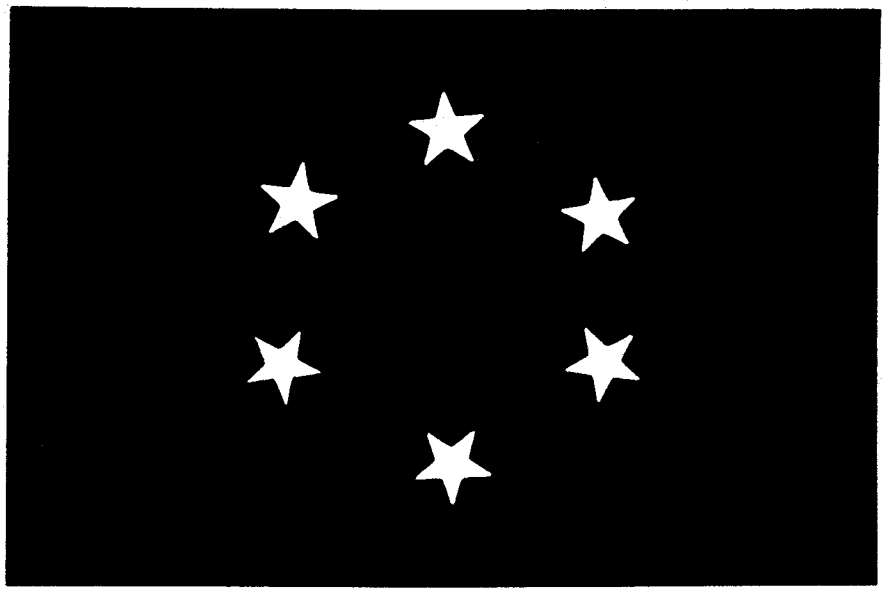
K.A.P. SURVEY



Trust Territory of the Pacific Islands

A STUDY OF KNOWLEDGE, ATTITUDE AND PRACTICE OF CONTRACEPTION IN THE TRUST TERRITORY OF THE PACIFIC ISLANDS 1970

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ACKNOWLEDGEMENTS

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We particularly want to thank the doctors, nurses, the women who worked as interviewers, and all the many other people who worked directly with the University of Hawaii field supervisors on the survey. Their assistance was invaluable.

To the field supervisors, Marjorie Benning, Patricia Goodale and Thomas Holmes, we express our appreciation for the work they did.

Most of all, thanks also to the many people in the Trust Territory who made our stay a pleasant one.

NOTES ABOUT THIS REPORT

Although the Trust Territory of the Pacific Islands is politically a single territory there are obvious and significant demographic and cultural differences between the districts. For this reason, we have prepared parallel but independent reports for each of the five district surveys (no survey was done in the district of Palau).

After a discussion of the methodology of the survey and a brief summary description of findings for the Trust Territory as a whole, the five district reports are included, ordered alphabetically.

Each district report follows the same pattern: a discussion of background information, a brief description of the survey in the district, a discussion of the findings: 1) fertility and fertility trends, 2) fertility control. Tables and graphs for each section are included after the text.

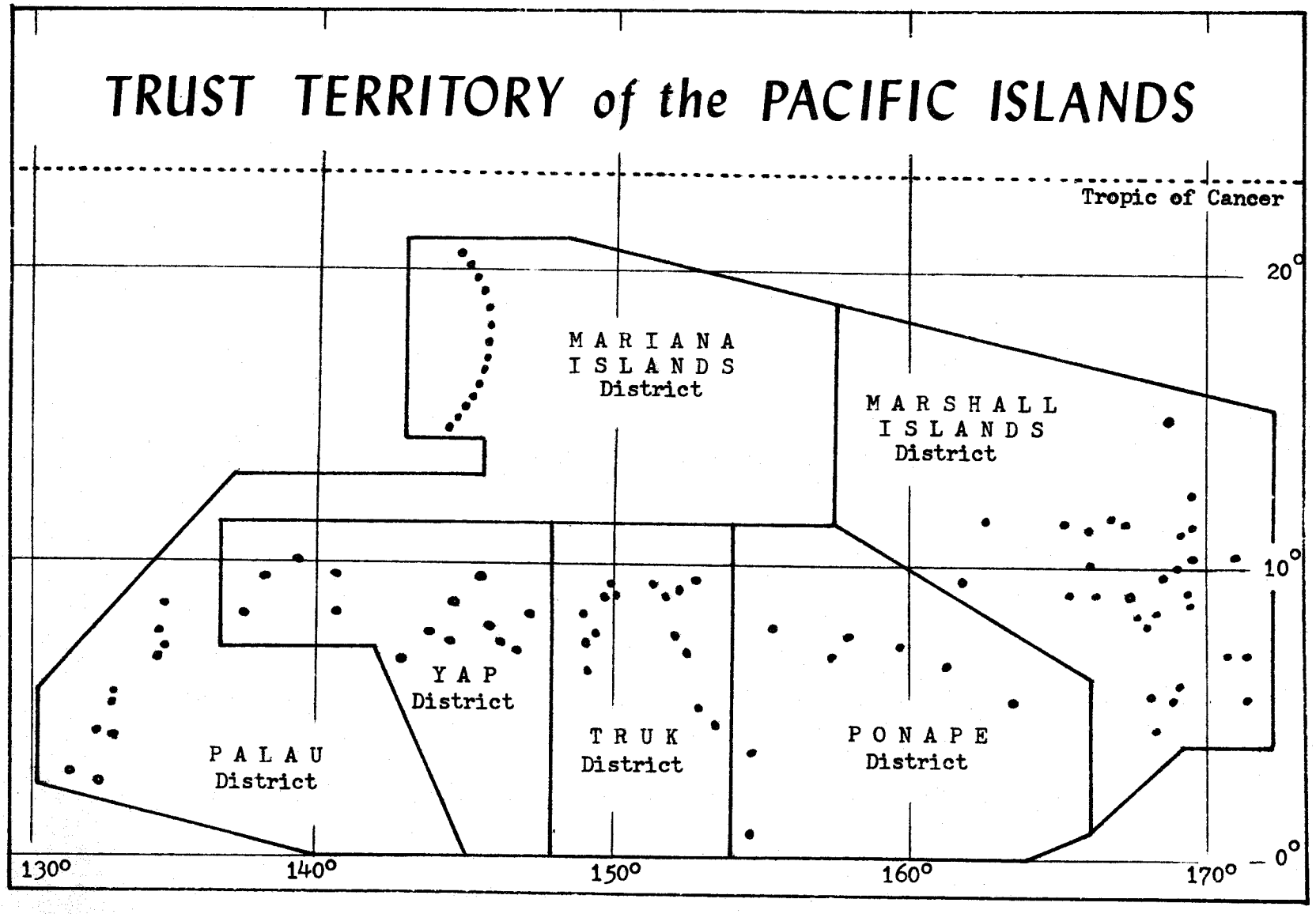
Where appropriate, statistical significance of findings reported in the tables is indicated. Figures and percentages are rounded off to the nearest whole number.

Findings and figures reported are, of course, only a fraction of the available information: we have presented only those findings that we judged to be important.

Just before this report went to press, we received a copy of the Annual Report of the Trust Territory of the Pacific Islands Department of Health Services for 1970. Unfortunately it was impossible at that time to substitute 1970 figures for the figures we had available when preparing the report (1968

and 1969). An inspection of the latest figures, however, does not indicate significant differences with the figures reported in this report.

We appended the results of a "Survey of Trust Territory Physicians" which was done in February of 1971. This was a mail survey, and so, essentially different from the five KAP surveys reported here. Nevertheless the findings compliment the information obtained from the sample of the female populations of the districts.


TRUST TERRITORY of the PACIFIC ISLANDS
Tropic of Cancer
20°
10°
0°
130°
140°
150°
160°
170°
MARIANA ISLANDS District
MARSHALL ISLANDS District
YAP District
PALAU District
TRUK District
PONAPE District

I. INTRODUCTION

As in other parts of the world, population size and population growth are becoming one of the major concerns of those responsible for planning in the Trust Territory of the Pacific Islands. The area is beginning to show economic advancement, and it is hoped that this improvement can be accelerated. At the same time it is estimated that population will increase significantly in the next few decades and this could well jeopardize development.

In addition to growth, the population is also changing. In many districts there are significant shifts in population from the outer islands to the district centers and the more developed islands. This migration is probably a result of the increasing services and opportunities available today--such migration, however, further threatens to negate improvements.

Early in 1970 the Population and Family Planning Studies Unit of the School of Public Health, University of Hawaii, received a request from the Trust Territory Department of Health Services to conduct a survey among a sample of women to determine attitudes and beliefs concerning fertility and contraception, with a view of utilizing such information in the planning of a territory-wide family planning service.

First preparations for the survey were made by staff and faculty members of the School of Public Health and members of the Department of Health Services. The survey was planned for June, July, August 1970 when university personnel could be available.

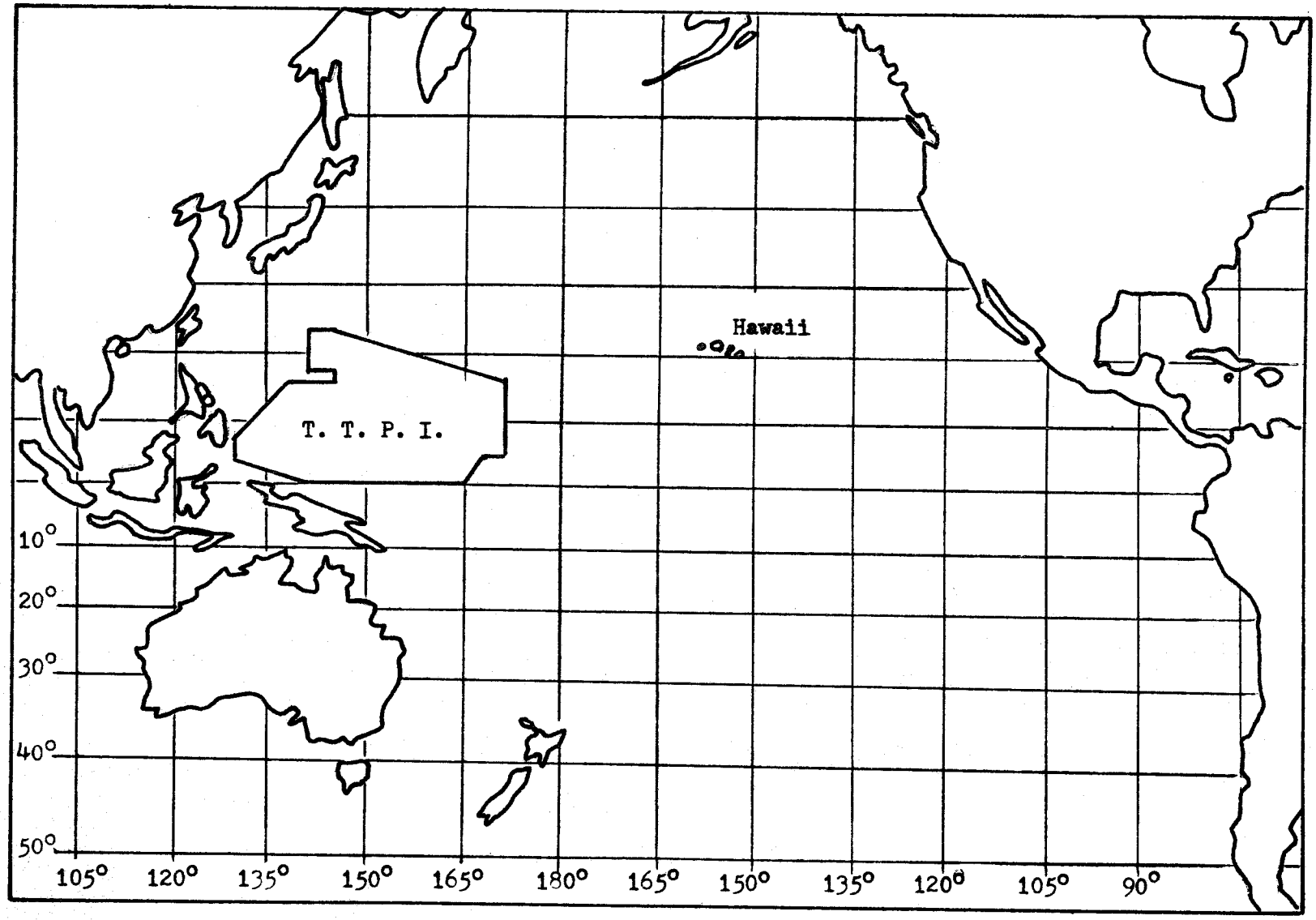
The format of the survey was similar to surveys done by the School of Public Health elsewhere: personally conducted interviews by trained local interviewers of a carefully selected random sample of women 15-45 (or 15-49).

Our experience elsewhere had shown us that information obtained through such interviews is more valid and probably more reliable than information collected in other ways. In areas such as the Trust Territory, basic health statistics are not too reliable at best and a mail survey is out of the question in an area where few people are sufficiently literate and mail service is largely nonexistent.

Dr. Robert J. Wolff and Miss Rosemary DeSanna of the faculty of the School of Public Health were the supervisors and coordinators of the field team which was sent out from the University. Team members received training first in Hawaii, then for a final week of orientation in Guam at the University of Guam, with consultation from Dr. Scott Wilson and others. Each of the team members was assigned one of the districts of the Trust Territory, and was given the task of working in close cooperation with the medical director of the district and his staff in developing the interview schedule, and in the selection, training and supervising of interviewers (who were hired locally through the health department).

In Palau the District Director of Health Services and the District Administrator, in response to a petition by a number of private citizens in the district center, requested that the survey not be conducted because they feared an unfavorable reaction from certain factions of the population, who had expressed the opinion that "family planning was such a controversial subject that even asking questions about it might induce people to behave immorally."

This report, therefore, includes only the results and discussions of data collected in the remaining five districts.


Hawaii
T. T. P. I.
10°
20°
30°
40°
50°
105°
120°
135°
150°
165°
180°
165°
150°
135°
120°
105°
90°

II. GENERAL DESCRIPTION

The Trust Territory of the Pacific Islands covers approximately 3,000,000 square miles north of the Equator in the Western Pacific Ocean between Hawaii and the Philippines. (See Map, page 4.) Micronesia, as it is also known, encompasses 2,100 islands with a total land area of 699 square miles. Only about 100 of the islands are inhabited. The islands form three major archipelagoes: the Carolines, the Marshalls and the Marianas. They range in size from substantial volcanic islands to tiny coral islets which help form coral atolls. Within the Caroline archipelago lie the four districts of Palau, Yap, Truk and Ponape. The Mariana Islands and the Marshall Islands form separate districts of their respective names. (See Map, page 1.)

Government

The Trust Territory is administered by the United States through the Department of the Interior under a 1947 Trusteeship Agreement with the United Nations. The government of the Trust Territory consists of the Office of the High Commissioner (Executive), the Congress of Micronesia (Legislative) and the High Court (Judicial). For administrative purposes there are six districts which, by and large, correspond to broad cultural divisions. At the district level there is a district administrator, who is a representative of the High Commissioner's office, and a district legislature. The Provisional headquarters of the Trust Territory Administration remains in Saipan, in the Mariana Islands District.

The People

The present Micronesian people probably originated in Southeast Asia, migrating gradually from what is now Malaysia to the Pacific Islands about four thousand years ago. Although the resemblances and interrelationships are many, there are recognized differences in language, technology, social organization and religion among the six district groups. There are nine major languages, all having a common Malayo-Polynesian origin. Most of the people know only the language of their home island, except in the district centers where some English is spoken.

Demography

The population of the Trust Territory is approximately 100,000. The Population Profiles for 1967 list 97% of the population as native-born. The 1969 official government figures list the birthrate as 33.9/1000 and the death rate as 5.4/1000, making the rate of natural increase 2.8 which means that the population will double in 25 years. If present population trends continue, the population will reach one-quarter million by the end of the century.

With a total land area of 699 square miles, the population density for the Trust Territory now is 146 persons per square mile, based on the 1970 population estimate. (See Table TT-1.)

Education

The educational system in the Trust Territory is based on the educational system of the United States; however, since Japan was administering the Territory until the end of World War II, some of the older women in our samples were educated under the Japanese system. For this survey no attempt was made to determine whether the women had attended primary, intermediate or secondary schools, or had had their education in the American or Japanese systems.

III. SURVEY METHODOLOGY

Conducting a "KAP survey" in an island territory such as Micronesia has some unique aspects. As in other Pacific islands, populations are widely and thinly scattered, for the most part homogeneous culturally and economically, with no minorities living among them. Micronesians are Christian with rather fundamentalist beliefs. Few Micronesians speak English fluently, and of course, a survey designed to elicit attitudes and opinions must, therefore, be carried out in the native language by native speakers; few Micronesians, however, have ever been interviewed before, so that the interviewing situation itself appeared threatening at times. In addition, the concept of prevention of pregnancy was for some so alien that no clearcut attitudes or opinions existed.

The Interviews

In all five districts where the survey was completed questionnaires were constructed locally in one or more of the local languages. All interviews were conducted in the local language.

Questionnaires were translated in English to enable coding and analysis of the data at the University of Hawaii in Honolulu. The efforts of the counterparts assigned to work with the University of Hawaii team, and others, was of course, absolutely essential. Interviewers (all women) were recruited and hired locally in the five districts. They were health personnel or people with some health training but not currently employed and some were teachers, ex-teachers or private citizens.

The training of interviewers took place in the district centers, under the direction of a University of Hawaii team member and the counterpart, conducted in the local language.

