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THE PHILIPPINE FAMILY PLANNING
PROGRAM: SOME SUGGESTIONS FOR
DEALING WITH UNCERTAINTIES

John E. Koehler

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This study is presented as a competent treatment of the subject, worthy of publication. The Rand Corporation vouches for the quality of the research, without necessarily endorsing the opinions and conclusions of the authors.

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PREFACE

This Memorandum is aimed at providing some suggestions, based on analysis of new data, for the design of the AID family planning program in the Philippines. It is part of a larger study project of political and economic change in Colombia and the Philippines, which is reported in R. R. Nelson, R. L. Slighton, and T. P. Schultz, Colombian Development Policy, The Rand Corporation, R-461-AID/RC, December 1969; and H. Averch, F. H. Denton, and J. E. Koehler, A Crisis of Ambiguity: Political and Economic Development in the Philippines, The Rand Corporation, R-473-AID, January 1970.

The data on which this work is based are drawn primarily from The National Demographic Survey of the Philippines, a joint project of the Population Institute of the University of the Philippines and the Philippine Bureau of the Census and Statistics conducted in May 1968. The author is indebted to Professor Mercedes B. Concepcion, Director of the Population Institute, not only for making the data available but also for help in the interpretation of results and guidance in the field of Philippine demography. He also is grateful to Dr. Tito A. Mijares, Director of the Bureau of the Census and Statistics, for making available the labor force data that was gathered at the same time and for his help with various other difficult data problems. Several staff members of the Population Institute, in particular Adriana C. Regudo, spent long hours helping in the editing of the survey.

The work progressed in two stages. In the first phase, a subsample of 2600 women was drawn randomly from the overall sample and processed. A description of the results of that work was submitted to AID/Philippines on June 13, 1969. The discriminant analysis reported here was done during that period. When the full sample became available in early May, the data processing on the total group was redone. These results are quite similar to those drawn from the subsample.

Further analysis of the survey data has been undertaken by Rand colleague A. J. Harman to better define the relations among labor

force participation, earnings, migration, marriage, and fertility. This is being done as part of a larger study of fertility in several countries conducted under AID auspices.

This study would have been impossible without the assistance of Harold O. Casali and Dean Hatch of Rand's Computer Sciences Department and Julie Spatz and David J. Weinschrott of the Economics Department. The author is grateful to T. Paul Schultz, who sharpened both the analysis and the presentation and to William P. Butz for suggestions on the substance. The transformation from indecipherable typescript to finished product is due to S. A. Mennine.

The author alone is responsible for any remaining errors of fact or interpretation.

SUMMARY

The purpose of this study is to provide some suggestions for the design of AID's family planning program in the Philippines by identifying areas where important uncertainties impinge on the program and by proposing ways in which the uncertainties can be hedged or reduced. The analysis is based primarily on data drawn from a recent survey of Philippine women.

The study suggests relatively simple shifts in the emphasis of the family planning program to deal explicitly with some of the major uncertainties. Since the rate of growth of population is uncertain, AID should avoid explicit reference to any rate, either in its information program or in setting formal program goals. The link between knowledge and use of contraceptive techniques is ambiguous; therefore AID should establish information systems and undertake analysis that will illuminate the character of this link. Since the population is heterogeneous, AID should try to gather information from across the country rather than concentrating research efforts on intensive study of particular ethnic groups and areas. Some of the uncertainties can be most efficiently reduced by information gathered from the family planning clinics themselves, and AID should use its leverage over the various agencies to encourage them to track the experiences of individual women and to standardize recordkeeping. This will facilitate evaluation of the performance of the different family planning groups.

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BRIEF

February 1970

RB-6149

RM-6149-AID, *The Philippine Family Planning Program: Some Suggestions for Dealing with Uncertainties*, John E. Koehler, Rand Memorandum, February 1970, 36 pp.

Birth control in the Philippines--tentative conclusions for the consideration of designers of the AID family planning program.

The Philippine National Demographic Survey (NDS) provides the first nationwide data ever gathered on family planning, knowledge, and practice of birth control, and related demographic information for the Philippines. This survey and the Bureau of Census and Statistics Survey of Households (BCSSH), both taken in May 1968, provide the information base for the present study, which attempts to identify areas where important uncertainties, such as the rate of population growth, impinge on AID's family planning program. The study suggests relatively simple shifts in the emphasis of the program to deal explicitly with some of the major uncertainties, and ways in which other uncertainties can be hedged.

Working first from a subsample of 2600 women, and later with the entire sample, it was possible to apply the survey data to questions of knowledge and use of birth control procedures, including *coitus interruptus*, the pill, the intra-uterine device (IUD), and rhythm as the most popular methods, considering the women by language, income, and age. It was also possible to distinguish users of contraceptives from non-users by rate of use and information source, and to make independent estimates of birth and infant mortality rates.

Some of the assumptions that appear to underlie the AID population program, it was concluded, may prove to be false. First, the growth rate of the Philippine population may be less than believed; in any case, the growth rate is uncertain. AID should therefore avoid explicit reference to any rate, either in its information program or in setting program goals. Second, the assumption that merely publicizing methods and materials of birth control will produce an increase in the number of women practicing contraception is unfounded. Knowledge of techniques is already widespread, but the link between knowledge and application is complex. It seems to be influenced by word-of-mouth and other informal communication, and may even be related to such factors as infant mortality rate. It is definitely related to education, age, and family income; but appeals in the mass media appear to have little effect. Moreover, less than a third of all women who have ever taken the pill are still using it. Why women drop out of contraception programs, and what their subsequent fertility is, are important considerations. AID should therefore establish information systems and undertake analysis that will illuminate the link between knowledge and use.

