill</u>						
Don't know method	4	5	--	1	6	8
Knows method and its price in						
Public sector	39	47	63	76	25	30
Private sector	37	38	65	66	21	22
<u>IUD</u>						
Don't know method	40	27	16	7	53	38
Knows method and its price in						
Public sector	14	17	22	33	10	7
Private sector	18	16	32	32	10	7
<u>Condom</u>						
Don't know method	77	87	64	76	85	94
Knows method and its price in						
Public sector	3	1	4	1	2	0
Private sector	7	2	12	5	4	1
<u>Foam Tablet</u>						
Don't know method	89	88	83	80	93	93
Knows method and its price in						
Public sector	1	0	1	1	1	0
Private sector	2	1	4	4	1	--

^a For all methods, private sector refers to pharmacy, except for IUD, where supplier is a private doctor. Public sector refers to cost at public health center.

^b Based on rural respondents.

Table 10. MEAN REPORTED PRICE OF PILLS AND IUD^a FROM PUBLIC AND PRIVATE SECTOR, BY PAST CONTRACEPTIVE USE AND RESPONDENT'S SEX

Sector and Method	Price (Piastres)					
	Total		Ever Used		Never Used	
	Male	Female	Male	Female	Male	Female
<u>Public</u>						
<u>Pill</u>						
N	334	483	199	289	135	194
Mean	4.5	5.6	4.7	5.5	4.2	5.8
SD	3.3	3.6	2.9	2.9	3.6	4.5
<u>IUD</u>						
N	121	173	68	127	53	46
Mean	83.1	39.3	69.3	29.5	100.9	66.5
SD	122.9	124.0	120.3	110.0	125.0	154.4
<u>Private</u>						
<u>Pill</u>						
N	320	389	205	251	115	138
Mean	19.5	19.1	18.9	19.3	20.7	19.0
SD	11.2	12.2	10.8	11.6	11.7	13.2
<u>IUD</u>						
N	155	168	100	123	55	45
Mean	1179.0	1177.8	1297.4	925.4	963.8	1782.8
SD	1093.1	1441.7	1288.9	875.8	537.7	2219.1

^a For those knowing price(s); see Table 9.

Table 11. AVERAGE AND STANDARD DEVIATION OF REPORTED PRICE^a FOR PILLS AT PUBLIC (CLINIC) AND PRIVATE (PHARMACY) OUTLETS BY SELECTED BACKGROUND VARIABLES AND RESPONDENT'S SEX

Background Variable	Public								Private							
	Male				Female				Male				Female			
	Number		Reported Price		Number		Reported Price		Number		Reported Price		Number		Reported Price	
	Know	Don't Know	Mean	SD	Know	Don't Know	Mean	SD	Know	Don't Know	Mean	SD	Know	Don't Know	Mean	SD
Total	336	449	4.5	3.3	484	497	5.6	3.6	320	512	19.5	11.2	391	584	19.1	12.2
<u>Region</u>																
Lower	290	269	4.5	3.1	369	206	5.5	3.7	278	278	19.6	11.4	302	271	18.6	12.3
Upper	46	230	4.7	4.5	114	291	6.1	3.6	42	234	19.0	9.2	89	313	21.0	11.8
<u>Age</u>																
15-24 yrs	12	45	3.5	2.6	124	181	6.1	5.3	12	45	22.2	11.7	102	201	19.5	13.7
25-34 yrs	110	170	4.4	3.9	213	198	5.7	3.3	107	172	22.2	12.9	174	235	18.8	11.4
35-44 yrs	126	129	4.7	3.2	145	114	5.1	1.9	119	136	18.8	9.7	113	145	19.2	12.0
45+ yrs	88	155	4.5	2.8	-- na --	-- na --	-- na --	-- na --	82	159	16.7	9.9	-- na --	-- na --	-- na --	-- na --
<u>Number of Children</u>																
0 to 2	87	216	4.3	3.9	163	258	6.0	4.8	85	217	21.3	12.4	132	287	19.6	13.7
3 to 4	109	126	4.6	3.2	163	131	5.6	3.6	102	132	19.3	11.6	130	162	18.1	10.4
5 or more	140	154	4.7	3.1	158	108	5.2	1.9	133	160	18.5	9.9	129	136	19.8	12.2
<u>Socioeconomic Class</u>																
Affluent	19	12	4.5	2.3	44	31	6.9	6.7	19	12	19.6	17.5	35	38	20.3	10.1
Upper middle	127	135	4.5	3.1	183	194	5.8	4.0	127	134	19.2	10.8	156	219	18.8	11.3
Middle	136	190	4.4	3.6	208	178	5.2	2.4	120	204	19.3	10.3	151	224	19.3	12.6
Poor	52	157	4.9	3.4	47	92	5.5	1.9	51	158	20.3	11.5	38	101	19.0	15.8
<u>Education</u>																
None	157	293	4.8	3.7	287	371	5.3	3.9	142	306	19.0	11.3	238	419	19.3	12.5
Some primary	103	140	4.3	3.0	157	109	6.0	3.2	100	142	18.9	10.0	118	145	17.8	11.8
Completed primary or more	76	66	4.2	2.8	40	17	6.4	3.5	78	64	21.2	12.2	35	21	22.7	10.6
<u>Husband's Occupation</u>																
Farm	164	301	4.6	3.7	222	326	5.5	4.1	148	316	20.4	10.5	170	375	18.5	13.1
Manual	56	76	4.8	3.3	96	64	5.8	2.8	60	70	16.9	10.0	86	73	20.6	12.3
Nonmanual	108	105	4.4	2.7	154	82	5.6	3.5	104	109	20.0	12.7	125	110	18.9	10.9

^a By those knowing the method.

Table 12. AVERAGE AND STANDARD DEVIATION OF REPORTED PRICE^a FOR IUDS AT PUBLIC (CLINIC) AND PRIVATE (DOCTOR) OUTLETS BY SELECTED BACKGROUND VARIABLES AND RESPONDENT'S SEX