Sampling

The above cultural and social circumstances as well as the logistics of travel to isolated and sometimes inaccessible islands, the difficulties of locating people once an area had been reached, as well as sometimes limited facilities available at the district centers, made it necessary to make decisions regarding sampling and interviewing which were a reflection of what it was possible to do under the circumstances, rather than what was desired.

Personally conducted interviews take time and effort and pose a serious problem in an island territory. Because of limitations imposed by time available to supervisory personnel, but particularly by the physical impossibility of traveling to very small outlying islands, this survey was confined primarily to the most populous islands, usually the district centers and neighboring islands. Even here the logistics of transportation often proved very difficult.

In all districts a prior exclusion was made of islands and groups of islands that were judged to be inaccessible within the time allotted to the survey. The sampling frame for each district thus was limited to populations living on islands within a feasible distance from the district center. Since this included the majority of the populations of the districts, and since it certainly included that portion of the district's population which could reasonably be expected to have access to medical services, it was felt that under the circumstances this limitation would nevertheless allow meaningful generalizations to be made.

The sample was drawn on the basis of available information and since information was not uniform, the samples are somewhat different in character. In some districts an adequate household roster was available; in some districts area samples had to be done; in all districts sample units were households, and interviewers were instructed to interview all women of child-bearing age within sample households.

Samples in all districts are quite small: smaller than would have been desirable. The main reason for the restricted size of samples was the considerable difficulties of reaching small isolated groups of people. In view of the homogeneity of island populations, however, we feel that even these relatively small samples yielded significant information. No attempts were made to make the sample size proportionate to the population of the district. We attempted to get about 200 interviews completed in each district. This number was arbitrarily decided on as a more or less minimum sample which, given the homogenous nature of the populations, was expected to yield sufficient information. We knew that limitations of time (two to three months in the field), logistic, technical and human difficulties would make it impossible to aim for larger samples, even though that would have been better.

The district samples are not equally representative. Particularly, the sample in the Marshall Islands District obviously underrepresents the youngest age group (15-19). We think that this was primarily the result of interviewer "bias," and that this expresses a certain hesitation in interviewing young, unmarried girls. In the other age groups, however, even the Marshall District sample is acceptably representative. The other samples follow the age distributions as reported in the annual reports reasonably closely.

Because of limitations, the sample cannot be considered representative of the total population in any district. We are satisfied, however, that despite the small size of most district samples, generalizations can be made for women in the childbearing years. The report, we feel, is useful for planning purposes. A more detailed discussion of each of the samples is included in the reports for each of the districts.

Validity of the Sample

Since basic demographic information is largely lacking or at best is of unknown accuracy, the major test of the representability of interview samples has been the age distribution. For comparison we used figures from the Trust Territory Health Department Annual Report for 1968. At the time this report was prepared the latest population figures available to us were those reported in the 1968 Report. The 1970 Annual Report was made available to us too late to incorporate the latest figures. However, the differences between age distributions in 1968 and 1970 are, for the most part, not significant and do not essentially change the findings reported here.

From other indices too, we think that the district samples are sufficiently reliable and representative. Particularly, the women in the most fertile years are adequately represented. We are satisfied that the survey findings are an accurate description of fertility and of the attitudes and opinions of the women of the Trust Territory as a whole. Consequently, it seems valid to form generalizations and to make plans on the basis of findings reported here.

IV. FINDINGS

Fertility

If we accept information obtained in the interviews as adequate, a distinct population profile emerges for each of the districts surveyed and for the Trust Territory as a whole (five of the six districts). The Palau District was not covered.

The population of the Trust Territory is young, and there is every indication that it will continue to have a predominance of young people in the foreseeable future. This means specifically that even with a low fertility rate the population will include a large proportion of women in childbearing ages.

Fertility, however, is high. In all districts, except Yap, fertility rates suggest reproduction rates unchecked by any "control" other than the natural controls of mortality.

Both fetal wastage (fetal mortality) and infant and child mortality are relatively high.

Nevertheless, the total number of children produced during a woman's lifetime is so high that the number of surviving children of women 40 and over is still on the order of seven, or eight in some districts. This means a very considerable population increase in the immediate future.

It is reasonable to expect the present rate of growth to increase. The population of the Trust Territory at present is young, which means that the number of women of childbearing age will increase in the future. In addition, it can be expected that with improving medical services and parti-

cularly with a wider availability of such services to a larger proportion of the population, mortality rates will decrease--particularly fetal mortality rates and infant mortality rates.

The Government and leaders of the Trust Territory will be interested in planning for this expected population growth. In some of the districts, furthermore, there will be not only an increase in absolute numbers of people but a further shift of population from outlying islands to the district center, creating a greater burden on existing and future facilities and services.

It would go beyond the scope of this survey to provide accurate estimates of expected population size in future: too many variables are unknown at this time. However, it is certain that with present rates of reproduction, with a young population, and in some areas a shift of population to the already more populated centers, the accelerating rate of increase in population will cause severe strains on limited land, resources, and services.

Control of Fertility

In many of the districts surveyed there is already some interest in controlling natural fertility. Although at present the use of modern contraceptives is severely limited, it appears that on the whole no great barriers exist in the attitudes of people toward contraceptive use if information and services were to be made available.

In all districts, about one-third of all women can be considered to "refuse" contraception at present. A majority of these "refusers," however, refuse because they want more children. Since in all districts there is some idea of an "ideal" number of children, and since in all districts this ideal is exceeded, it seems reasonable to suppose that the "refusers" can become acceptors, once they have reached what they consider an "ideal" number of children.

The sizeable group of women in this survey who are not contraceptors but have no particular reasons for not practicing contraception, are non-users primarily because they have no information on contraception. A great majority of women indicate that they would like to know more about contraception. If counseling and services were more widely available (and if their availability were more widely known) it is to be expected that large numbers of women in all districts would become contraceptors.

The use of contraceptives at this time is somewhat related to age and education, as it is elsewhere, but not significantly. Nor is there a clear, demonstrable relationship with household size, which can be considered an index of crowding. One rather gets the impression that in this population contraceptors are primarily to be found among those women who have the easiest access to medical services in the district centers.

From information obtained, no very clear guidelines emerge for those who will plan information and education in family planning, although, generally speaking, younger women seem somewhat more likely to practice contraception now and perhaps are a little more interested in learning more, although this does not at all exclude older women. Similarly, although women with more education may be somewhat more likely to practice contraception or to want more information on contraception, the level of interest seems so high that an educational program could most profitably be conducted among all classes of women.

The extent to which the concept of fertility control is known and accepted seems to vary widely.

In Yap District, for instance, women seem quite aware of population problems (primarily perhaps the "problem" of not enough people), and one infers that they are also aware of the efficacy of birth control. In Yap also there

may be a very ambiguous attitude toward family planning, resulting from an awareness of recent public expressions of concern over underpopulation, in conjunction with privately-held opinions about family size that are certainly not conducive to very rapid population growth.

In both Truk and Ponape Districts there seems to be the least awareness of population issues or of the desirability of some form of fertility control.

In the Marianas, the unusually high proportion of women who have had surgical sterilizations might be interpreted as a strong desire for limitation of further fertility.

In the Marshalls District, the most clearcut relationship exists between household size, contraceptive practice and a desire for further knowledge. In conjunction with what appears to be clear indications of migration to the few centers of population, household size--which is large--may well reflect conditions of crowding that are well perceived by many women.

These significant differences in knowledge, attitude and practice, make generalizations for the Trust Territory as a whole impractical. It appears that planning for population growth and movement, as well as planning and implementation of educational and informational programs in family planning would be most effective if carried out within each district. Circumstances are certainly different in the five districts surveyed and awareness and expressed needs of the people also differ.

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The tables and graphs following summarize findings of the five districts. Most of the information is separately reported and discussed in the district reports.

TABLE TT-1

Summary Information for 5 Trust Territory Districts

	Marianas	Marshalls	Ponape	Truk	Yap	TT (total--5 districts)
Total land area in square miles	183	70	176	46	46	699*
Population estimates for 1970	12,256	20,206	20,808	29,208	7,247	102,250*
Density (population/square mile)	66.9	288	118	634.9	157.5	146.3*
Sample size	161	220	321	190	189	1,081
Residence:						
Born in district	91%	97%	95%	100%	95%	--
Resided in village all her life	16%	14%	26%	69%	27%	30%
Household Composition:						
Average	9.6	10.7	9.6	11.4	6.2	9.3
Median	10.0	10.0	9.0	10.0	6.1	8.6
Education:						
Average number years in school	7.6	6.4	5.7	5.3	6.3	6.1
At least 9 years completed	26%	38%	14%	16%	27%	21%
Religion:						
Catholics	99%	9%	41%	51%	87%	53%
Protestants	1%	87%	57%	48%	5%	44%
Married Women	62.5%	86%	74%	74%	77%	74%
Age at first marriage:						
Average	19.5	18.6	18.7	17.9	18.4	18.6
Median	18.5	18.1	18.0	17.6	17.9	18.0

*The Trust Territory total includes population and land area figures for the district of Palau.

TABLE TT-1 -- Continued

	Marianas	Marshalls	Ponape	Truk	Yap	TT (total--5 districts)
Age at first pregnancy:						
Average	19.5	18.9	19.7	19.1	19.7	19.4
Median	19.0	18.4	18.8	18.4	19.2	18.7
Number of pregnancies to date:						
Average	6.7	5.2	6.2	5.4	5.8	5.8
Number of surviving children to date:						
Average	5.6	4.6	5.1	4.4	4.8	4.8
Total fertility rate	8697.0	9883.0	9729.0	6870.5	6427.0	8464.0
Completed family size (for women over 40)	8.4	7.5	7.8	6.3	5.7	7.2
Ideal family size:						
Average	4.4	6.1	4.8	6.6	3.7	5.3
Ideal pregnancy interval:						
Average (years)	2.7	2.8	2.6	2.0	2.9	2.6
Contraceptors (percentage of sample)	20%	23%	9%	12%	16%	15%
Refusers (percentage of sample)	32%	36%	27%	37%	6%	28%
Non-users (percentage of sample)	22%	36%	51%	34%	67%	43%
Not at risk (percentage of sample	25%	5%	12%	18%	11%	13%
Contraceptive methods used (percentage of users): Traditional	21%	18%	42%	64%	63%	36%
Modern	48%	74%	48%	23%	37%	52%
Sterilization	30%	8%	6%	4%	--	10%
Folk methods	--	--	3%	9%	--	2%

TABLE TT-1 -- Continued

	Marianas	Marshalls	Ponape	Truk	Yap	TT (total--5 districts)
Knowledge of methods:						
Know at least one method	78%	44%	78%	73%	62%	68%
Don't know any methods	22%	54%	22%	27%	37%	32%
Source of knowledge:						
Hospital/medical personnel	23%	57%	16%	8%	16%	24%
Relatives/friends	35%	16%	34%	62%	11%	31%
Haven't heard anything, don't know	24%	21%	33%	22%	62%	33%
Others	18%	6%	16%	8%	11%	11%
Future source of advice:						
Hospital/medical personnel	83%	97%	94%	67%	70%	84%
Relatives/friends	7%	--	.3%	17%	.5%	4%
Don't know	4%	1%	3%	10%	28%	8%
Others	6%	2%	2%	5%	1.5%	4%
Desire for further knowledge:						
No	22%	6%	24%	11%	24%	18%*
Yes	73%	91%	75%	86%	74%	80%

*Excludes don't need and no response given, therefore, figures do not total 100%.

TABLE TT-2

Age-Specific Birthrates (live births per 1000 women of specified age) and Total Fertility Rate, Compared with Similar Rates from Trust Territory Annual Report 1968 and Guam KAP Survey 1969

Age	Guam KAP Survey 1969	TTPI Government Figures* (includes 6 districts) Trust Territory 1968	Trust Territory KAP Survey (includes 5 districts) 1970
15-19	62.0	95.8	172.8
20-24	229.7	280.6	356.8
25-29	317.0	249.0	333.3
30-34	291.6	262.9	341.6
35-39	175.4	217.1	324.6
40-44	74.0	80.6	163.7
45-49	--	15.0	16.9

*Source: Registered births and deaths. Annual Report, TTPI,1968.

TOTAL FERTILITY RATE**			
15-44	5748.5	5930.0	8464.0
15-49	--	6005.0	8548.5

**Total fertility rate is the sum of age-specific birthrates multiplied by five (15-44 or 15-49).

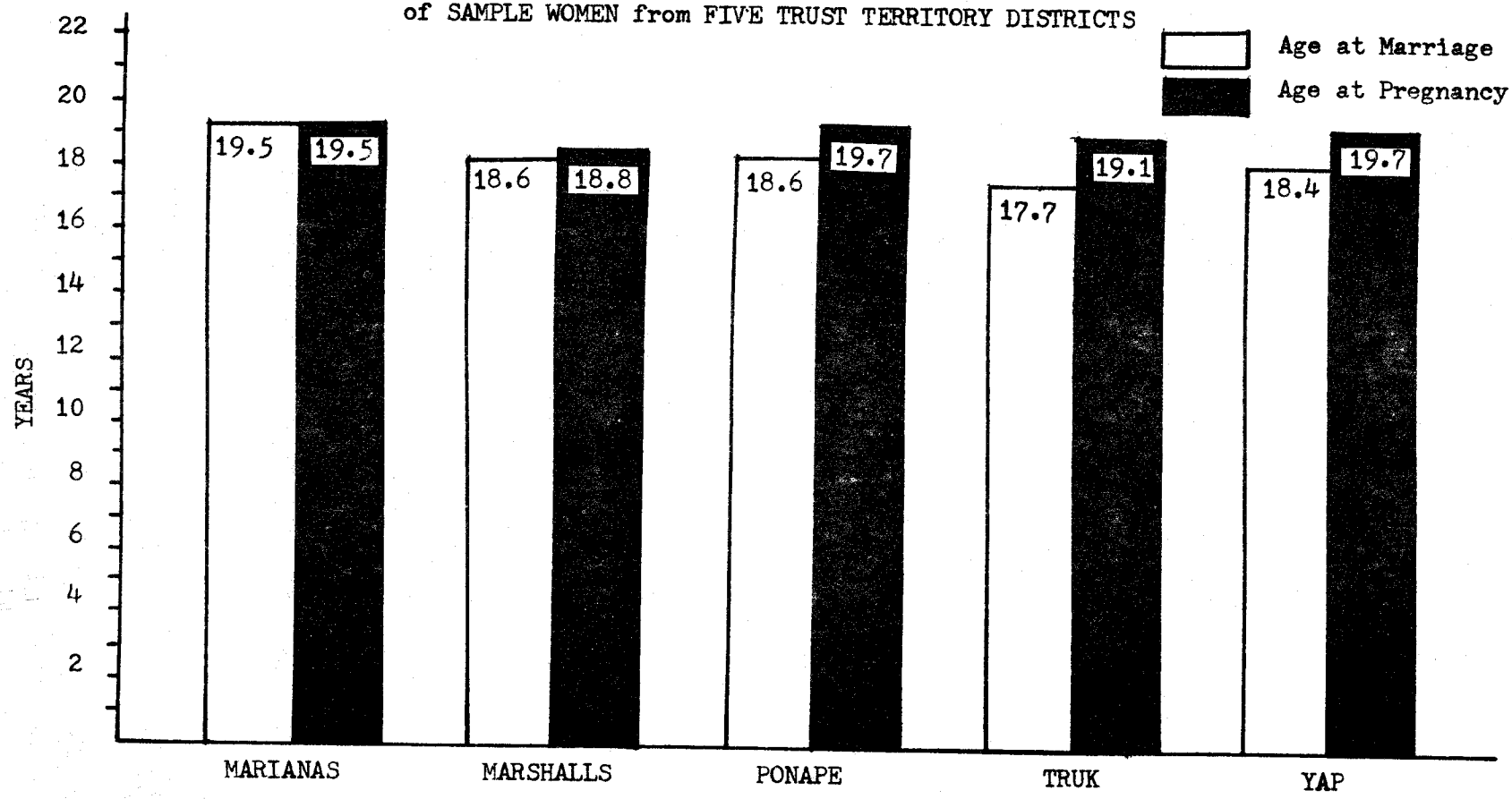
Graph TT-I

COMPARISON OF AGE DISTRIBUTIONS OF SURVEY SAMPLE AND TRUST TERRITORY GOVERNMENT ANNUAL REPORT 1968 FOR FIVE DISTRICTS

Graph TT-II

AVERAGE AGE at FIRST MARRIAGE and at FIRST PREGNANCY

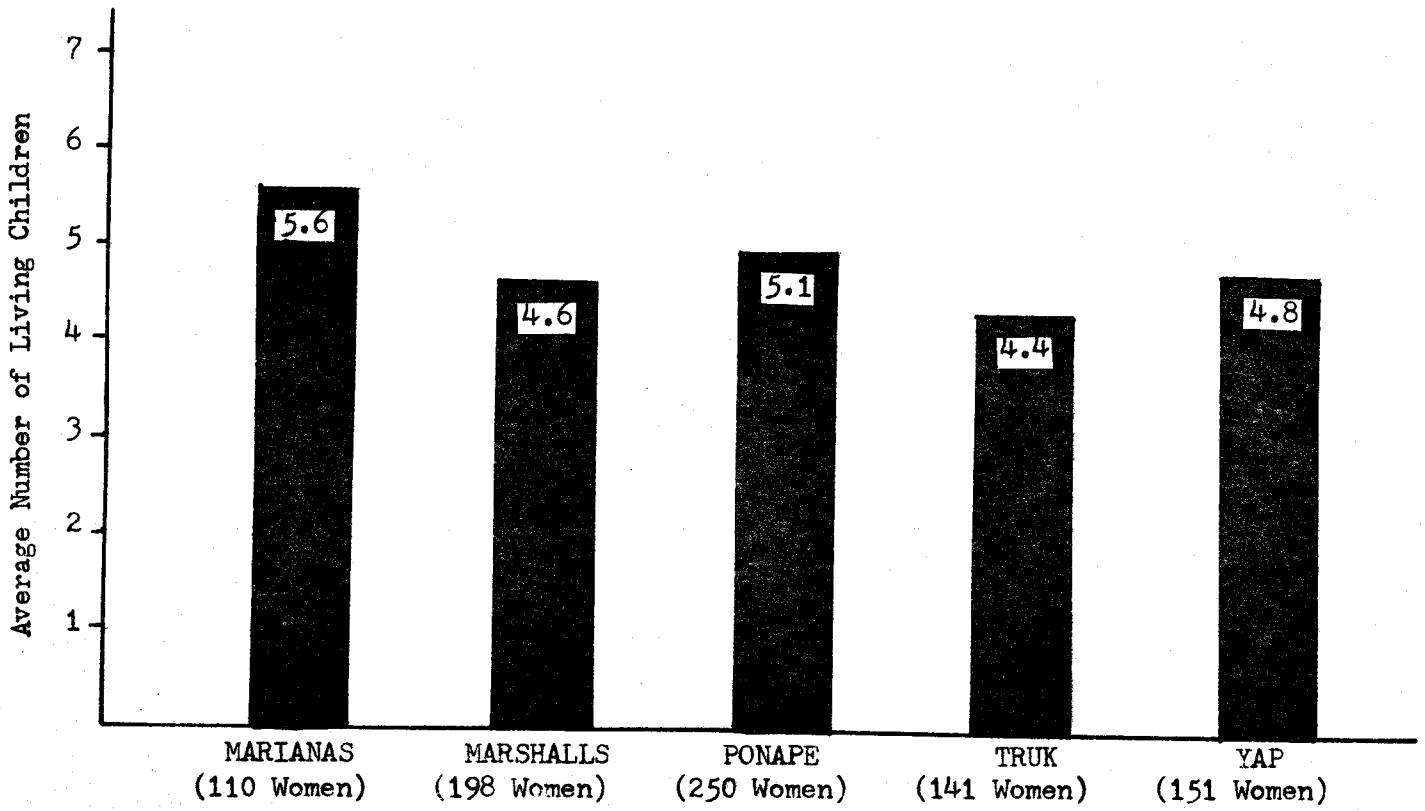
of SAMPLE WOMEN from FIVE TRUST TERRITORY DISTRICTS