Third, lessons learned in one part of the country or findings that are true for one ethnic group may not apply nationwide because of the heterogeneous nature of the population. Rather than to concentrate research efforts on one section or ethnic group, AID should try to gather information for the entire country. Fourth, uniform recordkeeping in the clinics and agencies engaged in family planning is a low-cost investment that will result in important benefits to the AID program. Much of the information coming from them cannot now be evaluated fully because records are kept by erratic and diverse methods. As a source of substantial funds, AID should use its leverage over various agencies to encourage them to gather data on the experience of individual women and to standardize their recordkeeping.

SM/TC

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I. INTRODUCTION

Family planning is an increasingly important part of the Philippine AID program. In the Philippines, as in many other countries, basic information about social structure, patterns of communication, economic activity, and even demographic change is scarce. Data for regions and provinces are even less adequate.¹ The shortage of information makes it difficult to design and evaluate family planning programs. The available data do not yield firm answers to even the most basic questions: How fast is the population growing? How widespread is family planning? How do knowledge and use vary across the country? What distinguishes contraceptive users from non-users? Where do women learn about contraception? The answers to all of these questions are uncertain. Nevertheless, the answers are fundamental to the design of an effective program.

Waiting until the uncertainties are resolved is not an available nor even a desirable option. However, the AID program itself can be designed to help eliminate some of the uncertainties. Other uncertainties can be hedged.

This Memorandum attempts to better define some of the uncertainties surrounding family planning in the Philippines and to bring to bear new data relevant to the design of the program. It does not, however, provide definitive or thorough answers to any of the important questions. Philippine demographers have undertaken a much more complete analysis and firm conclusions will have to be based on that. Nonetheless, from even this preliminary work we can draw some tentative conclusions: (1) some of the assumptions that appear to underlie the AID population program are probably false; (2) some risks can be avoided at low cost; (3) in the long run uniform record-keeping in the clinics will result in important benefits to the program.

¹On this point see H. Averch, F. Denton, and J. Koehler, A Crisis of Ambiguity: Political and Economic Development in the Philippines, The Rand Corporation, R-473-AID, January 1970, Ch. V.

The information on which this Memorandum is based is drawn primarily from the National Demographic Survey (NDS) conducted jointly by the Philippine Bureau of the Census and Statistics and the University of the Philippines Population Institute in May 1968. This survey provides the first nationwide data ever available on family planning knowledge and practices and related social, economic, and demographic phenomena. All tabulated material, except where otherwise indicated, is based on the processing of the NDS data and the Bureau of the Census and Statistics Survey of Households (BCSSH) conducted in May 1968.¹

¹The NDS was made available to us through the courtesy of Professor Mercedes B. Concepcion, Director of the Population Institute, University of the Philippines. The BCSSH was provided through the courtesy of Dr. Tito A. Mijares, Director of The Bureau of the Census and Statistics.

II. HOW FAST IS THE POPULATION GROWING?

The population of the Philippines is growing rapidly. This fact underlies AID's desire to promote an effective family planning program. The precise rate of growth, however, is uncertain. Estimates of the current rate of growth of the Philippine population usually lie in the range 3.4-3.5 percent per year. Official Philippine government figures now show a rate slightly over 3.5; the widely used Lorimer estimates give an annual rate between 3.4 and 3.5 for the period 1965-1970.¹ Although done with admirable skill and care, these are estimates, and they are based necessarily on scanty data which may contain a substantial margin of error.² The NDS and the Bureau of the Census Survey of Households from earlier years provide some additional, but ambiguous, evidence on the rate of growth of the Philippine population.³

Figure 1 shows the official population estimates for the Philippines and the population estimates derived from the Survey of Households. Since this population estimate excludes the institutional population, it should lie below the official estimate, and it does. The Survey of Households also shows a consistently lower rate of growth than the official estimates, about 3 percent. But the Survey of Households population estimates move erratically, especially in the earlier years, and break in 1965, when a new sample design was introduced.⁴ So the lower growth rate they show is a very uncertain estimate.

The BCSSH of May 1968 gives us an estimate of the age structure of the population, which, in principle, can yield another estimate of

¹F. W. Lorimer, "Analysis and Projections of the Population of the Philippines," First Conference on Population, 1965, Quezon City, University of the Philippines Press, 1966, pp. 200-314.

²For example, only about one-third to one-half of all births and deaths are registered in the Philippines; ibid., p. 211.

³Since 1965 the sample design of the Survey of Households has remained constant. It is structured to provide estimates of the population size because it samples a known proportion of households in a known proportion of barrios and city precincts across the nation.

⁴Ibid., p. 216-222.