Background Variable	Public								Private							
	Male				Female				Male				Female			
	Number		Reported Price		Number		Reported Price		Number		Reported Price		Number		Reported Price	
	Know	Don't Know	Mean	SD	Know	Don't Know	Mean	SD	Know	Don't Know	Mean	SD	Know	Don't Know	Mean	SD
Total	121	399	83.1	122.9	173	578	39.3	124.0	155	365	1179.0	1093.1	168	582	1177.8	1441.7
<u>Region</u>																
Lower	110	311	86.5	124.7	148	379	35.0	118.8	136	285	1147.3	1033.2	134	393	1064.7	1258.7
Upper	11	88	49.5	102.0	24	199	67.7	154.0	19	80	1405.8	1468.2	35	188	1610.9	1956.7
<u>Age</u>																
15-24 yrs	5	17	0.0	0.0	42	168	63.2	135.8	6	16	1866.7	1607.1	41	169	1711.1	2116.8
25-34 yrs	40	134	111.9	131.2	78	258	25.9	101.2	53	121	982.0	600.4	81	255	1141.7	1295.7
35-44 yrs	43	142	86.8	124.4	50	150	24.8	81.8	56	129	1088.6	640.9	45	155	760.2	602.6
45+ yrs	32	106	51.6	110.3	--	na	--	na	40	99	1463.6	1762.7	--	na	--	na
<u>Number of Children</u>																
0-2	37	136	105.9	158.5	56	243	55.4	131.9	42	131	1122.9	825.3	53	246	1566.3	1871.1
3-4	36	113	96.4	113.3	57	168	12.1	39.3	53	96	1219.5	1272.8	58	167	940.4	805.1
5 or more	48	149	55.6	91.7	60	167	50.2	161.4	60	137	1182.6	1101.9	58	169	1060.2	1439.4
<u>Socioeconomic Class</u>																
Affluent	8	19	37.5	74.4	16	49	34.7	60.1	13	14	1546.7	1766.1	21	44	1085.7	528.2
Upper middle	54	139	124.6	153.3	66	215	25.2	81.6	73	120	1133.1	726.0	67	214	1526.9	2036.1
Middle	44	170	52.7	84.6	68	241	55.1	155.5	51	163	1222.3	1317.5	68	241	975.5	889.1
Poor	14	68	43.6	60.0	23	69	36.7	151.5	17	65	740.6	351.3	13	79	585.8	330.8
<u>Education</u>																
None	52	190	77.2	97.5	87	384	31.0	88.7	65	177	900.7	617.4	82	389	822.9	838.7
Some primary	41	113	76.9	148.0	63	161	46.6	157.9	44	110	1139.8	1282.6	60	164	1237.0	1488.5
Completed primary or more	28	96	103.2	127.0	23	33	51.1	136.3	46	78	1609.8	1293.1	27	29	2124.1	2207.9
<u>Husband's Occupation</u>																
Farm	55	193	61.9	107.1	64	320	20.2	68.5	71	177	1124.0	1138.0	65	319	939.9	1044.6
Manual	21	76	111.7	171.1	39	93	44.4	139.7	27	70	1140.3	1014.6	33	99	1070.5	1025.1
Nonmanual	40	122	94.5	111.3	67	140	43.2	114.2	52	110	1285.6	1134.3	68	139	1418.6	1820.4

^a By those knowing the method.

two methods. However, only one quarter of the rural respondents are definitely willing to try condoms and about one third the foam tablet (see Table 13). Receptivity to condom trial is greatest among men who are younger, better educated, manually or nonmanually occupied, or without prior family planning use. Foam tablet trial is more likely among women with moderate to large family sizes, uneducated, and with husbands in nonmanual occupations.

In sum, there is substantial awareness of the pill and substantially more awareness of its prices than of the IUD or other methods. Because the pill's public price is widely recognized as low, economic constraints on its use through government sources are not likely to figure significantly in a decision to adopt the method. However, we saw earlier in the assessment of service site availability that women, as potential pill users, predominantly prefer private outlets -- doctors and pharmacies. The survey did not inquire about pill prices from private doctors but pharmacy prices were roughly four times the public price. This incongruity between the relative appeal of family planning service providers to men and women and their knowledge of service costs may have an important effect on the eventual use of oral contraceptives in rural Egypt. It is an area that may be responsive to policy change. The results suggest that the acceptability of government services in rural areas may need to be enhanced or that contraceptive costs through the private sector be heavily subsidized.

Contraceptive Availability and Demand

Rural contraceptive prevalence is estimated in this survey to be 20 percent of currently married couples with wives in childbearing age (excluding the two percent reporting contraception through lactation). IUD prevalence is minimal at 5 percent and pill prevalence is 13 percent. In this section we examine the relationship between perceived access of services and their potential demand. We have defined five (not mutually exclusive) client populations; their percentage of the total rural sample is shown in parentheses:

- 1 - Current pill and IUD users, in need of follow up and resupply (17 percent)
- 2 - Future pill and IUD users (not currently contracepting, 37 percent)
- 3 - Currently pregnant wives who intend to contracept in the future (13 percent)
- 4 - Current contraceptors who desire no more children but rely on traditional methods (4 percent)
- 5 - Non-contracepting older mothers (over age 34 and with 5 or more children) at a high health risk with further childbearing (13 percent)

Access to contraceptive services is needed first to supply current users and second future users. The wives in the other three groups represent possible target populations for postpartum delivery of contraception, actual unmet need for modern methods, and promotion of the health benefits of family planning. Although they are individually small -- no group exceeds 15 percent of the sample -- about 25 percent of the total sample is involved in one of these groups (and only 3 percent in more than one group). Conceptually speaking, the criteria used to define these groups

Table 13. PERCENT REPORTING WILLINGNESS TO TRY CONDOM OR FOAM TABLET
IF GIVEN A FREE SUPPLY BY SELECTED BACKGROUND VARIABLES AND
RESPONDENT'S SEX^a

Background Variable	Would Try Condom		Would Try Foam Tablet	
	Male	Female	Male	Female
Total	28	24	40	23
<u>Region</u>				
Lower	27	22	44	23
Upper	30	30	(9)	23
<u>Age</u>				
15-24 yrs	(11)	22	(33)	22
25-34 yrs	39	25	58	24
35-44 yrs	30	27	32	24
45+ yrs	14	na	(32)	na
<u>Number of Children</u>				
0-2	30	22	44	15
3-4	33	23	40	30
5 or more	20	28	36	29
<u>Socioeconomic Class</u>				
Affluent	(13)	16	(29)	(20)
Upper middle	34	27	46	17
Middle	27	23	38	28
Poor	17	(25)	(29)	(31)
<u>Education</u>				
None	25	22	41	27
Some primary	23	28	(26)	19
Completed primary or more	33	23	45	20
<u>Husband's Occupation</u>				
Farm	19	18	27	19
Manual	32	31	(50)	24
Nonmanual	30	24	49	28
<u>Past FP User</u>				
Yes	22	24	37	22
No	35	24	43	25

^a Among those rural respondents who have heard of the respective method (see Table 9).

() Percentage based on under 25 cases.

are established indicators of contraceptive demand (e.g. see Rinehart and Kols, 1984; Omran and Standley, 1981).

In view of their experience and the average number of sources known (compare Tables 1 and 14), current pill and IUD users are more knowledgeable than the overall rural sample. Males with contracepting wives and female contraceptors give varying reports, though, on the source of their contraception, in spite of the pill and IUD being female methods. Almost one half of the men whose wives use the pill report being serviced by the public health center while only one third of the wives using the pill give this source. Similar differences occur for both methods in reported pharmacy use by men and women and are even more striking in reported use of doctors. While 18 percent of wives using the pill saw private doctors only 2 percent of the husbands with wives using the pill reported this source. As a result of sex differences in source reporting, travel times to access those sources vary by sex as well. Public health centers and pharmacies, reported more frequently by men than women, are likely to be more proximate than doctors and hospitals, leading to shorter perceived distances. Overall we find travel times to be longer and dependence on vehicles greater to obtain IUD as opposed to pill services. Among females, one third report that access to their pill source is within 10 minutes compared to only 13 percent of the IUD users.