Graph TT-III

A COMPARISON of FIVE TRUST TERRITORY DISTRICTS

AVERAGE NUMBER OF LIVING CHILDREN
of WOMEN WHO HAVE EVER BEEN PREGNANT

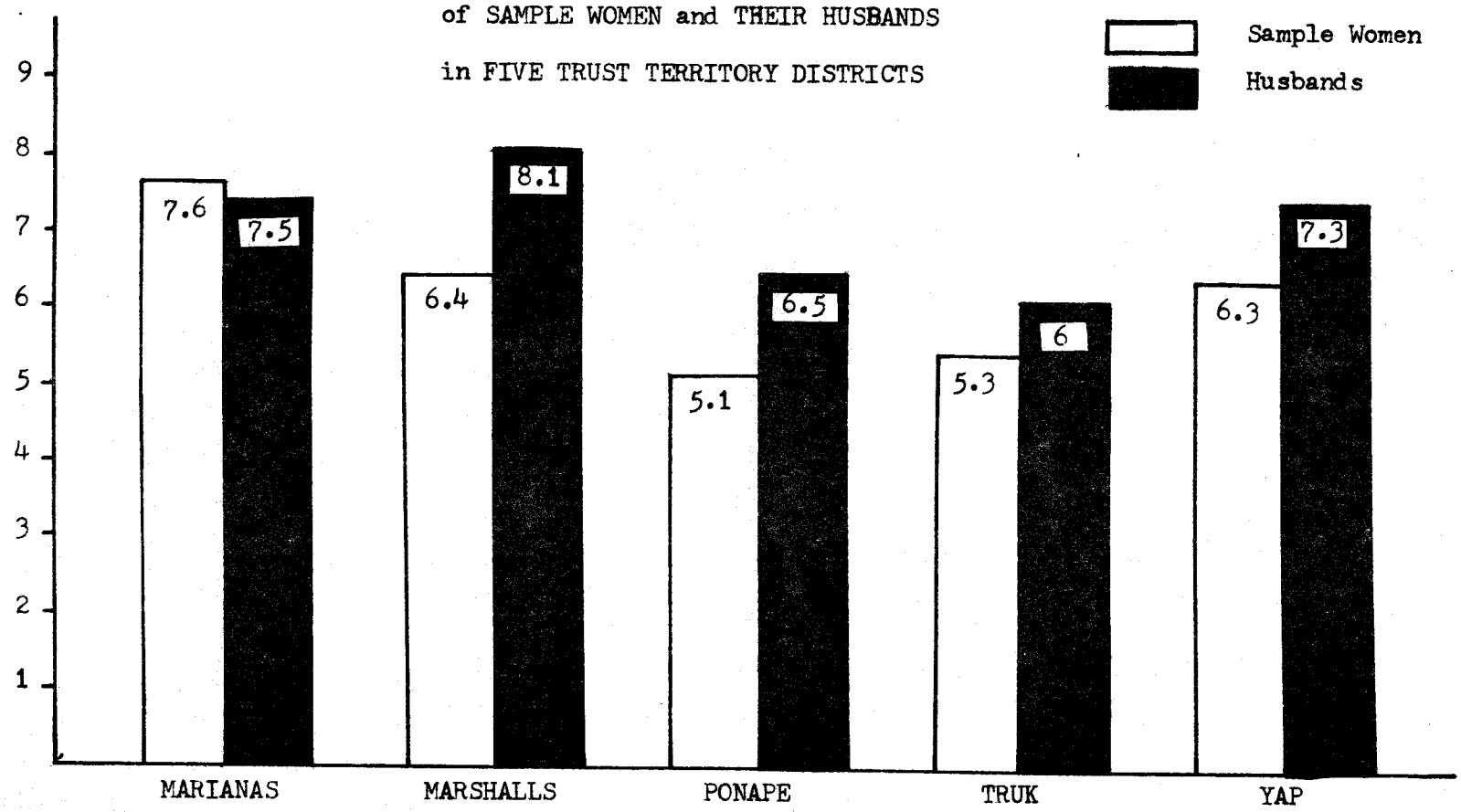


Graph TT-IV

AVERAGE NUMBER of YEARS of EDUCATION

of SAMPLE WOMEN and THEIR HUSBANDS

in FIVE TRUST TERRITORY DISTRICTS

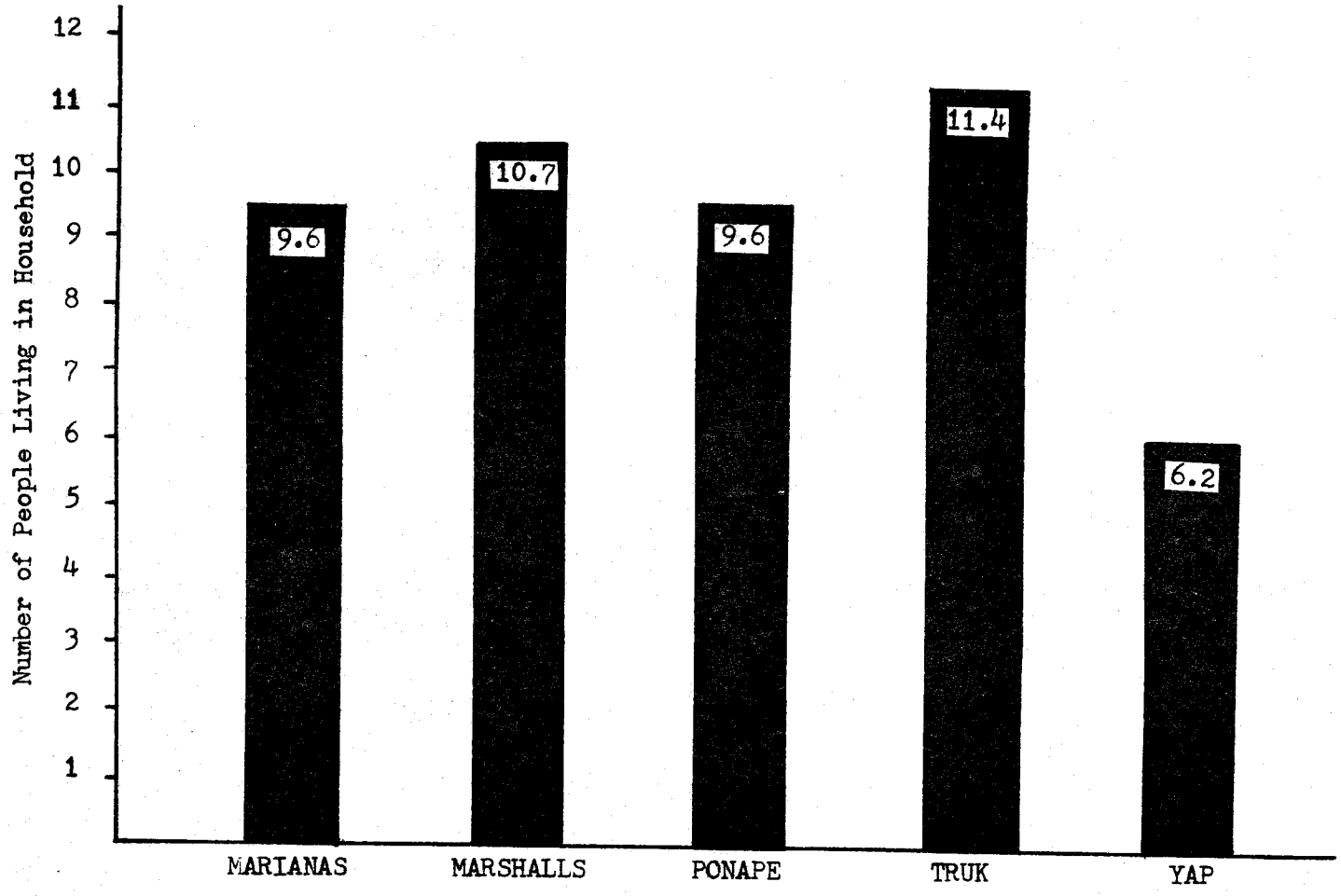


	MARIANAS	MARSHALLS	PONAPE	TRUK	YAP
Women:	160	216	312	181	189
Men:	88	163	209	76	136

Graph TT-V

A COMPARISON of FIVE TRUST TERRITORY DISTRICTS

AVERAGE HOUSEHOLD SIZE



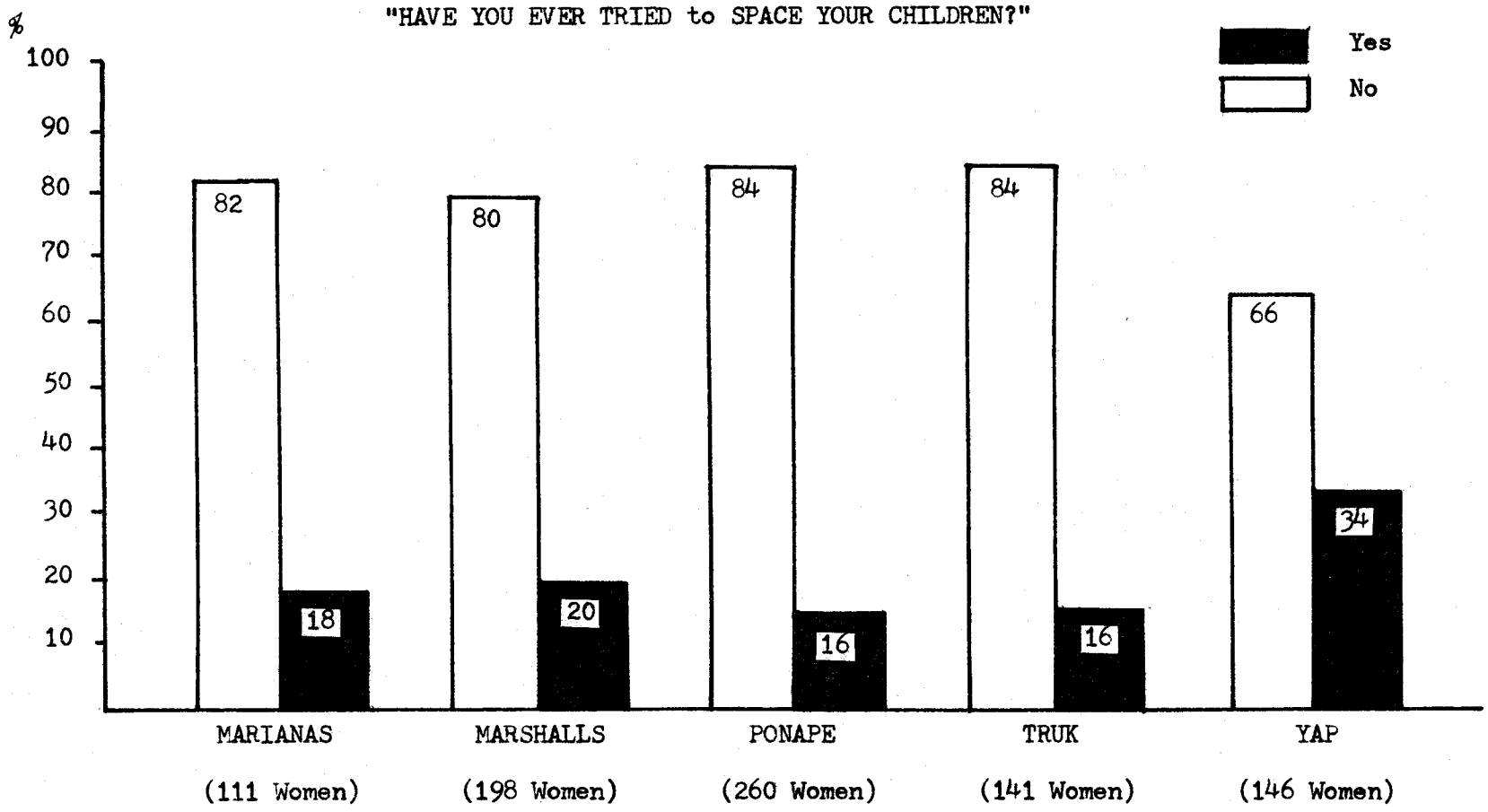
P R A C T I C E - Graph TT-VI

PERCENTAGE of EVER-MARRIED, EVER-PREGNANT WOMEN

in FIVE TRUST TERRITORY DISTRICTS

who RESPONDED to the FOLLOWING QUESTION:

"HAVE YOU EVER TRIED to SPACE YOUR CHILDREN?"



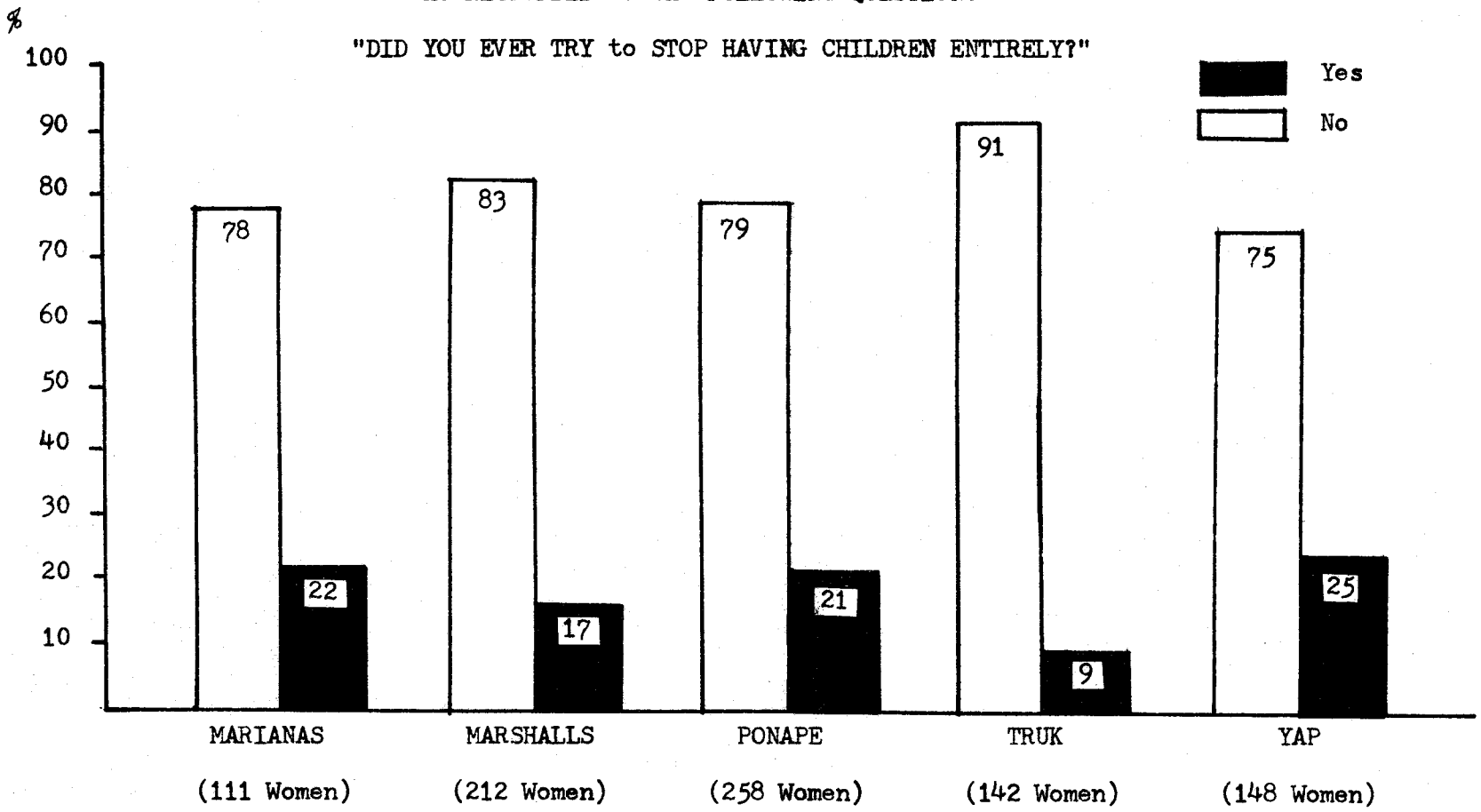
P R A C T I C E - Graph TT-VII

PERCENTAGE of EVER-MARRIED, EVER-PREGNANT WOMEN

in FIVE TRUST TERRITORY DISTRICTS

who RESPONDED to the FOLLOWING QUESTION:

"DID YOU EVER TRY to STOP HAVING CHILDREN ENTIRELY?"