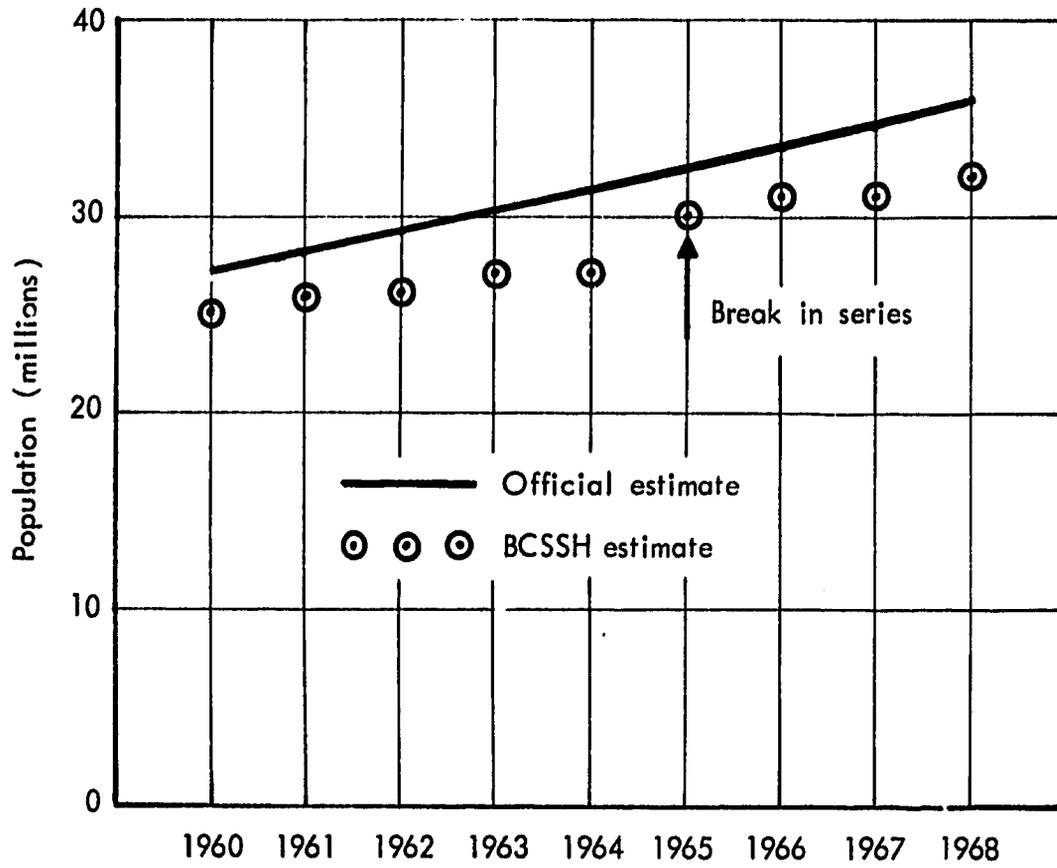


Fig.1—Alternative estimates of the size of the Philippine population

the rate of population growth. The data were processed using quasi-stable population techniques to derive estimates of birth rates and death rates consistent with the age structure and rates of growth of 3.0 and 3.5 percent per year. These birth rates and death rates are shown on Table 1.¹

Since the NDS gathered a complete pregnancy history of each woman interviewed, it is possible to construct an independent estimate of both the birth rate and the rate of infant mortality to compare with the stable population estimates. These rates, shown in Table 2, are implausibly low for a less developed country. But there is no precise information on which to base an upward adjustment.

Thus, the fragments of evidence we have are inconsistent and the rate of growth of the population is uncertain. This uncertainty poses a problem of strategy for AID. There is some probability that the 1970 Census will show that the population has been growing more slowly than the official estimates indicate. If the family planning information program rests its case for action upon the 3.5 percent rate of growth, the program could be undercut by the happy discovery that the population is growing at only a 3 percent rate. By the same token, AID should avoid setting a firm target rate of growth of population for the Philippines until it is clear what the rate has actually been over the last decade.²

¹The methods are described in United Nations, Manual IV: Methods of Estimating Basic Demographic Measures from Incomplete Data, Population Studies, No. 42, New York, 1967. In a closed population where birth rates are relatively stable and death rates have fallen in a prescribed fashion, the current rate of population growth and the age distribution of the population jointly determine a unique combination of birth and death rates. The models used here are from the South Regional Life Tables. If the East Regional Life Tables had been used, the birth rate would be 1 to 2 per thousand lower.

²Some other target, unwanted births averted, for example, may be preferable to a target rate of population increase. In this case, however, evaluation methodology should be weighed carefully. If births averted are estimated from records of the family planning clinics, evaluation will ignore the impact of the family planning program on the fertility experience of women who never come to the clinics but are affected by the experiences of those who do come. Similarly, reliance on clinic records alone risks imputing to the

Table 1

VITAL RATES FOR THE PHILIPPINES CONSISTENT
WITH THE 1968 AGE STRUCTURE AND THE QUASI-STABLE POPULATION MODEL

	Assumed Annual Rate of Population Growth 1960-1968			
	3.0 Percent		3.5 Percent	
	Birth Rate	Death Rate	Birth Rate	Death Rate
Males	50	20	48	13
Females	50	20	47	12

Table 2

ESTIMATE OF BIRTHS, INFANT MORTALITY,
AND BIRTH RATE FROM NDS AND BCSSH

Children born, June 1967-May 1968	982,000
Infants who die in first year	33,000
Total population	32,664,000
Crude birth rate	30.1 per thousand population
Infant mortality rate	33.6 per thousand births

III. HOW WIDESPREAD IS FAMILY PLANNING?

A crucial issue for the design of a family planning program is the extent to which women already know of ways to limit births and the link between that knowledge and contraceptive practice. Table 3 shows knowledge and use of contraceptive methods throughout the nation. Knowledge, even of the oral contraceptive (pill) and intra-uterine contraceptive device (IUD) is fairly widespread. This should not be particularly surprising; the Philippines is a relatively well-educated country. Slightly over 11 percent of the women sampled said that they were currently using some contraceptive method.¹ Of these, however, only about 10 percent were using the most reliable modern methods: the pill or the IUD. As Table 4 shows, coitus interruptus and rhythm are the most common methods used by a wide margin. Thus there is a considerable gap between knowledge of modern methods and their use.