Future contraceptive users, especially of the IUD, know of fewer service sources, than current users. Men are again more likely than women to identify public health centers as the preferred source (57 percent among future pill users and 48 percent for future IUD users). Women intending to use the pill later prefer public health centers (37 percent), pharmacies (30 percent) and private doctors (23 percent). Future demand for IUD services, according to male reports, can be acceptably met by public health centers, then pharmacies (where IUDs can be purchased) and doctors. In contrast, over half of the women intending to use IUDs in the future prefer to be serviced by a private physician and only 24 percent at the public health center. Again, the anticipated time and means for travel vary according to preferred source (thereby reflecting the sex-specific preferences). The results also indicate that future users perceive greater costs in travel time and effort than current users. These differences suggest that recent servicing experience and varying motivations to contracept are related to perceptions of availability.

We found it noteworthy that a nontrivial number of respondents indicated they planned to use a modern contraceptive, other than the pill or IUD, in the future. Moreover, of the 69 rural residents who did so, 55 specified injectables. Given the pill's prominence as the leading program method, it was interesting to explore this particular group's perceptions of service access (table not shown). We found the subsample to be fairly knowledgeable: more than two thirds could mention two or more sources. The pattern of source preferences by sex appeared again, leading to relatively less travel effort anticipated by males and greater effort by females in order to access services.

Table 15 shows that among the three other groups potentially in need of contraception, the one with high-risk mothers is least knowledgeable about contraceptive sources. Male preferences for public health center services continue to contrast in striking ways against the preferences of females,

Table 14. PERCENT DISTRIBUTIONS OF PERCEPTIONS OF CONTRACEPTIVE SERVICE ACCESS AMONG CURRENT AND FUTURE PILL AND IUD USERS BY RESPONDENT'S SEX

Measure of Access	Current Users				Future Users			
	Pill		IUD		Pill		IUD	
	Male	Female	Male	Female	Male	Female	Male	Female
(N)	(126)	(113)	(47)	(40)	(226)	(346)	(57)	(79)
<u>Number of Sources Mentioned</u>								
None	na	na	na	na	3	6	--	1
One	24	39	34	30	41	45	25	42
Two	58	43	36	40	42	39	49	44
Three or more	18	18	30	30	15	10	26	13
Average	1.99	1.79	2.00	2.08	1.71	1.53	2.12	1.68
<u>Type of Source Used^a</u>								
Public health center	46	32	47	40	57	37	48	24
FP clinic	3	3	2	10	1	1	7	1
Doctor	2	18	21	33	3	23	13	55
Pharmacy	46	38	13	5	33	30	29	13
Hospitals	2	8	17	12	5	9	4	6
Other	--	1	--	--	1	0	--	--
<u>Travel Time</u>								
10 mins or less	42	32	30	13	33	20	33	22
11-15 mins	23	24	28	35	22	28	23	22
16-30 mins	21	27	28	25	36	33	33	22
Over 30 mins	14	17	15	28	9	20	11	33
<u>Travel Mode</u>								
Foot	67	58	62	53	64	50	60	45
Vehicle	30	42	38	48	33	46	35	54
Other	3	--	--	--	3	4	5	1

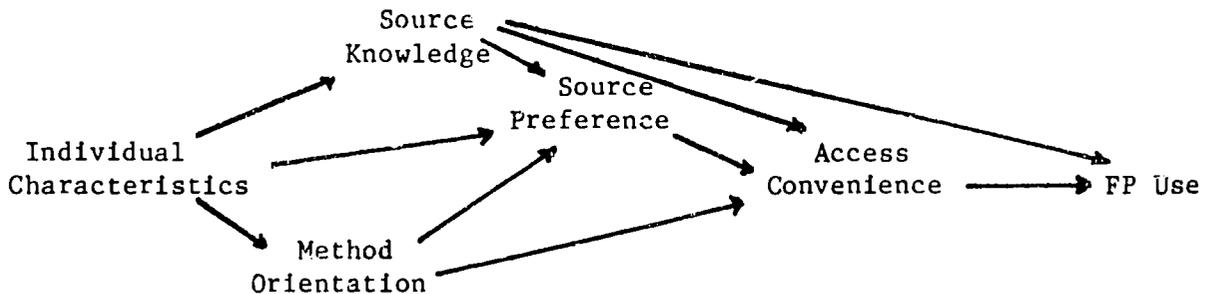
^aFor future users this is source reported as most acceptable, or if a past user, then the one used.

particularly for the traditional users and high-risk mother groups. The pharmacy is the one source about equally acceptable to men and women in all three groups; however, private physicians still appeal strongly as contraceptive providers to women, especially for those wives who may be reached through postpartum care. Ultimately if husbands determine the contraceptive service source their wives use, travel times will be short, since the public health center and/or pharmacy is relatively accessible. If wives are free to choose their service provider, though, especially those who are currently pregnant or at high health risk, the preference for private medical practitioners will likely incur long travel times and vehicle transport.

In this section, we have assessed the nature of service accessibility as perceived by five groups of actual and potential contraceptive users. Access to contraceptive services and supply will be needed by current and future users, women who have finished childbearing but rely on ineffective methods to avoid more children, pregnant women who want to use family planning later, and older mothers with large families for whom additional fertility poses a health risk. We have seen that preferences for service source differ substantially if the respondent is a male versus a female. The public health center is a prominent response among men while private doctors are highly regarded by women. This difference is expressed among current users and even more so among future users. Where there is potential need for family planning -- when postpartum care is of interest -- the perceptions of access are reasonably good. When the wife is at high personal health risk from continued fertility, perceived availability is somewhat poorer. Also we have noticed some preference for private sector servicing of injectable methods.