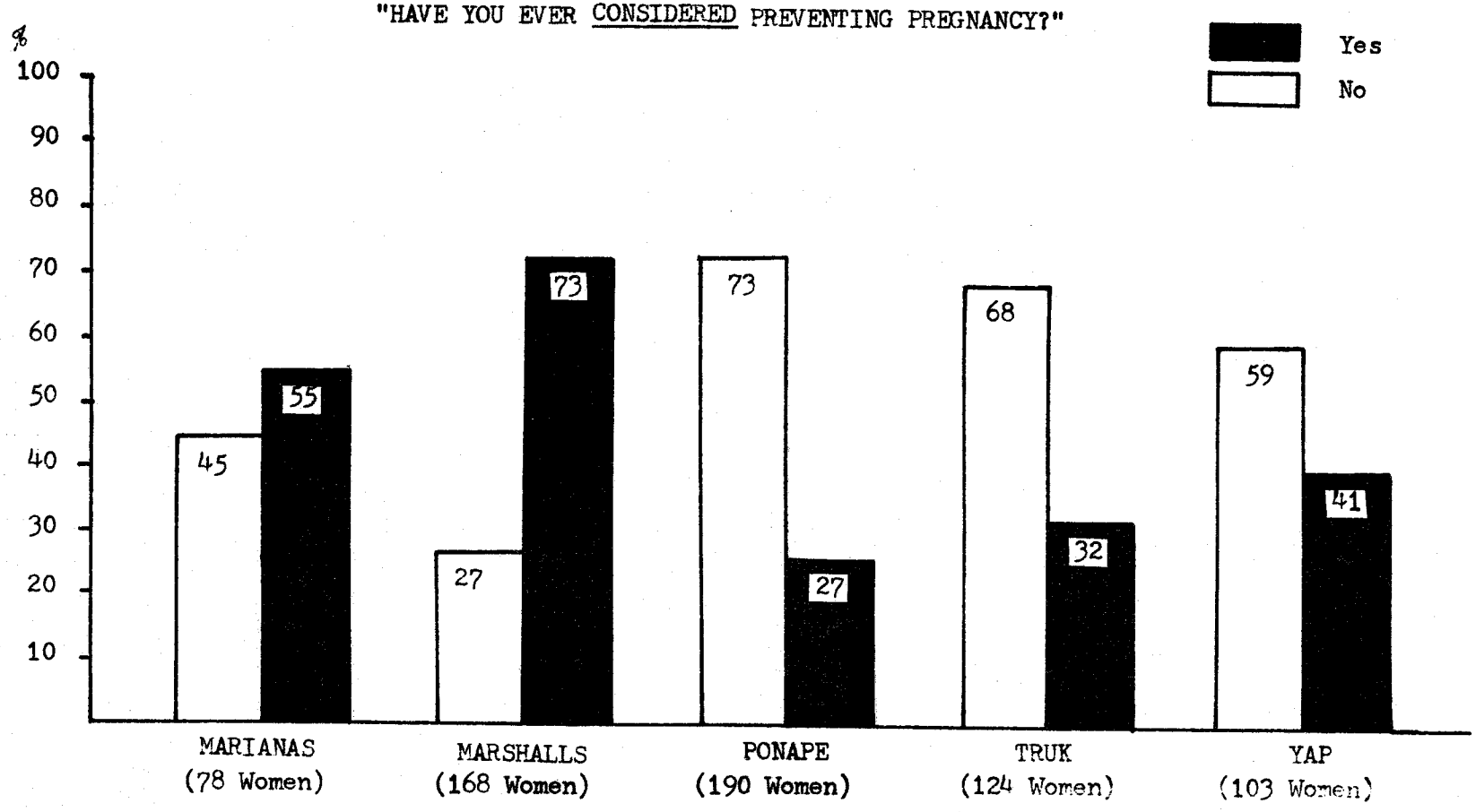


P R A C T I C E - Graph TT-VIII

PERCENTAGE of WOMEN in EACH of FIVE TRUST TERRITORY DISTRICTS

who RESPONDED to the FOLLOWING QUESTION:

"HAVE YOU EVER CONSIDERED PREVENTING PREGNANCY?"

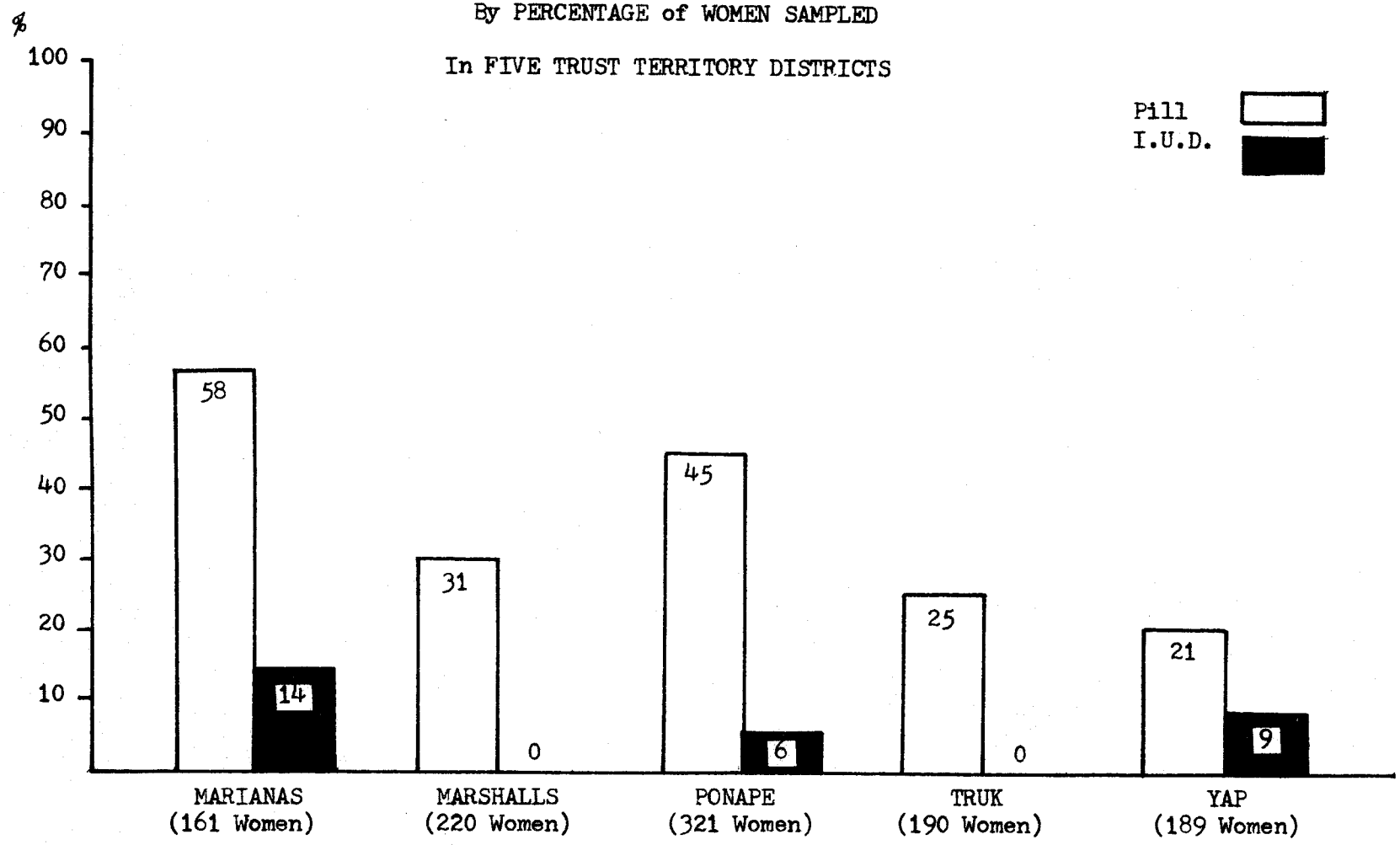


K N O W L E D G E - Graph TT-IX

KNOWLEDGE of CONTRACEPTIVE PILL and INTRAUTERINE DEVICE

By PERCENTAGE of WOMEN SAMPLED

In FIVE TRUST TERRITORY DISTRICTS

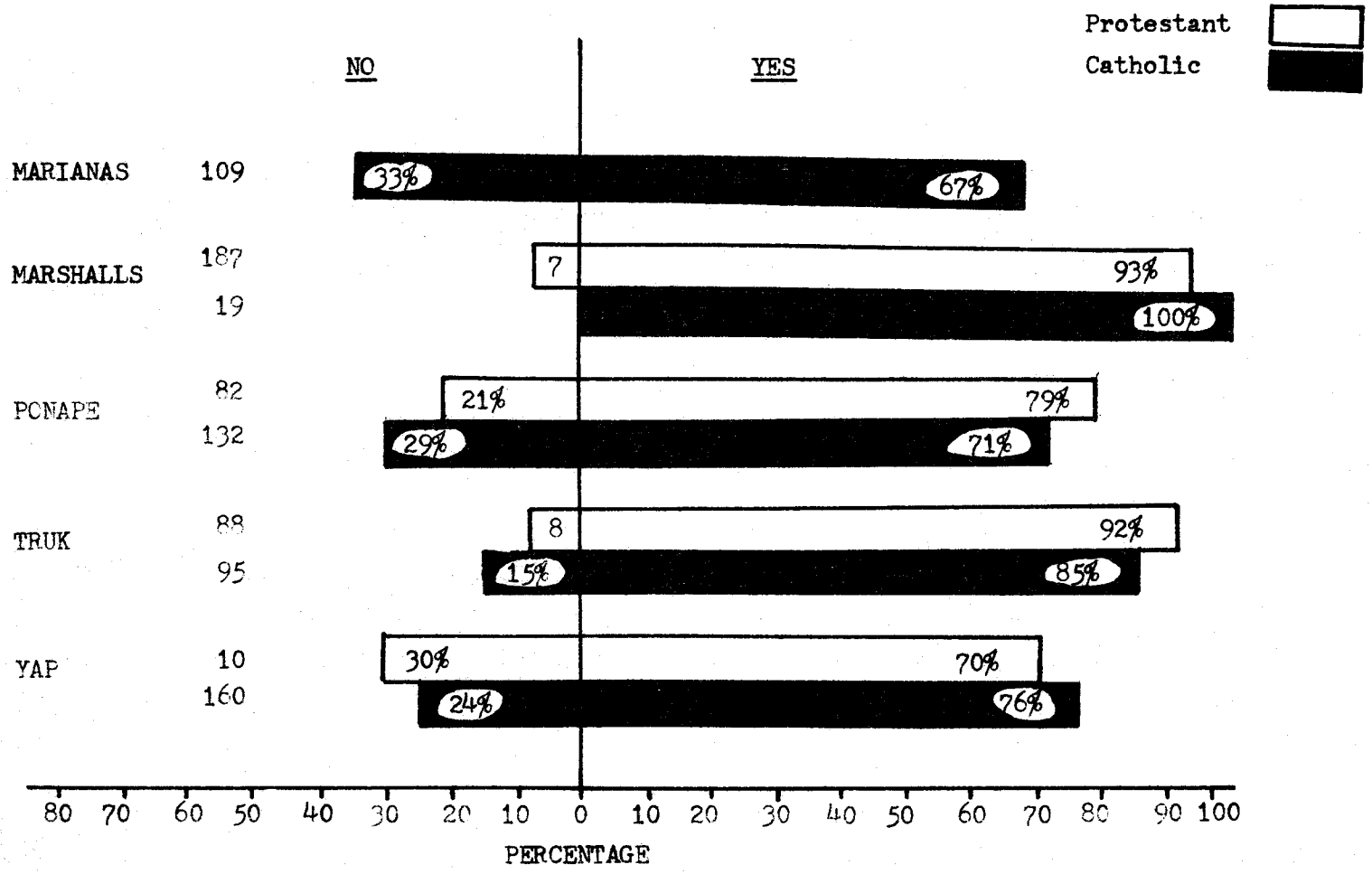


A T T I T U D E - Graph TT-X

PERCENTAGE of CATHOLIC and PROTESTANT WOMEN

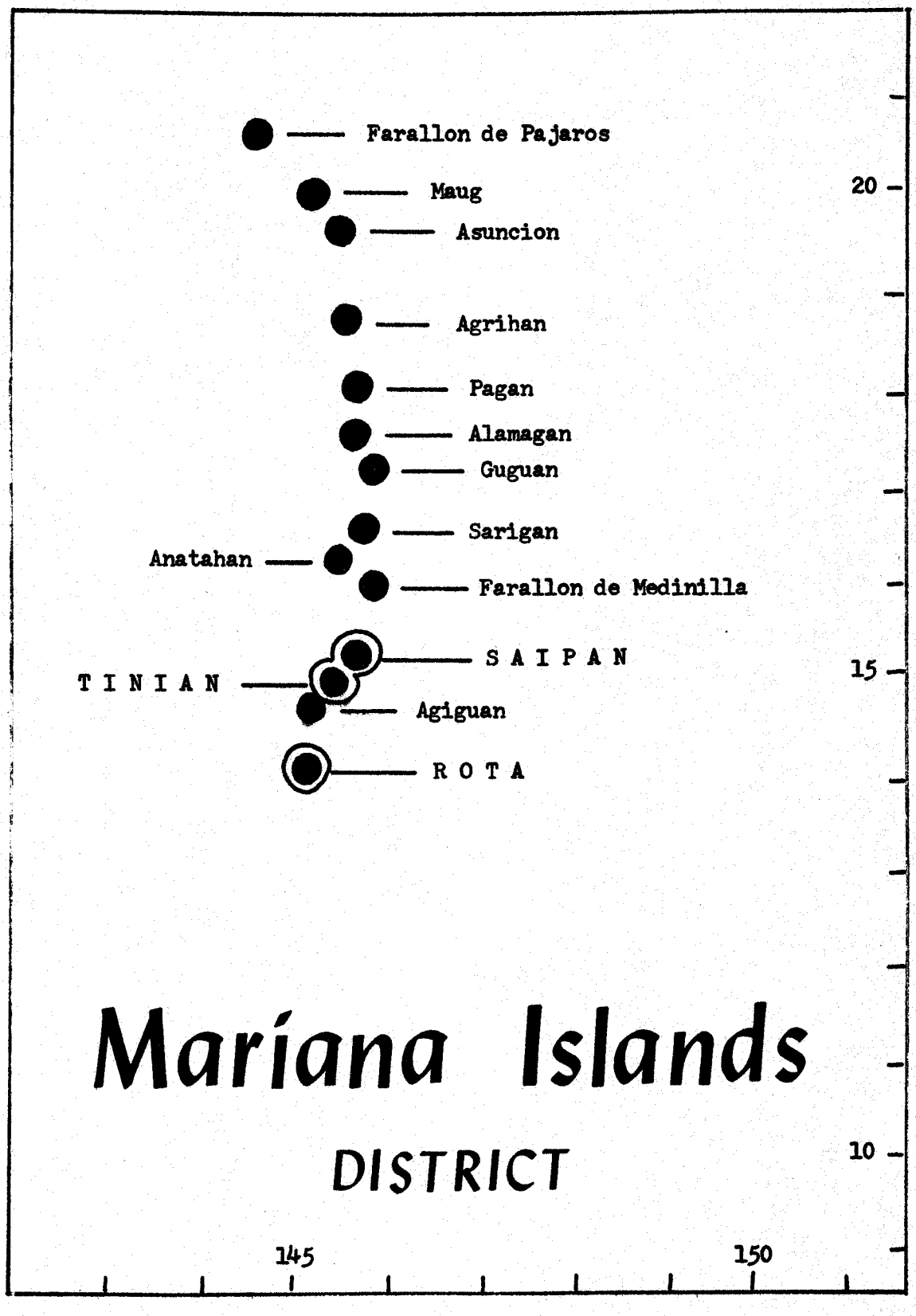
in FIVE TRUST TERRITORY DISTRICTS WHO RESPONDED to the FOLLOWING QUESTION:

"DO YOU WANT TO KNOW MORE ABOUT WHAT TO DO TO PREVENT PREGNANCY?"