Traditional methods may result in low reliability of contraception. It is also likely that Philippine women practice even traditional methods inefficiently or irregularly. Table 5 shows women who have used some contraceptive, the time at which they started using it, and the number of children they bore after beginning contraception. A very large number of women have had more than three additional births after they first began using some method.

It seems clear that AID should not operate on the assumption that ignorance of family planning techniques alone is preventing a decline in the rate of growth of Philippine population. In fact, knowledge of such techniques is widespread. Reducing the birth rate may depend

program some of the decline in birth rate due to outside causes -- labor force participation of women, for example. Sample surveys could be designed to circumvent these difficulties. A study of Taiwan which demonstrates these points and applies such a method is reported in M. C. Chang et al., "Study by Matching of the Demographic Impact of an IUD Program: A Preliminary Report," The Milbank Memorial Fund Quarterly, Vol. 47, No. 2, April 1969, pp. 137-158.

¹It is likely that there is substantial underreporting of knowledge and use of folk methods of birth control, including abortion.

Table 3

FAMILY PLANNING KNOWLEDGE AND PRACTICE NATIONWIDE,
PERCENT OF EVER-MARRIED WOMEN

	Method			
	Rhythm	Pill	IUD	All Others
Heard of it	33.2	38.3	13.1	45.6
Used it	7.2	2.5	1.0	9.1
Are using it	4.0	0.8	0.6	5.7
Have not heard of it	66.8	61.7	86.9	54.4

Table 4

PERCENTAGE OF CONTRACEPTIVE USERS
BY METHOD

Method	Percentage
Coitus interruptus	39.0
Rhythm	35.9
Pill	7.5
IUD	5.7
Condom	3.6
Douche	2.2
Sterilization	1.3
Foam	1.3
Suppository	.5
Diaphragm	.5
Other methods	<u>2.5</u>
	100.0

Table 5

PERCENTAGE OF WOMEN USING A CONTRACEPTIVE METHOD BY
TIME OF FIRST USE AND CHILDREN BORN THEREAFTER

Number of Pregnancies Preceding First Use	Percentage Bearing Additional Children
1	84
2	76
3	73
4	60
5	58

much more heavily on discovering why women who do know of methods to prevent births fail to practice these methods or practice them inefficiently.

IV. HOW DO KNOWLEDGE AND USE VARY ACROSS THE COUNTRY?

The Philippines is ethnically diverse. This has two important consequences for a family planning program: (1) It complicates the problem of gathering information on program design. Lessons learned in Ilocano areas, for example, may not apply to Muslims. (2) It burdens the information program by requiring operations in multiple languages.

The proportion of women who know about contraceptives varies substantially across the country. Table 6 shows knowledge and use by census region. As we would expect, women in the Manila area are the best-informed and show the highest rate of usage. The data demonstrate, however, that knowledge and use by area are not related consistently. Women in the Eastern Visayas, for example, show a level of knowledge higher than Manila, but have the lowest rate of usage.

The lack of a direct relation between knowledge and use is demonstrated even more clearly when we divide the women by language (see Table 7). Bicolano-speaking women, who are the best informed by a wide margin, show only a moderate level of usage. On the other hand, Ilongo women, with only an average level of knowledge, are more likely to use some contraceptive method than speakers of any other Filipino language. By the same measure, members of small language groups, Pampangos and the various other Filipino language groups, for example, appear to be quite isolated from information about family planning techniques.

These patterns underscore the complexity of the link between knowledge of contraceptive techniques and actual use. In part this link appears to be related to the social and economic characteristics of the individual women. Figures 2, 3, and 4 plot knowledge and use of rhythm and the pill against income, age, and radio exposure. The patterns, by and large, are what we would expect. Knowledge rises with income and radio exposure. Use also tends to rise with these variables, but shows some irregularities. Knowledge peaks at relatively young ages, but use is high in the period of women's lives in which we would expect them still to be fertile but to have borne as many children as they desire.

Table 6

KNOWLEDGE AND USE OF SOME CONTRACEPTIVE METHOD
BY REGION
(percent)

Region	Using or Have Used	Heard but Never Used	Used or Have Heard ^a
	(1)	(2)	(3)
1 Manila	40	10	.80
2 Ilocos	15	31	.33
3 Cagayan	13	33	.28
4 C. Luzon	15	44	.25
5 S. Luzon	10	34	.22
6 Bicol	14	58	.19
7 W. Visayas	15	42	.26
8 E. Visayas	9	44	.17
9 NE Mindanao	18	42	.30
10 S. Mindanao	20	20	.50

Note:

^aThe number of women who are using or have used some method divided by the number of women who have ever heard of any method, that is, Column (1)/Column (1) + Column (2).

Table 7

KNOWLEDGE AND USE OF CONTRACEPTIVES
 PY LANGUAGE GROUPS^a
 (percent of ever-married women in each group)

All Women Who Speak Language	Language	Have Used	Have Heard But Not Used	Have Not Heard
27	Tagalog	17	42	41
24	Cebuano	14	41	45
11	Ilocano	14	42	44
11	Ilongo	20	40	40
7	Bicolano	14	60	26
4	Samar-Leyte	11	43	46
4	Pampango	8	29	63
2	Pangasinan	8	51	41
9	Other Filipino	8	19	73
neg.	English	43	52	5
neg.	Other Foreign	22	17	61

Note:

^aLanguage group is defined as the language usually spoken in the home.