Determinants of Source Preference and Contraceptive Use

What factors influence the acceptability of the main sources of contraceptive services and their perceived access? To what extent do these measures of contraceptive service availability determine the use of contraception? In exploring these questions, we follow a simple conceptual model:



In this model the actual environment of service facilities is not considered. Instead we make special effort to explore the various components to perceptions of contraceptive service availability, i.e., knowledge of and attitudes toward services and the reported convenience to

Table 15. PERCENT DISTRIBUTIONS FOR MEASURES OF PERCEIVED AVAILABILITY OF CONTRACEPTIVE SERVICES AMONG TARGET POPULATIONSA BY RESPONDENT'S SEX

Measure	Wife Currently Pregnant, Future Contraception Intended		Traditional Method Contraceptors Limiting Childbearing		High-Risk Mothers Noncontracepting	
	Male	Female	Male	Female	Male	Female
(N)	(98)	(142)	(30)	(55)	(127)	(117)
<u>Number of FP Sources Mentioned</u>						
None	1	5	3	4	7	13
One	33	39	50	35	44	38
Two	46	44	23	46	37	37
Three or more	20	12	23	16	12	13
Average	1.90	1.63	1.67	1.76	1.57	1.50
<u>Type of Source Preferred/Used^a</u>						
Public health center	53	24	75	36	68	31
FP clinic	3	1	--	2	3	2
Private doctor	1	36	4	22	6	27
Pharmacy	37	28	21	24	32	26
Hospitals	6	11	--	16	5	13
Other	--	1	--	--	0	--
<u>Travel Time^a</u>						
10 mins or less	36	12	43	23	32	13
11-15 mins	16	26	11	21	31	33
16-30 mins	39	32	39	31	27	31
Over 30 mins	9	30	7	25	11	23
<u>Travel Mode^a</u>						
Foot	68	36	62	45	70	42
Vehicle	27	59	21	42	25	53
Other	5	6	17	13	5	6

^a For those who report a source.

access a preferred source. Method orientation measures the respondent's inclination toward the pill, IUD, other methods, or no method at all. It affects perceived access since service needs for supply-type (pill and condom) versus clinic-type (IUD and sterilization) methods differ. The operational definitions of these variables are given in Appendix A.

Before estimating the model, we examine the bivariate relationship between travel time and current contraceptive use by method and respondent's sex in Table 16. Service access does influence pill use: when the perceived distance is within ten minutes, pill prevalence is 19 percent and declines to 11-12 percent as travel times exceed 15 minutes. The association with pill use is stronger for women than for men. Pill, but not IUD use, then is negatively affected by distance (see Figure 2), which is consistent with EFS 1980 results (CAPMAS, 1983).

Is the length of contraceptive use related to the type of service source or travel time? One might expect, given user preferences, that some sources for contraception reinforce practice more than others (e.g. Bailey et al., 1982). Likewise, one might suppose that shorter travel times to a source facilitate the practice of contraception. We explore these two issues only partially here as another companion report (DeClerque and Tsui, 1984) has focussed on the determinants of contraceptive discontinuation, including service accessibility. Looking only at durations of use for current contraceptors, we find no clear support in Table 17 for either expectation. Current users of any method who obtain services from a public clinic have a median use duration of 23 months compared to 19 months for those supplied by either a pharmacy or a doctor. Travel time to the supply source is apparently also not associated with length of use: the longest durations are found for intermediate travel times. Even when only pill users are examined, the patterns remain similar.

The present modelling approach uses multiple classification analysis (MCA) to estimate the coefficients, which is a technique derived from ordinary least-squares multiple regression (see Andrews et al., 1973). Its attractive feature is generating effects that are easily interpreted. We specify additive models of the determinants of 1) contraceptive source preferences (Table 18), 2) reported travel convenience to access a source (Table 19), and 3) use of oral contraceptives (Table 20). The multivariate analyses of the determinants of source preference and travel time are based on only those respondents knowing a source.

The MCA results in Table 18 show an overall mean of 43 percent of the respondents aware of a contraceptive source select the public health center (PHC) as the preferred source. The number of contraceptive sources known, education, social class and especially the respondent's sex significantly influence this choice. The adjusted effect on the mean from knowing three or more sources is to lower the percentage selecting the PHC by 7 points to 36 percent. On the other hand, knowing only one source increases the likelihood that the PHC is the one selected by 5 percentage points. These effects are net of the other factors in the model. That there is relatively little difference between the unadjusted and adjusted effects of source knowledge indicates its relationship with source preferences is relatively independent from those of other variables. Reaffirming results in earlier tables, males are much more likely to select the PHC than females; net of other factors, 53 percent of the respondents would choose the PHC if they

Table 16. PERCENT OF THOSE KNOWING HOW TO ACCESS A SOURCE WHO ARE CURRENTLY USING CONTRACEPTION BY TRAVEL TIME

Method and Respondent's Sex	Travel Time				
	Total	< 10 mins	11-15 mins	16-30 mins	>30 mins
<u>Any method</u>	24	30	24	20	23
Male	26	30	28	19	29
Female	23	30	21	21	21
<u>Pill</u>	14	19	14	11	12
Male	16	19	16	11	18
Female	13	19	12	12	9
<u>IUD</u>	5	4	7	5	6
Male	6	5	7	5	7
Female	5	3	6	4	5

Based on 1692 rural respondents (813 male, 879 female).

FIGURE 2. PERCENT CURRENTLY USING PILL BY PERCEIVED DISTANCE TO PREFERRED CONTRACEPTIVE SOURCE AND RESPONDENT'S SEX

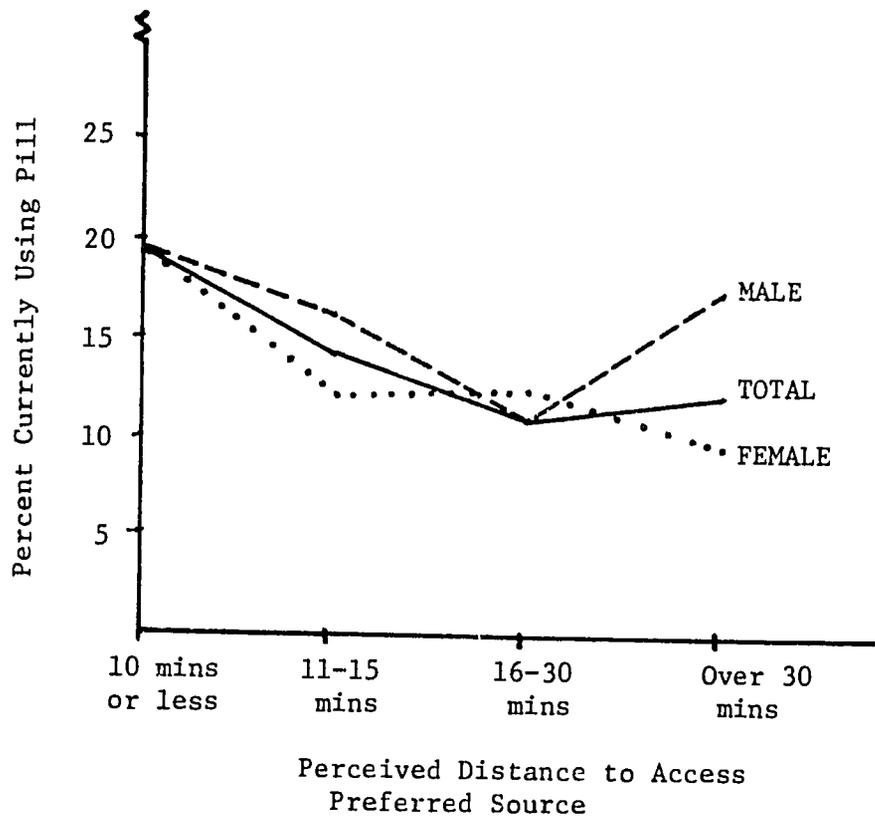


Table 17. MEDIAN DURATION OF CONTRACEPTIVE USE (MONTHS) AMONG ALL CURRENT USERS AND PILL USERS^a BY SERVICE SOURCE AND TRAVEL TIME: RURAL EGYPT