V. DISTRICT REPORTS

A. Mariana Islands District


Farallon de Pajaros
Maug
Asuncion
Agrihan
Pagan
Alamagan
Guguan
Sarigan
Anatahan
Farallon de Medinilla
SAIPAN
TINIAN
Agiguan
ROTA
20
15
10
145
150
Mariana Islands
DISTRICT

i. INTRODUCTION

Land and People

The Mariana Islands extend in a north-south chain for some 300 miles. Geographically they include the island of Guam, which is a territory of the United States and does not form part of the Trust Territory of the Pacific Islands.

The Trust Territory District of the Marianas includes 13 single islands and one group of three small islands (MAUG); the three principal islands in the district are Saipan, Tinian and Rota. (See Map, page 30.) The Mariana District has a land area of 183 square miles, two-thirds of which is made up by these three principal islands. There is air service from Saipan to Tinian and Rota so that these islands are fairly accessible.

The Trust Territory government estimates the population of the Mariana Islands District for 1970 at 12,256, with at least 80% of the district's population on the island of Saipan. With the largest land area of any of the districts in the Trust Territory, and one of the smaller populations, the population density for the district is a low 66 persons per square mile. However, density for Saipan is 213 persons per square mile, with a population of 10,034 and a land area of 47 square miles.

About three-quarters of the inhabitants of the Mariana Islands are Chamorro. The other quarter is Carolinian. Both these groups are Micronesian.

The two languages spoken in the district are Chamorro and Carolinian. As a result of centuries of Spanish rule, many Spanish words are found in the Chamorro language. English is used widely in government and in the schools, so that 90% of the population below the age of 25 is conversant in English.

The District Survey Sample

In the Marianas, nine municipalities on the three main islands (Saipan, Tinian, Rota) were surveyed. Information from census maps made in 1967 were brought up to date and used for sampling purposes. Households were chosen randomly from these maps. Interviewers were instructed to interview all women between the ages of 15-45 in these households.

As Saipan is the headquarters of the Trust Territory government as well as the district center of the Marianas, a later decision was made to exclude from the sample households on "Capitol Hill," since it was felt that Trust Territory government personnel residing there could not be considered in any way representative of the Marianas population.

Every 11th household, of a total of 1,921 households shown on the maps as they had been brought up to date, yielded a sample of 174 households. Forty houses were found to be without women between ages 15-45. Twenty-one houses were eliminated from the sample because residents were Americans or Palauans (not native to the district, and no Palauan questionnaire was available). Three people were away from the island during the time of the interviews. Only two individuals actually refused to be interviewed, and another two consistently avoided being home when the interviewer called.

A total of 164 interviews were completed.

ii. FINDINGS

a. Background Characteristics

Age Distribution

The average age of women in the sample is 27.8 (median 25.3). The Trust Territory Government Annual Report for 1968 gives an average age, women 15-44, of 25.4 (median 23.3). This is a very young population, with a disproportionate number of young women and girls. (See Table Mn-1.)

The KAP Survey appears to underrepresent the youngest age groups, although there may be some question about the government figures: it is quite unusual for a population of women 15-44 to have such a skewed distribution. In comparison with the other districts, the Mariana District has by far the largest percentage of women under 25 (57%).

As in the other districts surveyed, the difference between the survey sample and government figures seems to lie primarily in an underrepresentation of younger women, and an overrepresentation of older women. It is difficult to judge whether the survey sample accurately reflects the total population of women aged 15-44. It seems probable that the survey is sufficiently representative for women who would be the primary users of family planning services: the underrepresentation of younger women also means an underrepresentation of nulliparous women. One would expect that the potential users of family planning services are primarily to be found among women who are married and have had at least one pregnancy.

One would expect fertility of sample women to be somewhat higher than fertility of the total population. This is true.

With the reservation that the sample probably overrepresents fertility, and underrepresents unmarried women, the findings of the survey can be

generalized for the population as a whole, particularly for that segment of the population most likely to use family planning services.

Residence

Ninety-one percent of the women in the sample were born in the Mariana District; 8% were born in one of the other districts of the Trust Territory of the Pacific Islands. Only 16% of sample women still reside in the village where they were born; 50% have lived in the same village in which they were interviewed five or more years. The Mariana District apparently has had more migration than some of the other districts, which is not too surprising when one considers that Saipan is the seat of the Government of the Trust Territory of the Pacific Islands, and the district is probably the most prosperous.

It must be remembered also that the sample excluded a few Palauan women because no Palauan questionnaire was available. The population of the district therefore is probably more heterogeneous than appears from survey data.

Education

Table Mn-2 describes the education of women in the sample, and, as far as is known, the education of their husbands. The average number of years in school is 7.6 (median 7.5).

Eleven percent of all women completed 12 years of education. It seems that women in the Mariana District have had more education than in other districts; it is particularly noteworthy that women in this district have a higher proportion of high school graduates.

Older women are less likely to have had a secondary education. Eighty-four percent of the women having had secondary schooling are below the age of 25.

Forty-five percent of the women did not know how much schooling their husbands had had. The average number of years of school education for husbands is 7.5 years (median 7.0). From these figures it would appear that men and women have had equal educational opportunities in this district.

Religion

Ninety-nine percent of the women interviewed were Roman Catholic. In this respect the population seems remarkably homogeneous.

Household Composition

As is common throughout Micronesia, the size of households in the Mariana District is large. The average number of family members in a household is 9.6 (median 10.0). The average number of living children is 5.6. This seems indicative of households consisting of members of an extended family--more than just parents and their children.

Marital Status

For purposes of determining "risk" of becoming pregnant, tabulations were made of women who were married, or "cohabiting" (living with a spouse, even though not legally married): 62.5% of the sample is thus considered "at risk." (See Table Mn-3.) Thirty percent of women not at risk had never been married, or pregnant.

Very few women have been married more than once; very few are separated or divorced.

If the sample underrepresents unmarried, young women, the total percentage of women at risk is larger than here indicated. Because of the significantly younger population, however, proportionately fewer women are at risk than in the other districts.

Average age at first marriage is 19.5 (median 18.5). Women in the youngest age group seem to get married perhaps somewhat younger than their mothers: average age at first marriage for women 15-24 is 18.7, for women 25-34 it is 19.1, for women 35 and over it is 20.7.

b. Fertility Patterns

The average age at first pregnancy in the Mariana District is 19.5 (median 19.0). There does not seem to be any change in reproductive behavior: younger women have their first pregnancy at approximately the same age as women of an earlier generation.

As an indication of past interest in, or use of contraception, the proportion of pregnancy intervals greater than two years was computed. In the Mariana District 26.4% of all pregnancy intervals was greater than two years, a low proportion, suggesting that fertility control has not been practiced in the past.

The 110 women who have had at least one pregnancy have had a total of 735 pregnancies to date (many are still in the childbearing years, and so one would expect this cohort to produce many more offspring). The average number of pregnancies per woman was 6.7 for the sample; average number of living children is 5.6, an indication of considerable mortality in the early years. Of the total of 735 pregnancies, 49 were terminated before term or at term and 38 infant and child deaths occurred in this sample. Eighty-eight percent of pregnancies have resulted in viable offspring.

A computation of age-specific birthrates and the total fertility rate shows a high fertility. Particularly noteworthy is the high fertility of women over 30, indicating that at least among this sample of women, childbearing continues well into the middle age group. (See Table Mn-4.)

The total fertility rate computed for this population gives an estimation of the number of children these women can be expected to have at the termination of their reproductive years: a total fertility rate of 8,697 indicates that 1,000 women can be expected to have had 8,697 live births, or

8.7 per woman, by age 45. The number of surviving children for women 40 and over is 8.7, a figure very close to the 8.6 obtained in the total fertility rate.

A comparison with total fertility rate obtained from Trust Territory Government Annual Report 1968 shows that rates obtained in this survey are higher, mainly as a result of finding higher continued fertility among older women. A comparison with rates computed for the Guam survey done in 1969 shows a consistently higher fertility in the Mariana District in all age groups. The populations of Guam and the Mariana District are similar, although Guam is probably considerably more "Americanized." The higher fertility rates computed for the adjacent district in the Trust Territory are probably a true reflection of significant differences in reproductive behavior, and attitudes toward reproduction among a population which is considerably less urbanized.

Although the data show a trend to earlier reproduction, the interviews also point to an increasing interest in hearing more about control of fertility. This means that in the near future fertility patterns may change, so that "completed family size" of future generations may be smaller. Nevertheless, it can be predicted with some assurance that the natural increase of the population of the district alone will assure considerable population increase, not taking into account probable in-migration from other districts.

c. Fertility Control

Contraceptive Status

Thirty-three women, 20% of the 161 women were practicing contraception when interviewed; 80% were not. (See Graph Mn-I.) Forty-three women (54%) said they had considered preventing pregnancy, but had never actually done so. When asked if they had ever practiced contraception in the past in order to space their children, 12% stated that they had, and 15% indicated that they had tried to stop having children altogether.

Although the number of contraceptors is small, it is encouraging to note that 36% of these women are using oral contraceptives, which can be considered the most effective of modern contraceptives. (See Graph Mn-II.)

For purposes of analysis women who have had surgical sterilization, tubal ligation or more radical procedures, were included among "contraceptors." It is understood that the psychological motivation of a woman using a contraceptive is different from that of a woman who is infertile because of surgical intervention. We are using the term "contraceptors" for all women who can be reasonably expected not to become pregnant, although not all of them use contraceptives. We also included women whose husbands had had vasectomies in the category of "contraceptors," although they themselves are not infertile, either permanently or temporarily.

In the Mariana District an unusually high proportion of contraceptors are permanently infertile: 21% of contraceptors have had tubal ligations. Another 9% of contraceptors reports that their husbands have had vasectomies performed.

This high percentage of women (6.2% of the sample) resorting to surgical sterilization for themselves or their husbands is perhaps a reflection of a

moral objection to contraception, coupled with a sincere desire to stop having more pregnancies. It is to be remembered that 99% of the women in this sample are Catholic.

Contraceptive practice is apparently correlated with age, marital status, size of household (there are more contraceptors from smaller households!) and education (fewer contraceptors among women with more education!). The number of contraceptors is too small, however, to evaluate statistical significance. The relationships between contraceptive use and household size and education are opposite to what one might expect.

Older women (35 and over) have a significant percentage of contraceptors (this includes almost all of the women who are infertile because of surgical procedures). In this age group are also found the women with the largest number of children, and the largest number of pregnancies.

As can be expected, contraceptors are found primarily among married women.

Since almost all women interviewed are Catholic, nothing can be inferred on contraceptive behavior of women of different religions in this area.

Although there is no significant correlation, our figures show that contraceptors have large families, although they express a preference for smaller families. Sixty percent of contraceptors have over five children (as compared with 51% of non-users).

Reasons for Not Practicing Contraception

Of all women who were not contraceptors, 31% can be considered not "at risk" of becoming pregnant (because of natural infertility, menopause, current pregnancy, or no opportunity for sexual relations). Women "at risk" of becoming pregnant not now using contraception can be divided into two groups, refusers and non-users.

Refusers include women who want more children, women who have religious objections, women who for other reasons do not want to practice contraception. (See Graph Mn-III.)

Non-users include women with no strong objections to contraception who indicated that they did not know of any methods, and some who expressed fear of using contraception although they were not opposed to it.

It seems that non-users could become acceptors if properly educated in contraceptive methods.

Women who say that they want to have more children, and those who have religious objections to contraception, are for the most part in the older age groups, between 30 and 45 years of age. A majority (65%) of women who desire more children have only between one to four living children, which in this population is considered a small family: 80% of the women having one to four children would prefer to have six children. Women who have religious objections for the most part have more than five living children.

Interest in Learning About Contraception

Contraceptors and others are equally interested in learning more about contraception. Three-fourths of all women interviewed indicate they would like to have more information and advice.

Non-users appear to be as knowledgeable as contraceptors when asked where they would go to obtain this advice. Eighty-four percent (105 women) of those not now practicing contraception said they would go to hospital or medical personnel; only nine women would go to relatives or friends. Eighty-eight percent of the 33 users indicated that they would go to the hospital for advice; two of them said they would go to relatives or friends should they wish further advice or help in the future.

Even though only a fairly small proportion of the sample is now using contraception, there seems quite general interest in learning about contraceptive methods. Younger women are particularly interested in learning more (see Table Mn-6), women in the middle age range (25-34) have the smallest percentage who do not want to learn more.

Knowledge of Contraceptive Methods

A majority of all women in the sample have some knowledge of contraceptive methods. Only 22% say that they do not know anything about contraceptive methods. The most widely known methods of contraception are the modern methods, "the pill," the IUD, condoms, and sterilization. (See Graph Mn-IV.)

Twenty-six percent of women 35 and over know of sterilization as a method of preventing further pregnancies, although only 8% of the youngest age group (15-24) have knowledge of this method. Thirteen percent of women with one to four living children, but 28% of women with five or more children know of sterilization. Among women who now practice contraception, 24% know of sterilization--among those who are non-users only 13% know of sterilization--and it must be assumed that the 24% of contraceptors who "know of sterilization" are not themselves sterilized: the question, if they were contraceptors, was phrased "Do you know of other methods of preventing pregnancies?"

It seems then that in the Mariana District knowledge of sterilization is more prevalent among older women with more children. It is likely that sterilization has been promoted by health personnel to those who asked for contraceptive advice: older, multiparous women.

Knowledge of modern contraceptive methods (the pill, IUD, condom) is not confined to current contraceptors (about 50% of all women have such knowledge), nor is it particularly more prevalent among women with more

children. Modern contraceptives, however, are known more widely among younger women, and very much more among women with more education. Since the knowledge of modern contraceptives, therefore, seems to be closely related to age (young) and education (more education) and not to parity and current contraceptive status, it seems reasonable to assume that such knowledge is gained from non-medical sources available in the community such as schools, the mass media, and "relatives and friends."

As a matter of fact, among the youngest age group relatives and friends seem by far the most common source of information--an indication certainly that among the younger age group contraception is a topic of considerable discussion. (See Table Mn-7.)

An encouraging trend is that among the youngest group (15-24), who for the most part also have had at least eight years of education, school is becoming an important resource for information. It can be assumed that information obtained at school is more accurate than information obtained from friends and relatives.

Hospital and medical personnel become an important source of information particularly for older women, who are, of course, also the women in the most fertile age, an indication that among these women there is a demand for contraceptive information and services. It is also evident from the data of this survey that older women have by and large not heard about contraception before going to the hospital for advice.

It seems, thus, that times are changing. Older women have had little knowledge of spacing and limiting pregnancies and only recently have come to the hospital to get advice. The younger generation, however, has had considerably more information in school, and apparently have discussed contraception more frequently. It seems reasonable to assume that such

knowledge is gained from non-medical sources available in the community, such as schools, the mass media, and "relatives and friends." One can assume perhaps that, with continued interest and education, a large proportion of the younger women will be able to decide on the use of contraception on the basis of sufficient and accurate information.

Interest in Learning More About Contraception

Seventy-three percent of the women interviewed were interested in learning more about how to prevent pregnancy. Women who had considered practicing contraception in the past were particularly motivated to learn more, 86% of them expressed the desire for further knowledge. Of the 26 pregnant women in the sample, 88% indicate a desire for further knowledge; 67% of non-pregnant women want to learn more.

There obviously is a great interest in learning more about contraception. If hospital personnel are concerned in giving contraceptive advice and counsel, it is clear that particularly women who are currently pregnant will be extremely receptive. It is, of course, not surprising that women who have considered contraception in the past are also interested in receiving more accurate information.

Women in the middle age group (25-34) are the most interested in learning more. Older women seem less interested, and a higher percentage say they do not want to learn more--perhaps because they feel that contraception is no longer very important. Women 25-34 are, of course, the most fertile group. (See Table Mn-8.)

On the other hand, women who do not want to practice contraception because they want "more children" are not as interested as others.

Women with more children are obviously interested in learning about contraception. Women from larger households are more likely to want more contraceptive information. (See Table Mn-8.)

Women with more education also seem more interested in gaining more knowledge about contraception.

Although the majority of all women wants to learn more, it is evident that interest is more likely in women aged 25-34, who have more children, more education, live in large households.

One would think that it is a healthy sign that this population wants to know: it seems certain that accurate information will give a much better basis for making decisions on whether to practice contraception, and what would be the method of choice.

Ideal Family Size

In response to the question, "If a good friend were to get married now, how many children do you think she would want to have?", a majority of the women said "not more than five children." We consider this an indication of an "ideal family size." The average "ideal family size" in the Mariana District is 4.4 children (median 4.2). Actual family size is considerably larger: the average number of children for women in this sample is 5.6 to date, a good deal higher than the "ideal." This might explain the considerable, although recent, interest in family planning.

Forty percent of the women indicate that they would prefer to have at least two years between pregnancies, and 39% of the women indicate that they would even like three or more years between pregnancies: "ideal" interval between pregnancies averages 2.7 years. Actual pregnancy intervals, however, are far from this ideal.

Women of the Mariana District still have a high fertility. They have significantly more children now than they want to have. It is not surprising then that a great majority is interested in knowing more about contraception. The actual number of contraceptors is still relatively small, and a significant portion of these has had a surgical sterilization performed. The interest in modern contraceptives, which are almost as effective although not as radical as surgery, is growing, particularly among younger women and more educated women.

Women in this district are more knowledgeable about contraception, particularly modern methods, than women in other districts. They are also younger, however, and have more education. They live in households as large as elsewhere. Among contraceptors the majority use "modern" methods, again in contrast to the other districts where the majority of contraceptors rely on traditional and folk methods.

iii. SUMMARY

- Nine municipalities on the three islands of Saipan, Tinian and Rota were surveyed.

- Women between the ages of 15-45 were interviewed.