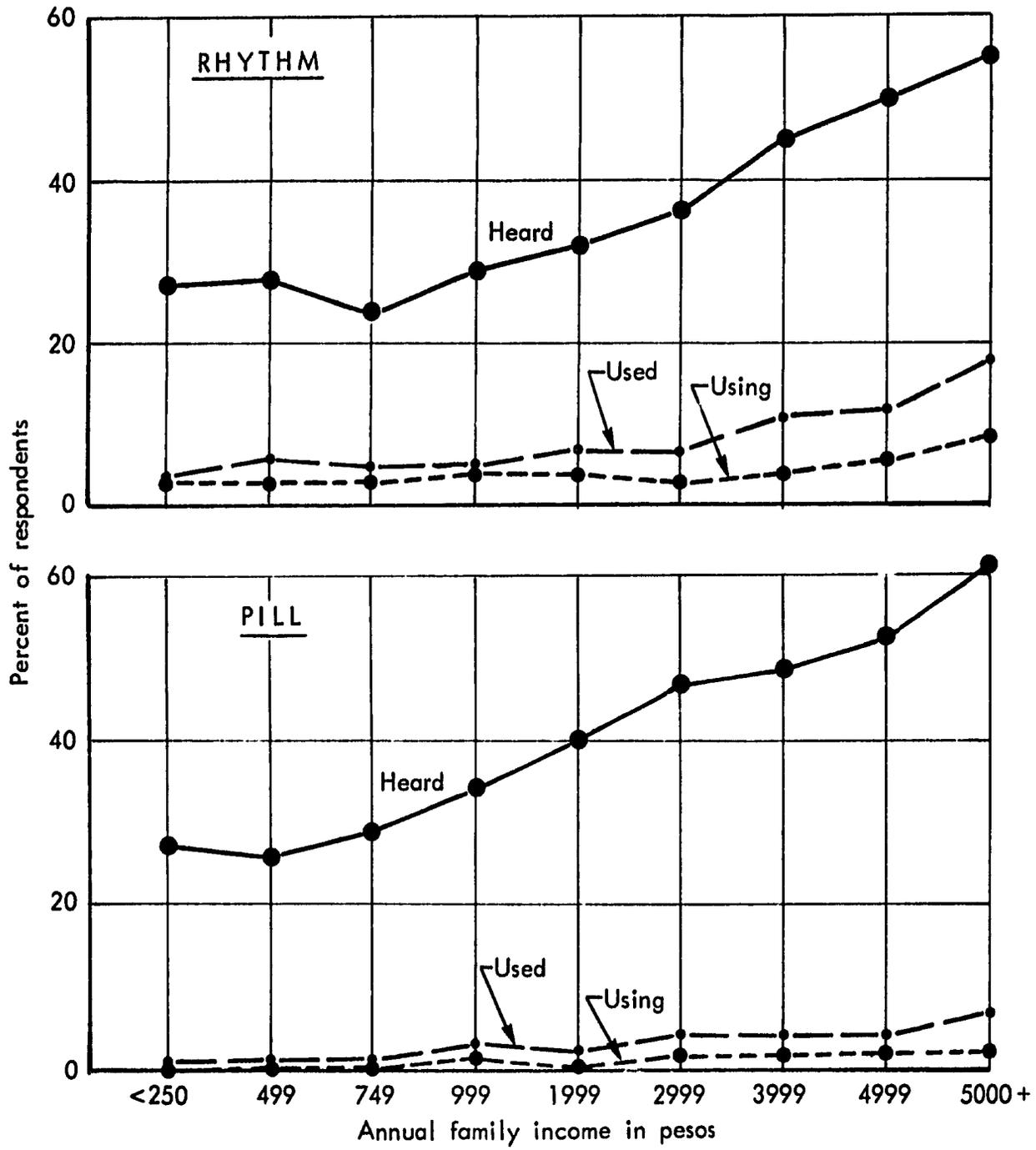


Fig.2—Knowledge, use vs income

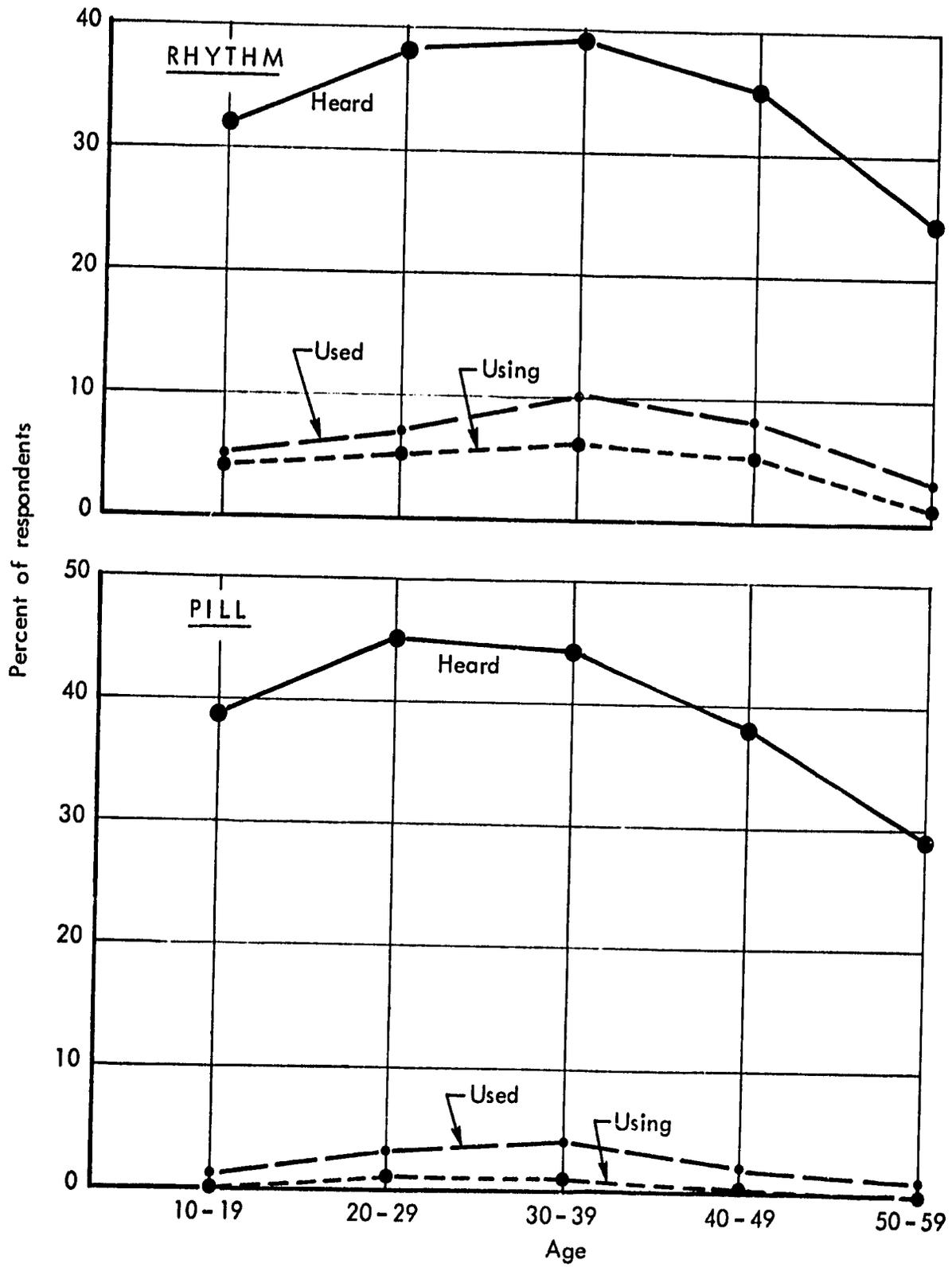


Fig.3—Knowledge, use vs age of women

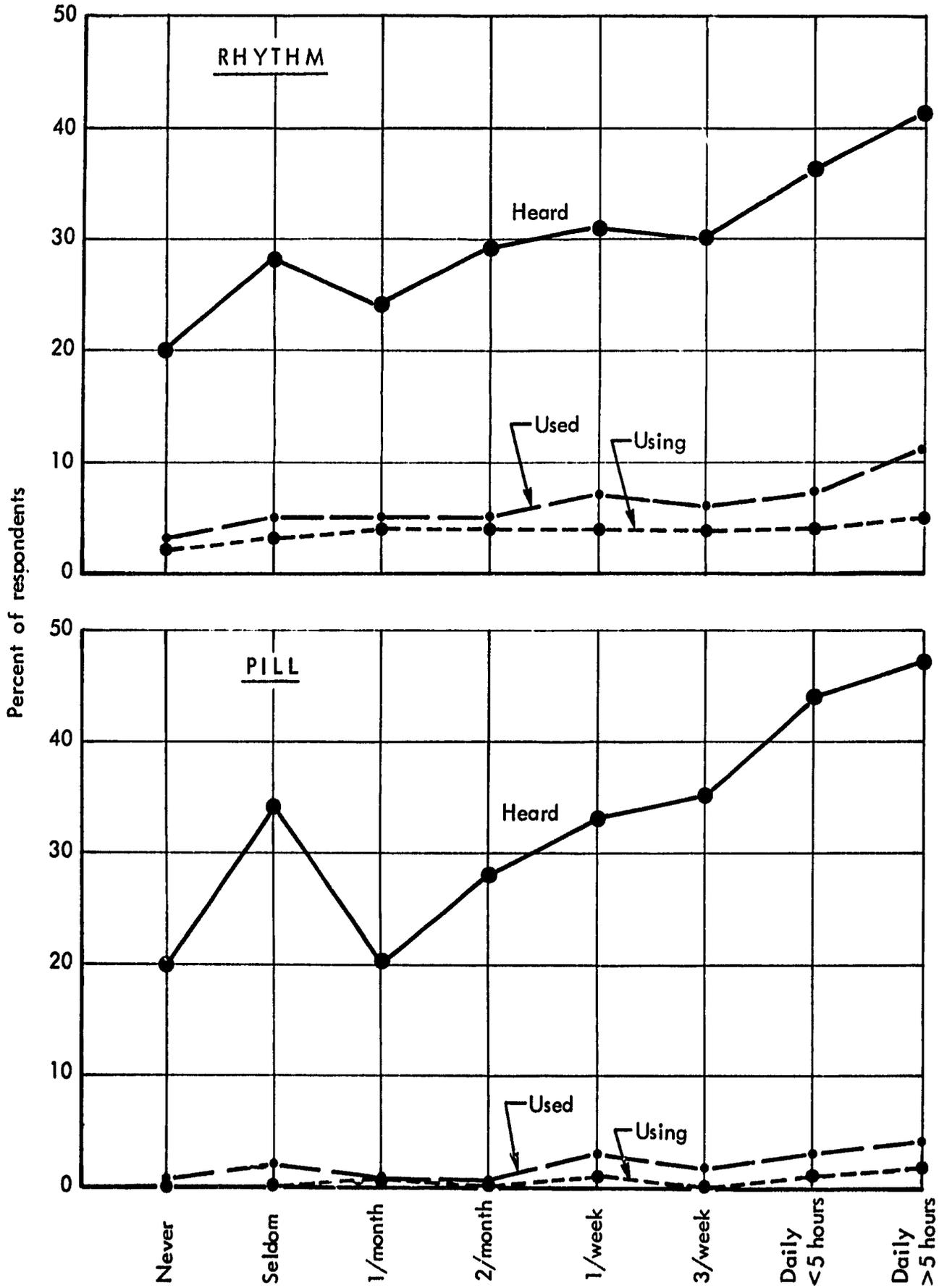


Fig.4 — Knowledge, use vs radio exposure

V. WHAT DISTINGUISHES USERS FROM NON-USERS?

Examination of a large number of tabulations similar to those described in the preceding section indicates that we need to use some analytic technique to describe patterns of knowledge and use of contraceptive techniques on several dimensions. For example, women between the ages of 20 and 29 tend to be better educated than the total sample, are more likely to be working, tend to be more urban, have more exposure to mass media, and are more likely than other groups to be using the pill. What is the relative importance of these different variables when they are taken together?

To attack that question we performed a multiple discriminant analysis.¹ The analysis calculates equations which combine a set of variables in such a way that they discriminate the members of different groups as sharply as possible. For example, after we have calculated the functions based on, say, age, education, and work experience, if we then found an additional woman, asked her about her age, education, and work experience, and calculated the values of the discriminant functions, the values of the functions would give us the best estimate possible of the probability that she would use the IUD, or had once used the pill, and so on.