Access Measure	All Current Users		Current Pill Users	
	N	Median	N	Median
Total	325	20.0	197	20.0
<u>Service Source^b</u>				
Public health center	121	22.9	72	23.4
Doctor	52	18.5	22	18.0
Pharmacy	107	19.0	84	19.2
Other	36	24.0	16	25.2
<u>Travel Time</u>				
10 mins or less	109	19.1	68	18.8
11-15 mins	77	22.9	49	24.0
16-30 mins	77	20.6	48	21.0
Over 30 mins	58	19.2	28	20.3

^a Only current users who began use within 5 years of the survey.

^b "Other" category of services include FP clinic, hospital.

Table 18. MULTIPLE CLASSIFICATION ANALYSIS OF PERCENT SELECTING VARIOUS SOURCES FOR CONTRACEPTION BY MEASURES OF SOURCE KNOWLEDGE, METHOD ORIENTATION, AND RESPONDENT BACKGROUND: RURAL EGYPT^a

Independent Variable	N	Selects Public Health Center		Selects Private Doctor		Selects Pharmacy	
		Unadjusted Effect	Adjusted Effect	Unadjusted Effect	Adjusted Effect	Unadjusted Effect	Adjusted Effect
<u>Knowledge of Sources</u>							
One	731	5.19	5.12***	-1.00	-0.85***	0.25	0.42
Two	675	-2.80	-2.91	-1.97	-2.07	1.51	1.37
Three or more	239	-7.95	-7.45	8.64	8.45	-5.03	-5.17
<u>Method Orientation</u>							
None	404	3.68	-1.07	-4.66	-1.78***	-1.58	1.66***
Pill	756	0.42	1.78	-2.95	-3.66	4.96	4.84
IUD	211	-5.19	-4.00	17.60	16.66	-14.61	-13.71
Other	274	-2.59	-0.25	1.47	-0.11	-0.10	-0.36
<u>Education</u>							
None	987	-1.26	-0.85***	1.18	1.00	0.18	0.26
Some primary	466	5.18	5.00	-1.89	-2.10	-2.26	-1.86
Completed primary or higher	192	-6.12	-7.75	-1.47	-0.03	4.55	3.19
<u>Husband's Occupation^b</u>							
Non-manual	429	-3.71	-1.50	1.43	0.28	1.93	2.25
Manual	277	-3.39	-2.44	-0.89	-1.57	3.55	3.19
Farm	939	2.69	1.41	-0.39	0.34	-1.93	-1.97
<u>Region of Residence</u>							
Lower	1080	-0.69	-0.84	-0.12	-0.48	-0.50	0.22
Upper	565	1.32	1.61	0.23	0.91	0.96	-0.43
<u>Social Class</u>							
Affluent	102	-5.85	1.23*	14.34	8.77***	-4.79	-3.96***
Upper Middle	595	-3.77	-1.81	1.43	0.62	0.62	-0.02
Middle	665	3.67	3.34	-0.41	-0.45	-2.99	-2.78
Poor	283	1.42	-4.47	-7.21	-3.40	7.45	7.99
<u>Sex</u>							
Male	781	10.80	9.49***	-10.67	-9.61***	2.33	3.73***
Female	864	-9.77	-8.57	9.65	8.69	-2.10	-3.37
Overall mean		43.10		16.05		29.30	
R ²		.074		.129		.038	

*p < .10 **p < .05 ***p < .01

^a Those who do not know of or how to reach a contraceptive source are excluded.

^b Unemployed husbands (n=65) excluded.

Analysis controls for respondent's parity and age.

were male compared to only 35 percent if female, an 18 percentage-point spread. It is unlikely that this is the result of men knowing only one source and it being the PHC; in Table 1 we observed that men, on the average, were slightly more knowledgeable than women.

The pattern of significant effects from source knowledge and respondent's sex carry forward into the selection of private doctors (16 percent), which is also influenced by method orientation and social class. Knowing three or more sources for contraceptives or being affluent, female, or inclined toward IUD use are categories that substantially increase the percentage selecting private physicians by 8, 17, 9 and 9 net points, respectively. Being male reduces the mean percent choosing doctors from 16 to 6 percent. Preference for pharmacy services is significantly related to source knowledge, social class and sex only. In particular, the net effects of being oriented toward pill use, being poor, and being male are to increase the overall proportion of 29 percent choosing this source to 34, 37 and 33 percent respectively.

How do these relative preferences for the three main sources for contraceptive services affect their perceived distances? We use the travel time reported in minutes as a measure of distance and control for the means of travel (pedestrian, vehicular, and other). The mean perceived travel time is about 27 minutes -- just under half an hour -- and the travel times adjusted for the effects of other variables in the model are shown in Table 19. If a doctor is preferred, the adjusted travel time is 35 minutes, and 24 minutes if the public health center is chosen. If one can walk to the source, it is 21 minutes whereas vehicle travel implies 34 minutes travel. The perceived distance of an acceptable source for contraceptive services is also significantly affected by the respondent's method orientation, education, husband's occupation, region of residence and sex. The adjusted travel times are long if non-pill methods are involved or if the respondent is farm-based, lives in Upper Egypt, and female.

These results reassure the logic and consistency in perceptions of service availability. In the rural areas, socioeconomic welfare and the possession of contraceptive knowledge are important determinants of source preferences. One's sex also affects the perceived acceptability of contraceptive sources. Once finding a source acceptable, its reported accessibility in terms of travel time and means seem consistent with what is likely to be its actual availability: public health centers are readily accessed and private doctors less so. Pharmacies are available in most towns and many villages. Having some inclination toward a particular contraceptive method also molds the perceived travel time. All these influences arise independent of those from the respondent's background.