- One hundred seventy-four houses were randomly chosen, from which 164 women were interviewed.

- The average age of the sample population is 27.8.

Fertility Patterns

- Average age at first marriage is 19.0; average age at first pregnancy is 19.5. There is a trend towards earlier marriages and earlier pregnancies.

- One hundred ten women were pregnant at the time of the survey.

- The average number of pregnancies is 6.7; the average number of living children is 5.6.

- The total fertility rate is 8697.0 and the approximation of completed family size is 8.4.

Fertility Control

- Twenty percent of sample women are practicing contraception.

- Thirty-six percent of the contraceptors are using oral contraceptives.

- A high percentage of women or their husbands have had surgical sterilizations.

- Contraceptive practice shows a relationship with age, marital status, number of pregnancies, number of living children.

- Women in older age groups between 30-45 are more likely to give as reasons for not practicing contraception the desire for more children or religious objections.

- Contraceptors and non-users are interested in further contraceptive knowledge and are equally knowledgeable as to the source of such information.

- Twenty-two percent of the sample women have no contraceptive knowledge.

- "Modern methods," the "pill," IUD, condoms and sterilization are the most widely known methods.

- Knowledge of sterilization is more prevalent among older women with more children.

- Knowledge of modern contraceptives is closely related to age and education.

- The sources of contraceptive information for younger women are relatives/friends and the school.

- For older women, the source of information is more likely to be the hospital and medical personnel.

- Seventy-three percent of sample women desire further contraceptive information.

- Women aged 25-34, who have more children, more education and live in large households are more inclined to desire further knowledge.

- The average "ideal family size" is 4.4 children and the actual number of living children is 5.6.

- The average "ideal" pregnancy interval is 2.7 years.

(See Table Mn-9 for summary description of sample.)

TABLE MN-1

Age Distribution in Percent

(See page 33.)

Age Group	KAP Survey 1970 percent	TTPI 1968 percent
15-24	48	57
25-34	22	24
35+	30	19
Total	100%	100%

TABLE MN-2

Education of Women and Their Husbands

(See page 34.)

Education	Women		Men	
	number	percent	number	percent
No education	1	.6	2	2.3
1-8 years	96	60	55	62.5
9 or more years	63	39	31	35.2
Total	160*	99.6%	88**	100.0%
Average number of years in school	7.6		7.5	
Median	7.7		7.0	
Percent who completed 9 or more years	26		27	

*No information available for one woman.

**73 women (45% of sample) did not know how much education their husbands had had.

TABLE MN-3

Marital Status

(See page 35.)

Marital Status	Sample	
	number	percent
Married	89	55
Cohabiting	12	7.5
Unmarried, with children	9	6
Unmarried, no children	48	30
Separated	2	1.2
Divorced	1	.6
Widowed	--	--
Total	161	100.3%

TABLE MN-4

Age-Specific Birthrates (live births per 1000 women of specified age) and Total Fertility Rate, Compared with Similar Rates from Trust Territory Annual Report 1968 and Guam KAP Survey 1969

(See page 37.)

Age	Guam KAP Survey 1969	TTPI Government Figures* Mariana District 1968	Mariana KAP Survey 1970
15-19	62.0	113.6	46.5
20-24	229.7	315.0	382.3
25-29	317.0	442.1	363.6
30-34	291.6	325.6	400.0
35-39	175.4	237.7	416.6
40-44	74.0	115.2	130.4

*Source: Registered births and deaths. Annual Report, TTPI 1968.

TOTAL FERTILITY RATE**			
15-44	5748.5	7746.0	8697.0

**Total fertility rate is the sum of age-specific birthrates of women 15-44 multiplied by five.

TABLE MN-5

Contraceptors, Non-Users, Refusers, Women Not at Risk, by Age, Marital Status, Size of Household, and Education

	Contraceptive Status							
	Contraceptors		Non-Users		Refusers		Not at Risk	
	number	percent	number	percent	number	percent	number	percent
Age								
15-24	8	24	18	50	17	33	34	85
25-34	9	27	7	19	16	31	4	10
35+	16	48	11	31	19	37	2	5
Total	33	99%	36	100%	52	101%	40	100%
Marital Status								
With spouse	31	94	23	64	45	87	2	5
Without spouse	2	6	13	36	7	13	38	95
Total	33	100%	36	100%	52	100%	40	100%
Size of Household								
1-10	22	67	14	39	33	63	19	47.5
11+	11	33	22	61	19	37	21	52.5
Total	33	100%	36	100%	52	100%	40	100.0%
Education								
1-8	24	73	22	61	39	76	12	30
9+	9	27	14	39	12	24	28	70
Total	33	100%	36	100%	51	100%	40	100%

TABLE MN-6

Interest in Learning More About Contraception, By Age

(See page 42.)

Age	Interest					
	Yes		No Need		No	
	number	percent	number	percent	number	percent
15-24	58	49	2	--	17	47
25-34	32	27	1	--	3	8
35+	28	24	4	--	16	44
Total	118	100%	7	--	36	99%

TABLE MN-7

Source of Contraceptive Knowledge, By Age

(See page 43.)

Age	Source of Knowledge: Hospital Medical		School, Mass Media		Relatives & Friends		Don't Remember		Don't Know Methods	
	number	percent	number	percent	number	percent	number	percent	number	percent
15-24	5	13.5	20	80	30	54	2	--	20	51
25-34	13	35	5	20	12	21	1	--	5	13
35+	19	51	--	--	14	25	1	--	14	36
Total	37	99.5%	25	100%	56	100%	4	--	39	100%

TABLE MN-8

Desire for Contraceptive Information, By Age, Contraceptive Status, Number of Children Household Size and Education

(See page 45.)

	Desire for Information							
	Yes		No need		No		Total	
	number	percent	number	percent	number	percent	number	percent
Age								
15-24	58	75	2	3	17	22	77	100
25-34	32	89	1	3	3	8	36	100
35+	28	58	4	8	16	33	48	99
Contraceptive Status								
Contraceptors	24	73	5	15	4	12	33	100
Refuser because wants more children	15	54	--	--	13	46	28	100
All others	79	79	2	2	19	19	100	100
Number of Children								
1-4	32	67	1	2	15	31	48	100
5-9	29	73	5	13	6	15	40	101
10+	17	89	--	--	2	11	19	100
Household Size								
1-10	56	64	5	6	27	31	88	101
11+	62	85	2	3	9	12	73	100
Education								
0-8	66	68	5	5	26	27	97	100
9+	52	81	2	3	10	16	64	100

TABLE MN-9

Summary Description of Mariana District Sample

a. N=161 (total sample size)

b. Residence:

Lived in same village all her life -- 16%
Lived in village 5 or more years -- 50%
Lived in village less than 5 years -- 34%

c. Education:

Women's education: range: 0-15 years in school; average 7.6; median 7.6
Men's education: range: 0-16 years in school; average 7.5; median 6.6 (N=88)

d. Religion:

Catholic -- 99%; Protestant -- 1%

e. Marital Status:

Married	61%
Unmarried, with children ...	7%
Unmarried, no children	30%
Divorced	1%
Separated	1%
Widowed	--

Women married more than once -- 4%

Age at first marriage: range (age) 14-38; average 19.5; median 18.5

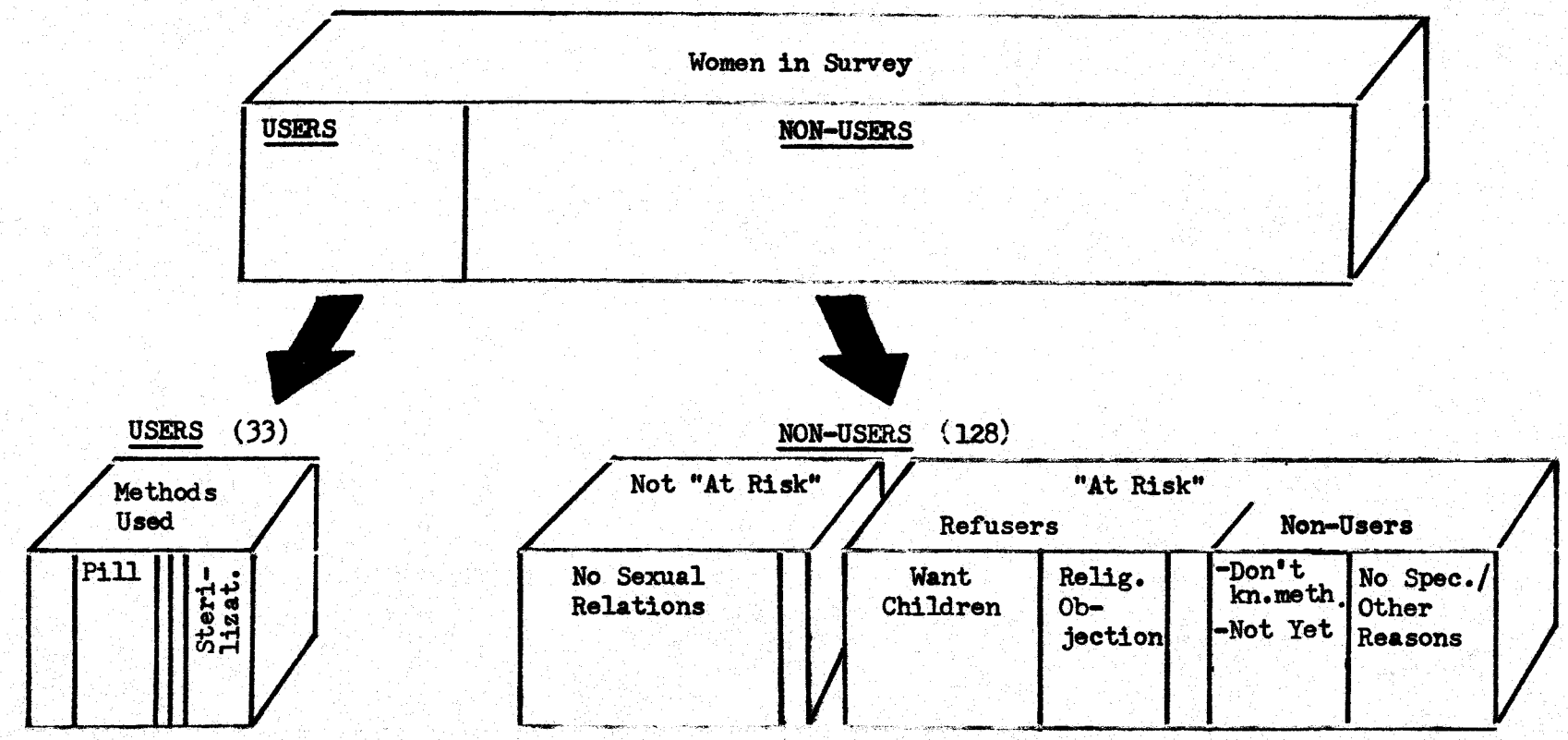
f. Reproductive Status:

Age at first pregnancy:	range (age) 14-34; average 19.5; median 19.0*
Number of pregnancies to date:	range 1-16; average 6.7; median 6.5*
Number of surviving children:	range 0-14; average 5.6; median 5.1*
Women pregnant at the time of the survey:	16%
Women who have adopted children:	11%
Total Fertility Rate, Women 15-44:	8697.0
Completed family size, women over 40:	8.4
Desired intervals between pregnancies:	average 2.7; median 2.2
Ideal family size (desired number of children):	range 0-12; average 4.4; median 4.2

*Calculated only for women who have had at least one pregnancy.

PRACTICE - Graph MN-I

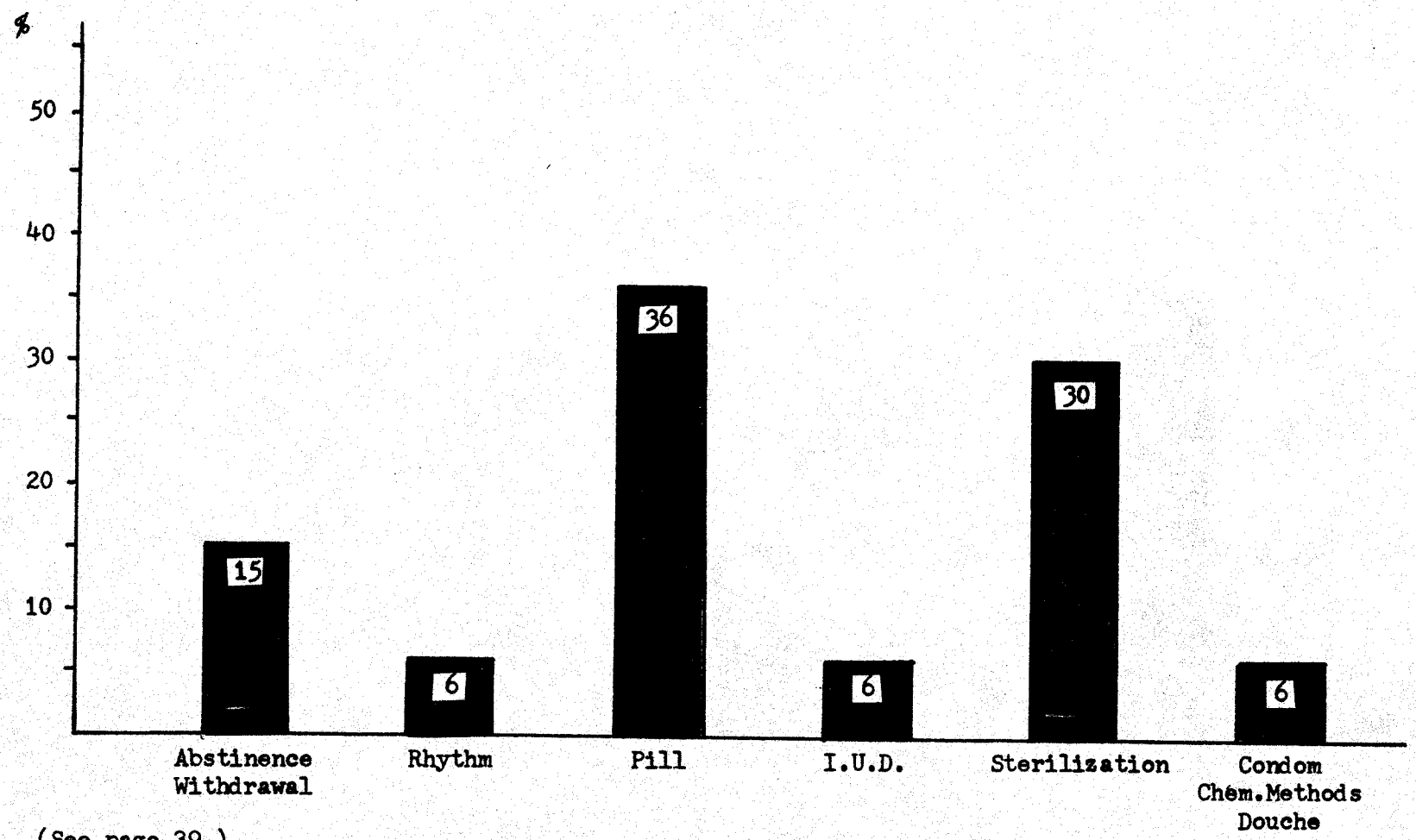
CURRENT CONTRACEPTIVE STATUS of SAMPLE POPULATION



(See page 39.)

PRACTICE - Graph MN-II

CONTRACEPTIVE PRACTICE by PER CENT of 33 PRACTICING WOMEN

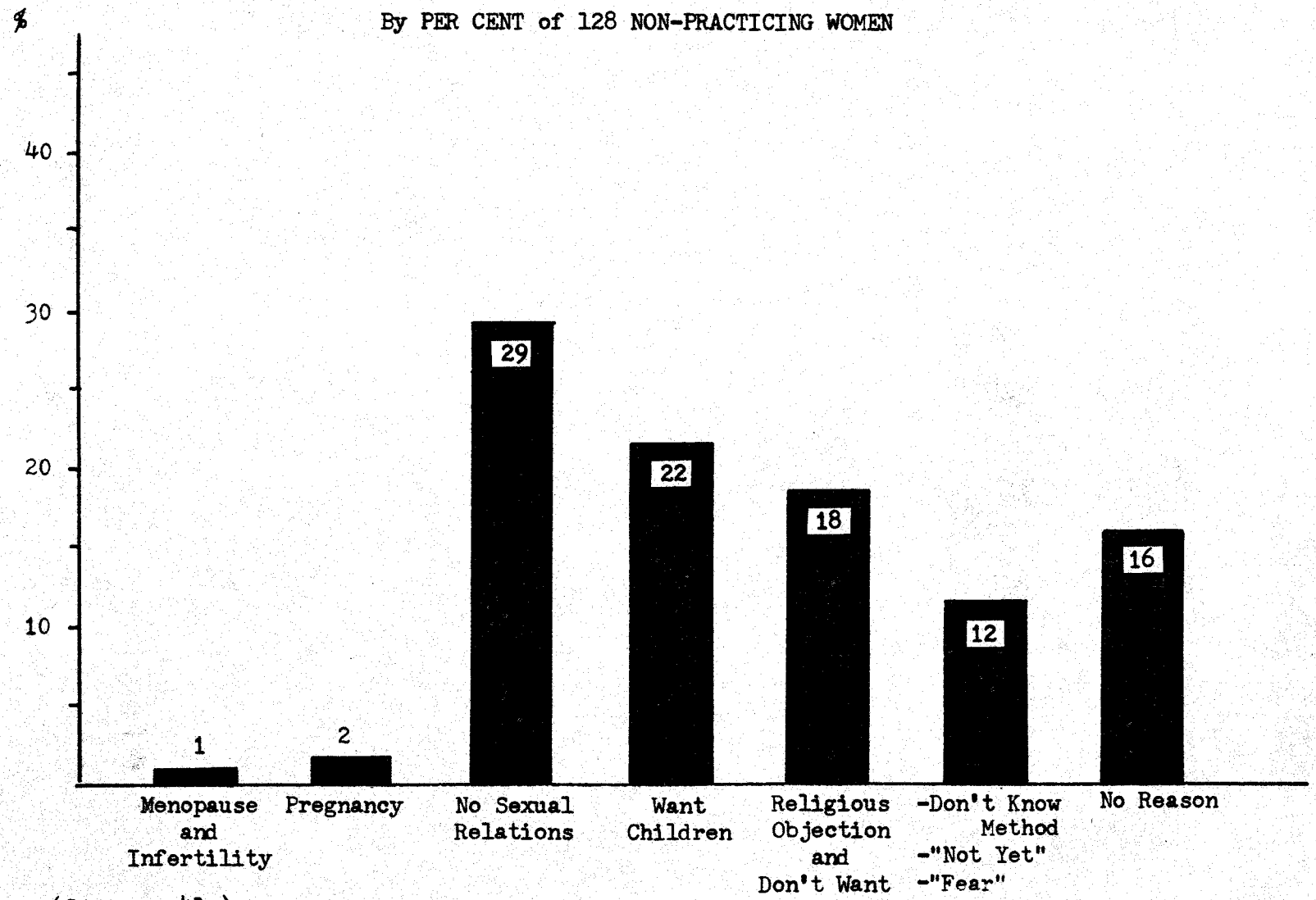


(See page 39.)