In performing the analysis, we divided the sample into the groups shown in Table 8. In dividing the population into the 13 groups we used the following rule: when a woman qualified for more than one group, we assigned her to the lowest numbered group for which she qualified. For example, if a woman was currently using the pill, she would be qualified for groups 1, 5, and 9, but would be assigned to group 1. If a woman had used both the pill and rhythm but was not now using either, she would be qualified for groups 5, 7, 9, and 11 but was assigned to group 5.

¹The calculations in this section are based on the original subsample of 2600 women. Mean values are not weighted by the appropriate urban-rural proportions and thus give undue weight to urban women.

The discriminant functions were calculated using 27 indicators of age, education, religion, living conditions, and exposure to communication. The results of the computations are shown in Table 9. The variables describing personal communication about family planning were by far the most important.¹ However, down through the tenth variable, frequency of newspaper exposure, the variables were significant at the 95 percent level of confidence or better.

Some of the variables work in surprising ways. In Table 10 we have divided the women into three groups: those who have used or are using any contraceptive technique, those who know of some technique but have never used any, and those who were ignorant of all techniques. The first five variables, including frequency of attendance at a Catholic church, appear to be positively related to knowledge and use. It should be noted, too, that all three groups appear to have the same image of ideal family size.

The variables used in the discriminant analysis were able to distinguish women who had ever used or were now using some contraceptive method fairly well. They were not, however, capable of distinguishing users from ex-users with any accuracy. As Table 11 shows, users and ex-users do not differ greatly except in age and variables measuring communication about family planning. This suggests that the decision to continue or to terminate contraceptive use is more closely related to patterns of personal experience with contraception than to social and economic characteristics. But the data we have are not sufficient to test this conjecture properly or to identify the crucial elements of a woman's experience with contraceptives.

Longitudinal data which track individual women over time and sample surveys to follow-up women who drop out of family planning progress will probably be required to determine why some women continue

¹In part, the explanatory power of talking to friends about family planning is artificial. It naturally discriminates those who know about some family planning technique from those who do not, since by definition, those who discuss family planning have heard of family planning. However, it also appears to have some ability to distinguish current users from ex-users.

Table 8
DISCRIMINANT ANALYSIS GROUPS

13 Groups				
Women	Pill	IUD	Rhythm	Other
Using	1	2	3	4
Used	5	6	7	8
Heard	9	10	11	12
Not Heard	13			

Table 9
DISCRIMINATING VARIABLES

Order of Importance	Variable
1	Talking to friends about family planning
2	Number of friends who practice family planning
3	Years of schooling
4	Frequency of attendance at Catholic church
5	Family income
6	Rural-urban
7	Muslim or non-Muslim
8	Age
9	Best number of children
10	Newspaper reading

Note:

Less important variables include work experience, radio-TV exposure, migrant-nonmigrant, house ownership, and children ever born.