Table 20 focusses on pill use behaviors because it is the leading and dominant method in Egypt and because the results of Table 16 indicate perceived access is not likely to independently influence IUD use. Two models specifying current and future pill use as functions of access measures and respondent background are presented. In Model I the availability measures refer to all source types and include reported travel convenience to the preferred source; the model excludes the 177 respondents unaware of a contraceptive source. Model II concentrates on contraceptive access through the public health sector. It uses as access measures knowledge of contraceptive sources and time and means for travel to the

Table 19. MULTIPLE CLASSIFICATION ANALYSIS OF TRAVEL TIME TO PREFERRED SOURCE FOR CONTRACEPTIVE SERVICES BY MEASURES OF TYPE OF SOURCE, MEANS OF TRAVEL, SOURCE KNOWLEDGE, METHOD ORIENTATION AND RESPONDENT BACKGROUND: RURAL EGYPT^a

Independent Variable	N	Adjusted Minutes to Travel ^b
Overall Mean		26.54
<u>Source Preference</u>		
Public health center	706	23.55***
Private doctor	258	34.66
Pharmacy	476	26.06
Other	165	28.01
<u>Travel Means</u>		
Foot	920	20.58***
Vehicle	637	34.20
Other	48	39.14
<u>Knowledge of Sources</u>		
One	717	26.40
Two	652	27.35
Three or more	236	24.72
<u>Method Orientation</u>		
None	385	26.86**
Pill	748	25.06
IUD	209	27.99
Other	263	29.12
<u>Education</u>		
None	960	27.98***
Some primary	458	24.76
Completed primary or higher	187	23.50
<u>Husband's Occupation^c</u>		
Non-manual	421	24.74***
Manual	270	24.45
Farm	914	27.99
<u>Region of Residence</u>		
Lower	1053	24.87***
Upper	552	29.72
<u>Social Class</u>		
Affluent	100	30.47
Upper Middle	581	25.62
Middle	644	26.74
Poor	280	26.58
<u>Sex</u>		
Male	770	24.37***
Female	835	28.54
R ²		.234

*p < .10 **p < .05 ***p < .01

^a Those who do not know of or how to reach a contraceptive source are excluded.

^b Analysis controls for respondent's age and parity. Adjusted times reflect net effects of each independent variable on reported travel time to preferred source.

^c Unemployed husbands (n=65) excluded.

Table 20. MULTIPLE CLASSIFICATION ANALYSIS OF CURRENT AND FUTURE PILL USE BY MEASURES OF SERVICE ACCESS AND RESPONDENT BACKGROUND: RURAL EGYPT

Independent Variables	Percent Currently Using Pill				Percent Intending Future Pill Use ^a			
	Model I		Model II		Model I		Model II	
	N	Adjusted Effect	N	Adjusted Effect	N	Adjusted Effect	N	Adjusted Effect
SERVICE ACCESS								
<u>Travel Time^b</u>								
10 minutes or less	436	3.90*	539	2.50	305	.50***	384	-.70
11-15 minutes	387	-1.37	449	-1.00	292	2.45	346	2.81
16-30 minutes	483	-1.92	435	-1.25	383	3.48	340	-.46
Over 30 minutes	299	.81	168	-2.09	229	-9.61	132	-4.18
<u>Travel Means^b</u>								
Foot	920	-0.42	1311	.06	680	-1.42	993	-.56
Vehicle	637	-0.19	245	-0.62	488	1.29	184	4.00
Other	48	-5.57	35	2.01	41	8.19	25	-7.29
<u>Source Type</u>								
Public health center	706	-1.86***	---	---	540	3.52**	---	---
Private doctor	258	-4.03	---	---	198	-9.69	---	---
Pharmacy	476	6.52	---	---	353	1.63	---	---
Other	165	-4.58	---	---	118	-4.73	---	---
<u>Knowledge of Sources</u>								
None	---	--- ^c	90	-4.58***	---	--- ^c	87	-18.35***
One	717	-2.91***	644	-2.67	579	-3.74**	514	-1.01
Two	652	2.95	625	3.37	477	3.70	451	3.61
Three or more	236	.69	232	.11	153	2.59	150	3.24
RESPONDENT BACKGROUND								
<u>Education</u>								
None	960	-2.59***	949	-2.62***	770	1.23	769	1.05
Some primary	458	2.47	454	2.52	320	-.49	315	-.20
Completed primary or more	187	7.22	188	7.17	119	-6.65	118	-6.32
<u>Husband's Occupation</u>								
Non-manual	421	1.45	418	1.46	283	.83	281	1.09
Manual	270	2.60	265	2.72	197	5.10	194	4.68
Farm	914	-1.43	908	-1.47	729	-1.70	727	-1.67
<u>Region of Residence</u>								
Lower	1053	3.55***	1011	3.92***	730	-3.86***	697	-3.89***
Upper	552	-6.77	580	-6.83	479	5.88	505	5.37
<u>Social Class</u>								
Affluent	100	-5.03**	90	-5.12**	73	1.69**	64	6.04**
Upper Middle	581	2.90	559	3.12	411	2.84	392	2.70
Middle	644	-.51	642	-.65	483	1.82	486	1.31
Poor	280	-3.06	300	-2.87	237	-9.20	260	-8.01
Overall mean		14.58		14.33		42.51		40.10
R ²		.113		.098		.081		.074
N		1605		1591		1209		1202

Analysis controls for respondent's sex, age and parity. --- not included in model

*p < .10 **p < .05 ***p < .01

(a) Among non-contraceptors; (b) In Model I, travel time is to preferred source, in Model II travel time is to the public health center; (c) Only those who know how to access a contraceptive source included in Model I. Only those who know how to access the public health center are included in Model II.

public health center. It excludes 226 respondents who do not know how to access the center. In both models several respondent characteristics known to influence motivations for contraceptive practice are examined -- education, husband's occupation, region of residence and social class. The analyses control for the respondent's age, sex and current parity.

Based on the results of Model I, and confirming what was observed earlier, travel time, source type and number of sources known have significant and net effects on current pill use. The percent currently using the pill increases by almost 4 points if travel time is within ten minutes, by 7 points if a pharmacy is the preferred source, and by 3 points if two sources for contraceptive services are known. Education can raise use by as much as 7 percentage points if primary school has been completed, lower it by a similar amount if the respondent lives in Upper Egypt and lower it by 3 points if the respondent is poor or by 5 points if the respondent is considered affluent. (The latter effect of affluence is explained partly by their greater IUD use.)

When intentions for future pill use (by non-contraceptors) are analyzed, the same determinants, with the exception of education, remain significant, but the size and direction of effects change. Moderately distanced access (within half an hour) increases the percent intending to use the pill later by 2 or 3 points; however, travel times over 30 minutes lower it by almost ten points. Travel mode does not significantly influence either current or future pill use. Whereas selection of a public health center lowers the percent currently using by 2 points, it raises the likelihood of future use by 4 points. Other shifts in effects from choosing doctors or pharmacies indicate that the experience of contraceptors, now excluded in the base, substantially influences these perceived measures of contraceptive availability. The absence of significant education effects and the reversed direction of the effect of being poor also suggest that current contraceptors in rural Egypt are a selective social group.