P R A C T I C E - Graph MN-III

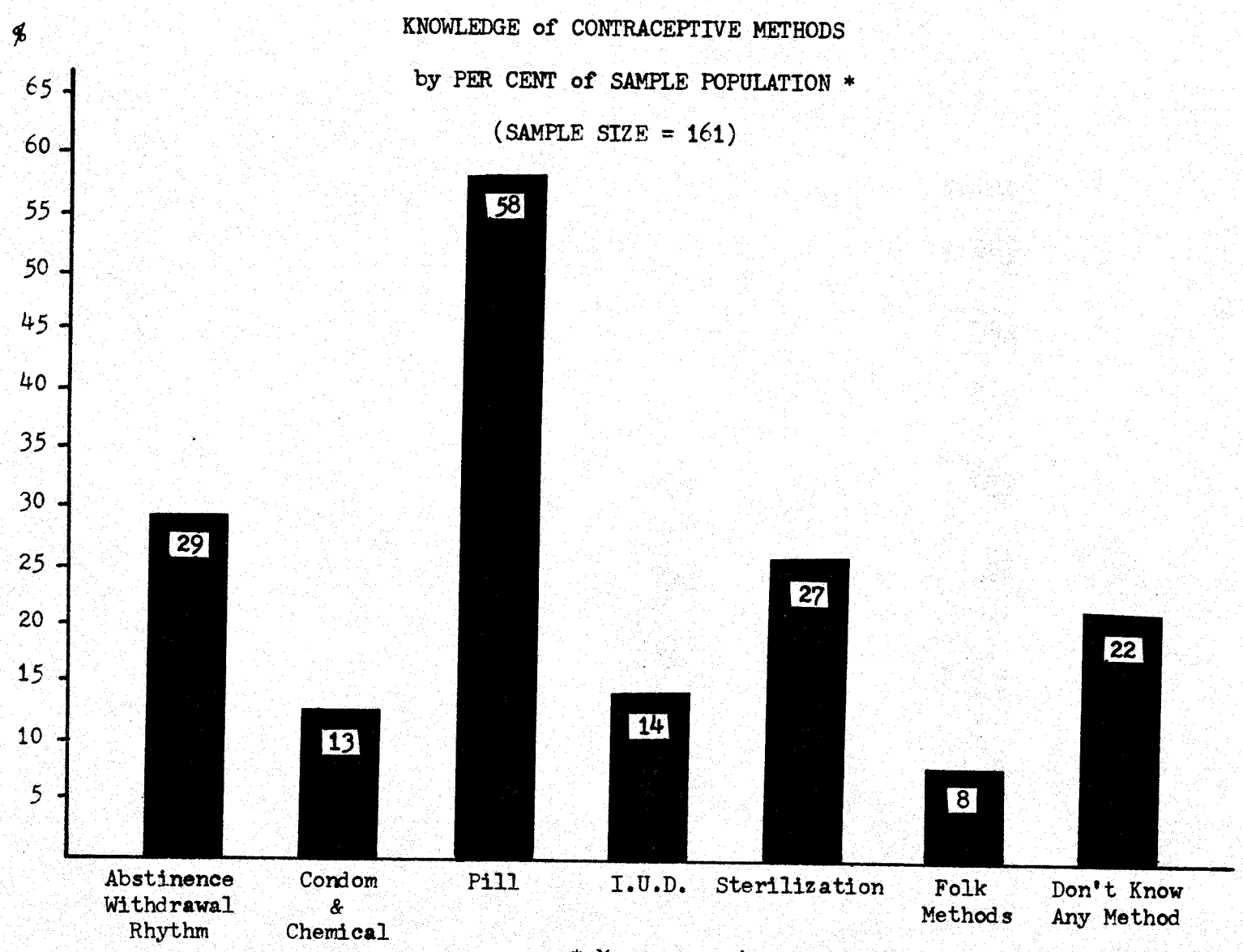
REASONS FOR NOT PRACTICING CONTRACEPTION

By PER CENT of 128 NON-PRACTICING WOMEN



(See page 41.)

K N O W L E D G E - Graph MN-IV

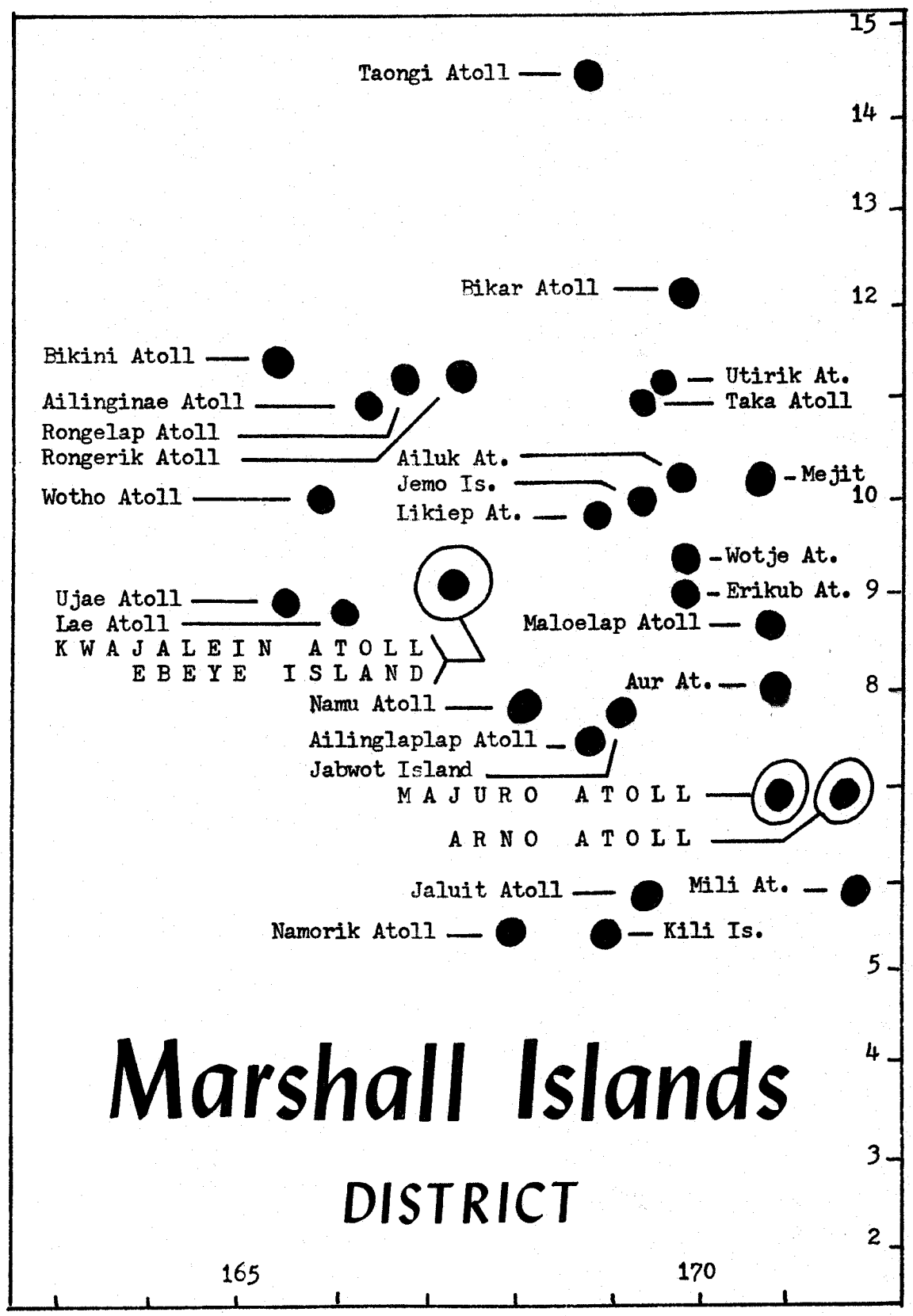


(See page 42.)

* Many women know more than one method; therefore the percentages add up to over 100%. 78% of sample knows at least one method.

V. DISTRICT REPORTS

B. Marshall Islands District


Taongi Atoll
Bikar Atoll
Bikini Atoll
Ailinginae Atoll
Rongelap Atoll
Rongerik Atoll
Wotho Atoll
Utirik At.
Taka Atoll
Ailuk At.
Jemo Is.
Likiep At.
Mejit
Wotje At.
Erikub At.
Ujae Atoll
Lae Atoll
KWAJALEIN ATOLL
EBEYE ISLAND
Maloelap Atoll
Aur At.
Namu Atoll
Ailinglaplap Atoll
Jabwot Island
MAJURO ATOLL
ARNO ATOLL
Jaluit Atoll
Mili At.
Namorik Atoll
Kili Is.
15
14
13
12
10
9
8
5
4
3
2
165
170
Marshall Islands
DISTRICT

i. INTRODUCTION

Land and People

The Marshall Islands, which form the Marshall District, are an archipelago, reaching roughly from the equator 800 miles northward in two parallel chains. The Marshall District forms the easternmost boundary of the Trust Territory of the Pacific Islands. There are 29 low-lying coral atolls and five low coral islands, a total of over 1,000 islands. Yet the total land area is only about 70 square miles, spread over an area of close to 180,000 square miles of ocean. Even though few of the islands are inhabited, transportation and communications create problems of considerable magnitude. (See Map, page 63.)

The Marshallese people are Micronesian and the Marshallese language is, as are the other Micronesian languages, a member of the Malayo-Polynesian language group. Marshallese is closely related to Gilbertese and the numerous languages of the Caroline Islands, particularly the Ponapean language. There are two main dialects spoken in the Marshall District, but differences are slight.

The population estimate for 1970 for the Marshall Islands District is 20,206. Population density for the district can be estimated as [illegible] persons per square mile. (See Table TT-1.) However, there are heavy concentrations of population on Majuro and Kwajalein (Ebeye). Majuro, with a population of 7,165, has a population density of 2,389 persons per square mile.

Part of Kwajalein atoll is leased to the United States Government, Department of Defense, and is a military installation. Kwajalein island has no resident Micronesians--Micronesians who work on Kwajalein during the day,

[illegible]

[illegible]

The [illegible] Islands, which lie [illegible] of [illegible], are [illegible] [illegible] [illegible]

live for the most part on the neighboring island of Ebeye. No figures were available to us for the population of Ebeye, but density is probably very high.

Marshall District Survey Sample

The Marshall Islands District has a relatively small population, an enormous area with very small scattered islands--typical coral atoll islands, in a ring around a lagoon, only a few feet above sea level--and recently fairly heavy concentrations of population in a few of the more developed centers. Because of the unusual distribution of population prior determination had been made to include only three main areas in the survey: the Majuro atoll with one main island, three islands in the adjoining Arno atoll, and the island of Ebeye in the Kwajalein atoll.

Majuro, the district center, can be considered "urbanized." Ebeye, a very small island with a population of probably a few thousand, has little more than homes and a few stores.

The sample was drawn from latest (1967) census maps. Within households included in the sample, all women 15-49 were to be interviewed. A total of 220 interviews were completed.

ii. FINDINGS

a. Background Characteristics

Age Distribution

The age distribution of women interviewed in the survey does not match the age distribution of women as given in the 1968 Annual Report, Department of Health Services, Trust Territory of the Pacific Islands. (See Table HS-1.) The sample obviously underrepresents the youngest age group (15-19).

This underrepresentation of the youngest age group may be the result of the difficulties the interviewers had in interviewing young, unmarried girls. Although interviewers had of course been instructed to include unmarried girls, there are understandable reasons why they would have been more reluctant to approach them. There also is the possibility that mothers may have objected to having their daughters interviewed. And finally there is the possibility that girls 15-19 were away, either in school, or working elsewhere.

The other age groups, however, seem to be distributed sufficiently similar to the census age distribution, so that the sample as a whole--with minor reservations--can be considered adequately representative of the population.

The average age of women in the sample population is 27.6, median age is 27. The median age of women from the 1969 figures is 26. This is a young population.

Residence

Ninety-seven percent of the women interviewed were born in the Marshall Islands. The data suggest considerable migration within the district, from

the outer islands to the more "urban" areas of Majuro and Ebeye. Table MS-2 lists the birthplace of women presently living in the three sampled areas. More than half of the women living in Majuro and Ebeye were born on the outer islands of the district. Thirty-eight percent of the women have lived in their present village less than five years; 47% have lived in the same village five or more years. Only 14% of the women continue to reside in the village in which they were born.

This is in considerable contrast to the findings of most of the other districts of the Trust Territory where there is some migration to the district center, but certainly not on the scale of migration in the Marshall Islands.

It is not surprising to find people moving away from the extremely limited environments of low coral islands, particularly when populations increase perhaps more than they did in the past, and when a few more urbanized centers offer opportunities for advancement and change that are absent on the small islands in the center of the Pacific.

A small number of people were evacuated 25 years ago from areas in the Pacific used as testing grounds for nuclear weapons. It is probable that some of these have also moved to the more developed centers in the district.

Household Composition

Household size in the Marshall District reflects the extended family living arrangements predominant throughout Micronesia. The average household size is 10.9 people, although the average number of living children is only 4.6. In this district 42% of women interviewed had adopted children, a percentage higher than in any of the other districts surveyed.

The average household size in the Marshall District appears particularly large. In view of the rather extensive migration from outlying islands to the few centers of dense population sampled, it is perhaps to be expected

that where space is limited and migration has taken place within the last generation, "households" must be large. One would expect households to consist of extended families, in many instances including members of the family who have recently arrived from other parts of the Marshall Islands.

One would also expect that with large households (and particularly with limited space and limited resources) people might be more acutely aware of conditions of crowding. Demographic studies done elsewhere have shown that perceptions of "crowding" may be one of the factors that have motivated people to voluntarily control fertility--although it is certainly not the only factor, nor is it by itself apparently a "sufficient" reason to change reproductive behavior.

Education

Table MS-3 shows the number of years of schooling this population has had. Seventeen percent of the women have completed eight years of school, and only 4% finished 12 years. According to the information provided by their wives, the men have had more education than the women. Twenty percent of the men have finished 12 years of school. The average number of years in school for men is 8.1, for women, 6.4 years.

Religion

The Marshall Islanders are predominantly Protestant; 87% of the sample population is Protestant; 9% is Catholic; the remainder indicated they had other or no religious affiliation or preference.

Marital Status

Married women form 86% of the sample. These women can be considered "at risk" of becoming pregnant. (See Table MS-4.)

The average age at marriage is 18.6. There is some indication that younger women marry earlier than a previous generation: of women up to age 20, 72% are already married--however, in the age group of women over 25, only 50% were married by age 20. However, this might be a spurious fact because the sample underrepresents young, unmarried women.

What is particularly noteworthy, is that 46% of women interviewed said they had been married more than once. It is not clear whether women interpreted this question to mean legal marriage only, or whether they perhaps included episodes of "cohabitation." In any case women in this category appear to be "at risk" much of the time. This may in part explain the extraordinarily high fertility rates computed for Marshallese women in this sample.

b. Fertility Patterns

The average age at first pregnancy of women in the Marshall Islands District is 18.9; the median age is 18.4. Conception in this area obviously takes place before or at the time of marriage (cf. average age at first marriage).

There appears to be a trend toward beginning reproduction earlier in life--as there is a trend toward younger marriage. The median age at first pregnancy of women aged under 25 is 17.4; the median age at first pregnancy of women aged 40 and over is 20.5. The trend to lower marriage age and earlier reproduction, usually--although not always--is also indicative of an increasing fertility.

By age 20, 61% of all women interviewed have had at least one pregnancy.

Of the total number of 220 women interviewed, 198 had had at least one pregnancy (probably an overrepresentation of fertility--we think that in the age groups included in the sample, unmarried young women who had not been pregnant yet, were largely excluded). These 198 women had had an average of 5.2 pregnancies to date: many of these women can be expected to have more. The average number of surviving children is 4.6, an indication of relatively high mortality rates.