Table 10

SIGNIFICANT DISCRIMINATORS FOR
USERS-KNOWERS-IGNORANTS

Item	Mean Response For		
	Users	Knowers	Ignorants
+ Talk about family planning	.65	.42	.08
+ Friends use family planning	1.7	1.0	.2
+ Years schooling	7.8	6.8	3.8
+ Catholic attendance	2.0	2.0	1.6
+ Family income	2960	2292	1533
+ Percent urban	49	53	41
- Percent Muslim	2	1	10
- Age	36	39	43
? Best number children	4.0	4.0	4.1
+ Newspaper reading (times per month)	≈2.0	≈1.5	<1.0

Table 11

DISCRIMINATORS FOR
CURRENT USERS VS. FORMER USERS

Discriminator	Mean Response for	
	Current Users	Former Users
+ Talk about family planning	.72	.47
+ Friends use family planning	1.9	1.3
+ Years schooling	8.0	7.2
? Catholic attendance	1.9	2.1
- Family Income	2665	3656
? Percent Urban	47	51
? Percent Muslim	2	2
- Age	34	41
? Best number children	4.1	3.9
? Newspaper reading (Times per month)	2	2

and others stop practicing contraception. The clinics themselves could probably provide much of the information. But the present erratic and diverse methods of record-keeping will have to be standardized before the information coming from the clinics will be useful in answering such questions.

Finding out why women stop practicing contraception is not an idle scholarly preoccupation. As Table 3 shows, less than one-third of all women who have ever taken the pill are still taking it. Evidence from the clinics is consistent with this low retention rate. If women who stop practicing contraception revert to their original fertility pattern, then the high proportion of drop-outs increases the cost per prevented birth dramatically. On the other hand, evidence from Taiwan suggests that women who lose their IUD and do not report adopting another birth control method subsequently have a much lower birth rate than comparable women who never entered the family planning program.¹ In either case, we must know why women drop out of this program and what their subsequent fertility has been before we can make any sensible evaluation of costs and benefits of the family planning program.

¹L. P. Chow, "A Study on the Demographic Impact of an IUD Program," Population Studies, Vol. 22, No. 3, November 1968, p. 354.

VI. WHERE DO WOMEN LEARN ABOUT CONTRACEPTION?

The discriminant analysis suggested that much information on planning techniques is transmitted by conversations with friends and relatives. We can measure this more directly with other information contained in the NDS. Table 12 shows the percentage of women who know about some method of contraception and their source of information. Most appear to learn about family planning from friends, neighbors, and medical workers. The mass media appear to have had only a slight impact on their knowledge.¹

The source of a woman's information on contraception affects the probability that she will in fact adopt some method. In Table 13 we have tabulated the number of women who said they are currently practicing some method of contraception as a percentage of those who know of a method by the source of their knowledge. Information obtained from a doctor, nurse, or midwife has a greater impact on practice than information obtained from friends and neighbors. The impact of informal communication, however, is not trivial, especially when evaluated by a cost-effectiveness criterion. The importance of such informal communication should be considered when designing family planning information programs. For example, it may be more cost-effective to scatter visits by medical and paramedical personnel, relying on word of mouth to carry the message to those not visited in the community, than to try to reach every woman personally.²

¹Mass media may, of course, have some impact on general attitudes toward family planning that is not captured by asking women where they learned about a family planning method. This is another uncertainty that could be reduced without great difficulty.

²John A. Boss in "Cost Analysis of the Taichung Experiment," Studies in Family Planning, No. 10, February 1966, pp. 6-15, analyzes the cost per contraceptive acceptor as a function of density of application of program resources in Taichung, Taiwan. His data suggest that trying to reach every eligible woman with a family planning worker is less efficient than scattered visits coupled with more reliance on informal communication.

Table 12

PERCENTAGE OF WOMEN WHO KNOW SOME CONTRACEPTIVE
TECHNIQUE BY SOURCE OF INFORMATION

Informant	Percent of Women
Doctors, midwives, nurses, etc.	21
Friends, neighbors	53
Combination of above	14
Mass media	2
Others and combinations	10

Table 13

PERCENTAGE OF WOMEN KNOWING A CONTRACEPTIVE METHOD
WHO USE ONE BY SOURCE OF KNOWLEDGE

Informant	Percentage Who Use
(1) Doctor, nurse, midwife	29
(2) Friends, neighbors	15
(3) Combination of (1) and (2)	23

VII. CONCLUSIONS

Four tentative conclusions emerge from the analysis:

(1) Because of the uncertainty surrounding the rate of growth of the population and the consequent risks of being undercut by the 1970 Census results, it may be wise to avoid explicit reference to a specific rate of population growth in the information program and to avoid setting a fixed target rate of growth of population as a primary program goal.

(2) The link between knowledge of birth control techniques and their application is evidently complex. Most women who know about modern methods of contraception do not now use them, and the probability that a woman will practice a method given that she knows of one is apparently affected by a variety of social, economic, and ethnic variables. It follows that publicizing birth control and making the requisite materials more widely available need not necessarily produce a dramatic and sustained increase in the number of women practicing contraception. AID should be concerned with establishing information systems and undertaking analysis that will illuminate the link between knowledge and use and remain alert to the possibility that policy measures seemingly far removed from the realm of family planning, reducing infant mortality for example, may have a high payoff relative to family planning activities per se.¹

(3) Lessons learned in one part of the country or among one ethnic group may not be generally applicable to the rest of the population. If this is true, it suggests a research strategy that trades depth for breadth -- that is, one tries to gather data across the country even at the sacrifice of some detail or precision.

¹See T. Paul Schultz, "An Economic Model of Family Planning and Fertility," The Journal of Political Economy, Vol. 77, No. 2, March/April 1969, pp. 153-180; and The Effectiveness of Family Planning in Taiwan: A Proposal For a New Evaluation Methodology, The RAND Corporation, P-4069, April 1969.

(4) It is quite important to persuade the various Philippine family planning organizations to standardize at least part of their record-keeping systems. AID, as a source of substantial funds, should have enough leverage over the organizations to achieve this minimal coordination.