When public health center access is considered alone (Model II), travel time no longer influences current or future pill use significantly. Knowledge of sources does more or less linearly. In the case of the percent currently using the pill, it lowers it by 5 points if no sources are known and increases it by 3 points if two are known. Having no knowledge of contraceptive sources can reduce the percent intending future pill use by 18 points. Education, region and social class rating exhibit the same patterns of influence as in Model I. In sum, these components of perceived contraceptive access -- source knowledge, source preference, and perceived distance -- do individually and significantly influence the current and future use of oral contraception in rural areas. The accessibility of public sector services, however, does not appear to influence the use of oral contraceptives. In this model, only source knowledge remains important. The lack of impact from public health center access may possibly reflect their widespread prevalence. The earlier analyses of source preference and perceived distance have indicated that public health centers are not uniformly acceptable to all current or potential contraceptors.

Conclusions

Contraceptive services are perceived as widely available in rural areas. Knowledge of public health centers and their provision of contraceptive services is high; their access is generally viewed as easy. At a minimum, it appears that the majority of the rural childbearing public has heard of modern contraception (the pill) and knows of at least one place to obtain services. Definite source preferences exist, however, and for females, tend to favor such outlets in the private sector as doctors, hospitals, and pharmacies. These, in turn, influence the perception of distances or travel time since physician and hospital services are remotely available in rural Egypt.

There is also a remarkable awareness in the rural areas of the pill's low price at public sector outlets. This finding is made more significant by virtue of the pharmacy price being reported as about four times higher. Past experience with contraception does reduce the range of prices reported for the pharmacy but does not appreciably alter the picture of sex differences in source acceptability. In addition, the reported use of various service outlets shifts if a pill-contracepting wife is reporting herself or if a husband is reporting for her. The contracepting wives interviewed indicate higher use of doctors and lower use of public health centers than husbands who are interviewed about the source of their wives' contraceptive services.

Male-female differences in preferred source reappear continually in our analysis. Taken at face value, they are of potential concern as they may work at cross purposes in influencing a spouse's eventual use of contraception. Although one or both partners may be motivated to practice family planning, the apparent lack of consensus on where to go for services may be a significant barrier to realizing intentions. This can be a particular problem when wives desire, for example, to be serviced by private doctors but one is located far away or family economic resources can not support the high service fees. As a fair percentage of non-users report intending future contraception and only a small percentage are using now, some slippage in the conversion of these motives at a later time seems likely. To minimize the loss, the factors influencing user and non-user perceptions of service outlets and the decisions behind the choices seem to us to be important questions to pursue in subsequent family planning research. At present most contraceptive surveys are not sufficiently detailed to address them adequately.

The multivariate analysis has determined that perceptions of contraceptive availability in this rural sample do significantly impact on the probability of using oral contraception. Knowledge and use of IUDs are quite limited and do not permit rigorous investigation. The availability of contraceptives through pharmacies is an implied strategy for expanding service delivery. In addition, the social structure as it differentiates the welfare of rural residents, seen in their educational and occupational backgrounds, social class ratings, and current region of residence, exerts considerable influence on family planning perceptions, motivations and behaviors. The upper classes possess more knowledge of modern contraceptive services, the methods, and their costs. The poor and agriculturally-based respondents, especially the female ones in Upper Egypt, are least informed. The small percentage who are current contraceptors are likely to

be of higher socioeconomic status than the rural respondents overall. Consequently, one should not underestimate the impact that structural conditions prevailing in rural areas -- ranging from an agricultural life style to community and family norms -- can have on perspectives toward modern fertility control.

The present findings are perhaps most useful in establishing the nature and significance of these perceptions of contraceptive service availability in rural areas, specifically the relative appeal of the main outlets to men and women. The level of pill use intended in the future is encouraging; and if it is a reliable indicator of actual behavior, it implies strong interest in fertility regulation. For accommodating this interest alone, the national program may benefit from considering survey evidence of the varying acceptability of existing sources for family planning.

REFERENCES

- Andrews, F., J. Morgan and J. Sonquist
1973 Multiple Classification Analysis. Ann Arbor: Institute for Social Research, University of Michigan.
- Chayovan, N., A. Hermalin, and J. Knodel
1984 Measuring Accessibility to Family Planning Services in Rural Thailand. Studies in Family Planning 15(5): 201-211.
- Central Agency for Public Mobilisation and Statistics (CAPMAS)
1983 The Egypt Fertility Survey 1980. Cairo, Egypt: Central Agency for Public Mobilisation and Statistics.
- Cornelius, R. and J. Novak
1983 Contraceptive Availability and Use in Five Developing Countries. Studies in Family Planning 14(12): 302-317.
- Entwisle, B., A. Hermalin, P. Kamnuansilpa and A. Chamrathirong
1984 A Multilevel Model of Family Planning Availability and Contraceptive Use in Rural Thailand. Demography 21(4): 559-574.
- Hermalin, A. and B. Entwisle
1985 Future Directions in the Analysis of Contraceptive Availability. Paper presented at the 20th IUSSP Conference, Florence, Italy. June.
- Omran, A. and C. Standley (Eds.)
1981 Further Studies on Family Formation Patterns and Health. Geneva: World Health Organization.
- Rinehart, W. and A. Kols
1984 Healthier Mothers and Children Through Family Planning. Population Reports, Series J., Number 27. Baltimore, Md.: Population Information Program, The Johns Hopkins University.
- Rodriguez, G.
1978 Family Planning Availability and Contraceptive Practice. International Family Planning Perspectives 4(4): 100-115.
- State Information Service, Central Agency for Public Mobilisation and Statistics, and Social Development Center
1982 Communicating Family Planning to Egypt. Report on the 1981-82 Egypt Follow-up Survey on Family Life and Family Planning. Chicago, Illinois: Social Development Center.
- Tsui, A.
1982 Contraceptive Availability and Family Limitation in Mexico and Rural Korea. International Family Planning Perspectives 8(1): 8-18.

1985 Community Effects on Contraceptive Use. In J. Casterline (ed.),
The Collection and Analysis of Community Data. Voorburg,
Netherlands: International Statistical Institute.

Wolti, C., A. Tsui and J. Molyneaux

1985 Survey Measurement of Contraceptive Service Availability. Paper
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APPENDIX A

Variable Definitions for Respondent Background Characteristics

Six variables describing the rural respondent's background have been selected to differentiate the perceptions of contraceptives: region of residence, age, number of living children, socioeconomic class, education, and husband's occupation. Except for age and number of living children, which characterize the respondent's life cycle stage personally and familially, the remaining factors describe his or her social and economic welfare. Each is operationally defined below:

1. Region of Residence

The two regions of Lower and Upper Egypt are both geographically and culturally distinct. Lower Egypt is actually the northern half of the country since the population of Egypt is distributed primarily along a narrow strip of land bordering the Nile River. Geographically, it includes the metropolitan areas of Cairo, Alexandria, and Giza; but this report analyzes the data of rural respondents only. Lower Egypt tends to be more modern in social custom than Upper Egypt. The latter, on the other hand, represents the southern half of the country that is largely rural and traditional. The population inhabiting Upper Egypt tends to be disproportionately poor, agricultural and minimally educated.

2. Respondent's Age

Respondents' ages are categorized in four age groups -- 15 to 24 years, 25 to 34 years, 35 to 44 years, and 45 years and over. While there is an upper age limit of 44 years for females, there is no limit on the ages of males in the sample. (Their wives, however, must be under 45 years of age.)

3. Number of Children

This is the current number of living children, or the present family size, as reported by the respondent. Family sizes are categorized as two and under, three or four, and five or more children. (While the family size is intended to pertain to the present couple's childbearing, it is possible, although not probable, for polygynous males report their total offspring across all unions. Very few polygynous marriages were sampled, however.)

4. Socioeconomic Class

This variable is based on the subjective rating of the interviewer who rated the household on a five-point scale from very poor to affluent, following the interview. Although there were 24 interviewers involved, their cumulative ratings generate a distribution which is not unreasonable and in fact has proven to differentiate social perceptions quite effectively. In these tables, a four-category scheme is used -- affluent, upper middle, middle and poor (which includes the original fifth category of very poor).

5. Education

The respondent's educational achievement is measured by the number of years and level of schooling completed. Because the sample is rural and minimally educated, only three categories are constructed -- none, less than six years, completed primary school (six years) or more. Expectedly there are very few women who receive much formal schooling, especially in the rural areas. However, most men, outside of rural Upper Egypt, are literate and generally have at least a primary education.

6. Husband's Occupation

The original occupational codes, used in Egypt and based on a modified version of the classification scheme used by the International Labour Office, has been combined into three broad occupational types -- nonmanual, manual and farm. If the respondent is male, the husband's occupation coded is his own. Although only three categories are used, they often differentiate in ways consistent with those of education or social class.

The percent distributions of these characteristics by sex are shown in the table on the next page.

Method Orientation

This variable is used in the multivariate analyses to control for the type of contraceptive method preferred, as this will affect the nature of services perceived or used. Responses to survey questions on current method used or the future method intended allow us to distinguish among those inclined towards oral contraceptives, IUDs or other methods. The variable is categorized as 1) no method indicated 2) now using or will use a method other than pill or IUD 3) now using or will use pill and 4) now using or will use IUD.

Percentage Distribution of Social, Demographic and Economic Characteristics
of Rural Respondents by Sex

Characteristic	Total	Males	Females
(N)	(1895)	(865)	(1030)
<u>Region</u>			
Lower	61	65	57
Upper	39	35	43
<u>Respondent's Age</u>			
15 to 24 years	20	7	32
25 to 34 years	38	33	42
35 to 44 years	28	30	27
45 years and over	14	30	--
<u>Number of Living Children</u>			
Two or less	41	37	44
Three or four	29	28	30
Five or more	31	35	27
<u>Socioeconomic Class</u>			
Affluent	6	4	7
Upper middle	35	31	39
Middle	39	39	39
Poor	20	27	15
<u>Education</u>			
None	62	55	68
Some primary	27	29	26
Completed primary or more	11	17	6
<u>Husband's Occupation</u>			
Nonmanual	25	26	24
Manual	17	16	17
Farm	59	58	59

APPENDIX B

Survey Methodology

The 1981-82 Egypt Follow-Up Survey on Family Life and Family Planning was designed as a collaborative effort between the Central Agency for Public Mobilisation and Statistics (CAPMAS) and the State Information Service (SIS), with the Social Development Center as an external supportive party. At the time of the collaborative agreement, CAPMAS had recently completed the Egypt Fertility Survey (EFS), part of the World Fertility Survey program. The sample design used in the EFS was then adapted by the staff of the Population Studies and Research Centre (PSRC) at CAPMAS to be used in selecting the sample for the Egypt Followup Survey.

The urban sample design of the EFS involved three-stage sampling, with **shiakhas** (districts)/towns as primary sampling units (PSUs), modified enumeration areas (EAs) as second stage units, and ultimate area units (UAUs) and households as third stage units. The PSUs were selected with probability proportional to size (PPS) where size was the number of EAs (after making necessary adjustments). Stratification was used at the first stage, and sometimes at the second stage. A systematic sample of households was drawn at the third stage.

The rural sample design of the EFS involved two and sometimes three stages, with villages as PSUs. When possible, parts of villages were used as second stage units or UAUs and then households became third-stage units. The villages were selected by PPS, where size was the number of households; the UAUs were also selected by PPS. Stratification was used at the first stage. A systematic sample of households was drawn at the final stage. The total sample of the EFS contained 200 PSUs (92 urban and 108 rural) and 293 UAUs (185 urban and 108 rural).

Using the preliminary returns of the EFS, the number of dwelling units and number of currently married women under 45 years of age in the dwelling units were determined, and the number of dwelling units needed for the Followup Survey was estimated. For the Followup Survey, then, the dwelling units were selected with a range double that of the EFS. Half of the dwelling units with eligible male respondents were systematically selected with a random start. The total number of dwelling units selected to fulfill the target (3,000 eligible men and women) was 5,298 distributed across 22 governorates.

Two questionnaires were prepared, one for each sex, with small differences due to question wording and the inclusion of some female work history questions. The questionnaire was reviewed by an external advisor for cultural appropriateness and then pretested in late September and early October 1981 and in both urban and rural areas of two governorates as well as Cairo. A total of 208 respondents were sampled for the pretest.

Following a final set of revisions to the questionnaire, the data collection phase began December 5, 1981 and continued through March 25, 1982. In addition to the project and deputy project directors, who were PSRC staffpersons, six fieldwork groups were engaged for the survey. Each

consisted of one team leader and four interviewers -- two males and two females. Accordingly, there were six team leaders and 24 interviewers. Most of the interviewers had previously participated in the EFS as well as in other related surveys. Female interviewers expectedly interviewed the female respondents and male interviewers the male respondents.

During the data collection period, one of the six fieldwork groups was responsible for field checks in all sample areas over all governorates. Due care was given to obtaining an accurate and representative sample. A second field visit was made to respondents who were temporarily absent during the first visit. Although there was some original concern with reaching male respondents, 81 percent of them were actually interviewed on the first visit and another 19 percent in the second. By comparison 94 percent of the women were reached on the first visit and the balance during the second. (A more detailed governorate-specific breakdown of the urban-rural distribution of dwelling units and of response rates is available in the main report.)

Coding, recoding, manual and machine editing, and data entry took place between mid-December 1981 and the end of May 1982. Completed and field-edited questionnaires were regularly transmitted to the central PSRC office to begin the coding and recoding process by the PSRC staff during the data collection phase. After all editing and data entry was completed, a tape copy of the survey data was delivered to the SDC in Chicago for computer tabulation and analysis.

Source: Chapter 2, SIS, CAPMAS and SDC (1982).