An estimate of the total fertility in the Marshall District is shown in Table MS-5. Age-specific birthrates for the sample in this study were computed, and for comparative purposes we included similar rates computed from 1968 TTPI Government Annual Report and rates computed from a similar study done in Guam in 1969. As could be expected, the age-specific birthrate for the age group 15-19 in this survey is unusually high. The sample obviously excludes single girls. Otherwise, the rates computed from the KAP

Survey are reasonably close to those computed from the TTPI Annual Report, another indication that, but for the very youngest group, the sample as a whole is acceptably representative.

The unusually high birthrate computed for women 15-19, of course, also affects the total fertility rate.

The higher values found for the KAP Survey, when compared with the TTPI Annual Report, may well be a reflection of the sampling procedure, which deliberately excluded all of the outlying islands and island groups.

It is certain that fertility in the Marshalls is high.

As a further measure of fertility, we analyzed intervals between pregnancies. In this population 31.3% of all pregnancy intervals was greater than two years, a figure somewhat higher than in the other districts. We do not know whether these longer pregnancy intervals were "planned."

The total fertility rate is 9883.0--which is, as has already been noted, undoubtedly inflated because of the underrepresentation of single, nulliparous girls. An approximation of "completed family size" can be found in the average number of children of women aged 40 and over (a few of these may yet have more children, but this age group comes closest to having completed their biological period of fertility). The women 40 and over, have an average of 7.5 children, an indication that even if the total fertility rate is inflated, the actual rate must yet be quite high. From the (approximation of) "completed family size," it seems that the "true" total fertility rate for this sample should be in the order of 8000 to 8500. This is considerably higher than the rate computed from the TTPI Annual Report. It is possible that this reflects higher fertility among women in "urban" islands. It is also possible that this survey, since it uses fairly intensive personal interviews, is more accurate in eliciting information. Particularly with high parity it

is not unusual for women to forget births, unless they are questioned closely, as they were in this survey. Figures obtained from "official" birth registration are notoriously unreliable.

c. Fertility Control

In the Marshall Islands District, of the 220 women interviewed, 50 women (23%) were practicing contraception; 170 women (77%) were not. (See Graph MS-I.) Fifty-five percent (122 women) of the sample said they had considered preventing pregnancy in the past, but had never actually done so. An attempt was made to determine whether the motivation underlying this stated interest in contraception was primarily an interest in spacing, or limiting pregnancies. Apparently the distinction was not clear to the women interviewed: responses seem erratic and not reliable.

Current Contraceptors

Of the 50 women who are current contraceptors, 36 (72%) are using "the pill," ten women are using more traditional methods. Four women said they had had tubal ligations. (See Graph MS-II.)

Contraceptors are, of course, found primarily among married women, although five of the 50 contraceptors were currently "without spouse."

Contraceptive use increases with age: the percentage of contraceptors is highest among women aged 35 and over. (See Table MS-6.) This is not surprising, of course, since older women also have more children, and so presumably have more reason to consider contraception.

There is a correlation between contraceptive use and number of pregnancies to date: women with five or more pregnancies are more likely to be contraceptors than women with fewer pregnancies. (See Table MS-7A.) There is a similar correlation between contraceptive use and number of children: women with five or more children are more likely to be contraceptors than women with fewer children. (See Table MS-7B.)

One would expect that the crowded conditions inherent in the very large households found in the Marshall Islands might motivate women to control their fertility. There is some indication that this holds true. More than half of all contraceptors came from households with 11 or more people (40% of non-users live in households this size). Women living in very large households are somewhat more likely to be contraceptors than women from smaller households. (See Table MS-8.)

Since the Marshallese interviewed were predominantly Protestant, religion is not a differential factor determining use of contraception.

It is more surprising that no relationship could be demonstrated between contraceptive use and education: contraceptors are neither more nor less educated than non-users.

Reason for Not Using Contraception

Six percent of the non-users were not "at risk" of becoming pregnant, either because of infertility, menopause, current pregnancy, or because there was no opportunity for sexual relations at present. (See Graphs MS-I and MS-III.)

The women at risk can be divided into two groups, refusers and non-users. Refusers (44% of all women at risk, not now using contraception) include women who have religious objections, who do not want to practice contraception, and a large group of women who want more children. The number of "refusers" is high. (See Table MS-6 and Graph MS-III.)

The other group of women, not now using contraception, can be considered "non-users." The majority of these women have no particular reason for not practicing contraception: it has not occurred to them, they have never gotten around to it. A smaller but significant group indicates that they might be interested but they do not know of any methods of contraception, or

they say "maybe later," or they have vague fears about contraception. It appears that this group could benefit from an educational program, designed to provide accurate information on contraception and family planning.

As can be expected "refusers" who indicate they still want more children are found primarily in the younger age groups (15-29). Older women, who do not now practice contraception for the most part have no specific reasons for not doing so.

A fairly obvious relationship exists between the number of children a woman has, and the likelihood that she will refuse contraception because she wants more children: a woman with fewer than five children is much more likely to refuse because she wants more children, than a woman who has five or more. (See Table MS-9.)

An equally obvious relationship was found between women who do not now use contraceptives for no particular reasons, and who do not have any information on contraceptives (only 7% of women who do not use contraceptives for no reasons know any method of contraception). Another indication that an educational program could be very beneficial at this time.

Knowledge of Contraception

If this survey is a reflection of the district, women in the Marshall Islands have very little knowledge of contraceptive methods. Graph MS-11 shows that 57% of the women have no knowledge at all of any of the contraceptive methods; 31% know of "the pill," only 9% have some knowledge of the more "traditional" methods, such as abstinence, withdrawal, rhythm.

It is of interest to note that in this sample apparently nobody had any knowledge of the IUD.

It is evident that with increasing age there is an increasing percentage of women who have no knowledge and an increasing proportion of women who

have some knowledge of sterilization. (See Table MS-10.) Our data also show that more of the younger women have some knowledge of "the pill" and other modern contraceptives.

It is understandable that among women who say they have considered practicing contraception in the past a greater proportion has some knowledge than among women who say they have never contemplated preventing pregnancy.

There is a relationship between education and contraceptive knowledge: the percentage of women who know of any methods, and particularly know of the pill, is considerably higher among women with nine or more years of education than among women with eight or fewer years of education. (See Table MS-11.)

Where Knowledge First Learned

Of all women who have knowledge of "the pill," 76% have first learned about it from hospital and medical personnel--it is perhaps more astonishing that 24% have learned about it from friends and relatives! This appears to be a function of age: younger women report that they learned about contraceptives from friends and relatives, older women more often that they first learned from hospital and medical personnel. (See Table MS-12.)

There are few women with more than eight years of education who say they have never had any information regarding contraception; among the more educated women relatively few say they have learned about contraception from friends and relatives. Women with less than eight years of education seem to have had to rely more on learning about contraceptives from friends and relatives. This suggests that formal education may predispose people somewhat to relying on professional information rather than relying on information from friends and relatives.

Where to Seek Further Information

Virtually all women report, however, that in future they will go to the hospital to get more information about contraception, surely an indication of the fact that now professional sources of information about family planning are well known and accepted.

In seeking further contraceptive advice, 96% of the women indicate that they would go to the hospital or medical personnel; only three women did not know where to go. All the women who are now contraceptive users indicate that they would go to the hospital for future advice.

It is impressive to note that only 6% of women interviewed say that they do not want to learn more about family planning and contraception: these are women with fewer than four children who want more children, who have never practiced, nor even considered "spacing" pregnancies, and are now married. Some six women of the total sample say they need not learn more about contraception. The vast majority of all women, however, say they are interested in learning more.

Even though the number and percentage of current contraceptors in the Marshall Islands District is small, it is clear that there is interest in family planning among almost all of the women interviewed.

Ideal Family Size

As has been noted earlier, fertility is high. The number of children which these women consider "ideal" is also large. The question "if a good friend were to get married now, how many children do you think she would want to have?" showed a fairly wide range of responses (2-15), with an average of 6.1 children. Younger women are obviously changing their idea about what is an "ideal" number of children, the majority of them want less than the average; the majority of women over 35, on the other hand want more

than seven children. (See Table MS-13.) This, of course, may well be a reflection of how many children they already have: there is a strong correlation between "ideal number of children," and actual number of living children. (See Table MS-14.)

It is also possible that there is a real change in the attitude of younger women, who perhaps no longer feel, as a previous generation did, that a very large family is desirable.

The number of children considered "ideal" does not seem to be related to household size.

There is some indication that women with more education desire a smaller family, although the data of the survey are not conclusive.

Women aged 40 and over have an average of 7.5 living children. This figure can be considered an approximation of "completed family size": the average number of children a woman in this population will have at the end of her biologically fertile period of life. This figure is considerably higher than "ideal family size" (6.1 children). At the same time, however, younger women seem to put a different value on the "ideal," they want fewer children.

One can expect present high fertility to continue, although attitudes are apparently changing, so that one could also expect a change in fertility in time. Women in this sample also indicate that the average interval between pregnancies should be 2.8 years, although at present almost half of all pregnancy intervals is less than two years, a final indication perhaps of a sincere desire to not only reduce total fertility, but to space births more than they are now.

iii. SUMMARY

- The three main areas surveyed were: a) Majuro atoll, the main island; b) Arno atoll, three islands; c) Kwajalein atoll, Ebeye.

- The sample was drawn from the latest census maps with a total of 220 interviews completed.

- Women 15-49 were interviewed.

- The youngest age group is underrepresented in the sample; however, the other age groups are adequately representative of the population.

- Average age of the sample is 27.6.

- Average age at first marriage is 18.6.

Fertility Patterns

- Average age at first pregnancy is 18.9; there is a trend towards earlier marriages and earlier pregnancies.

- By age 20, 61% of women have had at least one pregnancy.

- The average number of pregnancies is 5.2; the average number of surviving children is 4.6.

- The total fertility rate is 9863.0; the fertility rate is probably unduly elevated by the underrepresentation of single, nulliparous women.

- The "completed family size" for women 40 and over is 7.5.

Fertility Control

- Twenty-three percent are presently practicing contraception (almost certainly an overrepresentation of contraceptive status of this population, due to sampling error).

- "Modern methods" are more widely used by women practicing contraception than the more traditional methods; 72% of the contraceptors are using "the pill."

- Contraceptive use increases with age, number of pregnancies, living children, and household size.

- The percentage of women who are refusers is high. Women who are "refusers" are in younger age groups with fewer children.

- Fifty-four percent of the sample women have no knowledge of contraceptive methods.

- Knowledge of modern methods was limited primarily to the pill.

- Women with more education are more likely to have contraceptive knowledge.

- Women with knowledge of the pill have learned about it primarily from the hospital and medical personnel; however, 24% of the women learned about it from friends and relatives.

- Ninety-six percent of women indicate they would go to hospital or medical personnel for future advice.

- The majority of women are interested in learning more about contraception.

- The "average ideal number of children" is 6.1.

(See Table MS-15 for summary description of sample.)

TABLE MS-1

Age Distribution in Percent

(See page 66.)

Age Group	KAP 1970 percent	ITPI 1968 percent
15-19	11	29
20-24	27	18
25-29	21	12
30-34	14	11
35-39	13	10
40-44	10	10
45-49	4	10
Total	100%	100%

TABLE MS-2

Birthplace by Present Residence

(See page 67.)

Birthplace	Present Residence: Majuro number	Majuro percent	Ebeye number	Ebeye percent	Arno number	Arno percent
Majuro	28	26	6	8.3	7	17.5
Ebeye	1	1	15	21	--	--
Arno	13	12	--	--	26	65
Other Marshalls District Islands	64	59	50	69.4	7	17.5
Other	2	2	1	1.3	--	--
Total	108	100%	72	100.0%	40	100.0%

TABLE MS-3

Education of Women and Their Husbands

(See page 68.)

Education	Women		Men*	
	number	percent	number	percent
No schooling	1	.5	3	1
1-8 yrs.	170	77	86	45
9-12 yrs.	44	20	70	37
13+ yrs.	2	1	7	4
Don't know	2	1	25	13
No response	1	.5	--	--
Total	220	100.0%	191	100%

*Information on education of husbands obtained from women.

TABLE MS-4

Marital Status

(See page 68.)

Marital Status	Sample number	Sample percent
Married	189	86
Unmarried, with children	7	3
Unmarried, no children	7	3
Separated	8	4
Divorced	9	4
Total	220	100%

TABLE MS-5

Age-Specific Birthrates (live births per 1000 women of specified age) and Total Fertility Rate, Compared with Similar Rates from Trust Territory Annual Report 1968 and Guam KAP Survey 1969

(See page 70.)

Age	Guam KAP Survey 1969	TTPI Government Figures* Marshalls District 1968	Marshalls KAP Survey 1970
15-19	62.0	12.5	520[1]
20-24	229.7	394.7	379.3
25-29	317.0	319.1	358.7
30-34	291.6	298.0	322.5
35-39	175.4	233.0	344.8
40-44	74.0	85.4	90.9

*Source: Registered births and deaths. Annual Report, TTPI 1968.

[1] Unreliable, due to underrepresentation of single, unmarried women.

TOTAL FERTILITY RATE**			
15-44	5748.5	6911.5	9883.0

**Total fertility rate is the sum of age-specific birthrates of women 15-44 multiplied by five.

TABLE MS-6

Contraceptors, Non-Users, Refusers, By Age

(See page 73.)

Age	Contraceptors		Non-Users		Refusers		Not at Risk	
	number	percent	number	percent	number	percent	number	percent
15-24	14	28	24	30	42	52.5	3	27
25-34	17	34	31	39	26	32.5	4	36
35+	19	38	24	30	12	15	4	36
Total	50	100%	79	99%	80	100.0%	11	99%

TABLE MS-7

Practice of Contraception By Number of Pregnancies and Number of Living Children*

(See page 73.)

A. Related to Number of Pregnancies

Number of Pregnancies	Current Contraceptors number	Not Using Contraception number
1-4	80	18
5+	68	32
Total	148	50

$X^2 = 4.87$
df = 1
$p < .05$

B. Related to Number of Living Children

Number of Living Children	Current Contraceptors number	Not Using Contraception number
0-4	87	22
5+	61	28
Total	148	50

$X^2 = 3.30$
df = 1
$p \rightarrow .05$

*Ever-pregnant women only.

TABLE MS-8

Contraceptive Use Related to Household Size

(See page 74.)

Household Size	Current Contraceptors number	Not Using Contraceptives number
1-10	23	99
11+	27	67
Total	50	166*

Not statistically significant.

*For 4 women, there is no information on the size of the household in which they live.

TABLE MS-9

Women at Risk, Not Now Using Contraception, by Number of Living Children

(See page 75.)

Number of Living Children	Not Using Contraceptives Because They Want More Children	Not Using Contraceptives For Other Reasons
	number	number
0-4	51	84
5+	8	49
Total	59	133*

$X^2 = 29.68$

df = 1

$p < .001$

*Excluded are not only women not at risk, but also those women for whom no information on number of children was available.

TABLE MS-10

Knowledge of Contraception, By Age

(See page 76.)

Knowledge of Contraception	Age 15-24 number	15-24 percent	25-34 number	25-34 percent	35+ number	35+ percent
Knows of Traditional Methods	5	6	9	11	8	8
Knows of Modern Contraceptives	33	39	24	30	14	27
Knows of Sterilization	1	1	1	1	6	7
Does Not Know Any Methods	46	54	45	57	25	58
Total	85	100%	79	99%	53	100%

TABLE NS-11

Knowledge of Contraception, by Education

(See page 75.)

Knowledge of Contraception	Education			
	0-8 years		9+ years	
	number	percent	number	percent
Knows of Traditional Methods	14	8	4	8
Knows of Modern Methods	53	30	19	41
Knows of Sterilization	3	2	3	7
Does Not Know Any Methods	104	60	20	43
Total	174	100%	46	100%

TABLE NS-12

Source of First Knowledge, By Age

(See page 76.)

Age	Source of First Knowledge: Hospital Medical		Friends & Relatives		Others & Don't Know	
	number	percent	number	percent	number	percent
15-24	37	29	20	56	26	45
25-34	48	38	11	31	18	31
35+	41	33	5	14	14	24
Total	126	100%	36	101%	58	100%

TABLE MS-14

Ideal Number of Children, By Age

(See page 78.)

Age	Ideal Number of Children: 0-6 number	0-6 percent	7+ number	7+ percent
15-24	76	52	6	8
25-34	44	30	34	47
35+	25	17	33	45
Total*	145	99%	73	100%

$x^2 = 43.21$

$df = 2$

$p < .001$

*Excluding two women who did not respond to the question on ideal family size.

TABLE MS-14

Ideal Number of Children by Number of Living Children at Present

(See page 78.)

Number of Living Children	Ideal Number of Children: 0-6 number	0-6 percent	7+ number	7+ percent
0-4	96	75	18	19
5+	32	25	52	81
Total*	128	100%	70	100%

$X^2 = 58.281$

df = 1

$p < .001$

*Excluding women who did not indicate ideal number of children, and women who had never been married, and never been pregnant.

TABLE MS-15

Summary Description of Marshall District Sample

a. N=220 (total sample size)

b. Residence:
- Lived in same village all her life -- 14%
- Lived in village 5 or more years -- 47%
- Lived in village less than 5 years -- 39%

c. Education:
- Women's education: range: 0-15 years in school; average 6.4; median 6.4
- Men's education: range: 0-16 years in school; average 8.0; median 8.2 (N=163)

d. Religion:
- Catholic -- 9%; Protestant -- 87%; other -- 4%

e. Marital Status:

Married	86%
Unmarried, with children .	3%
Unmarried, no children ...	3%
Divorced	4%
Separated	4%
Widowed	--

Women married more than once -- 47%

Age at first marriage: range (age) 12-38; average 18.6; median 18.1

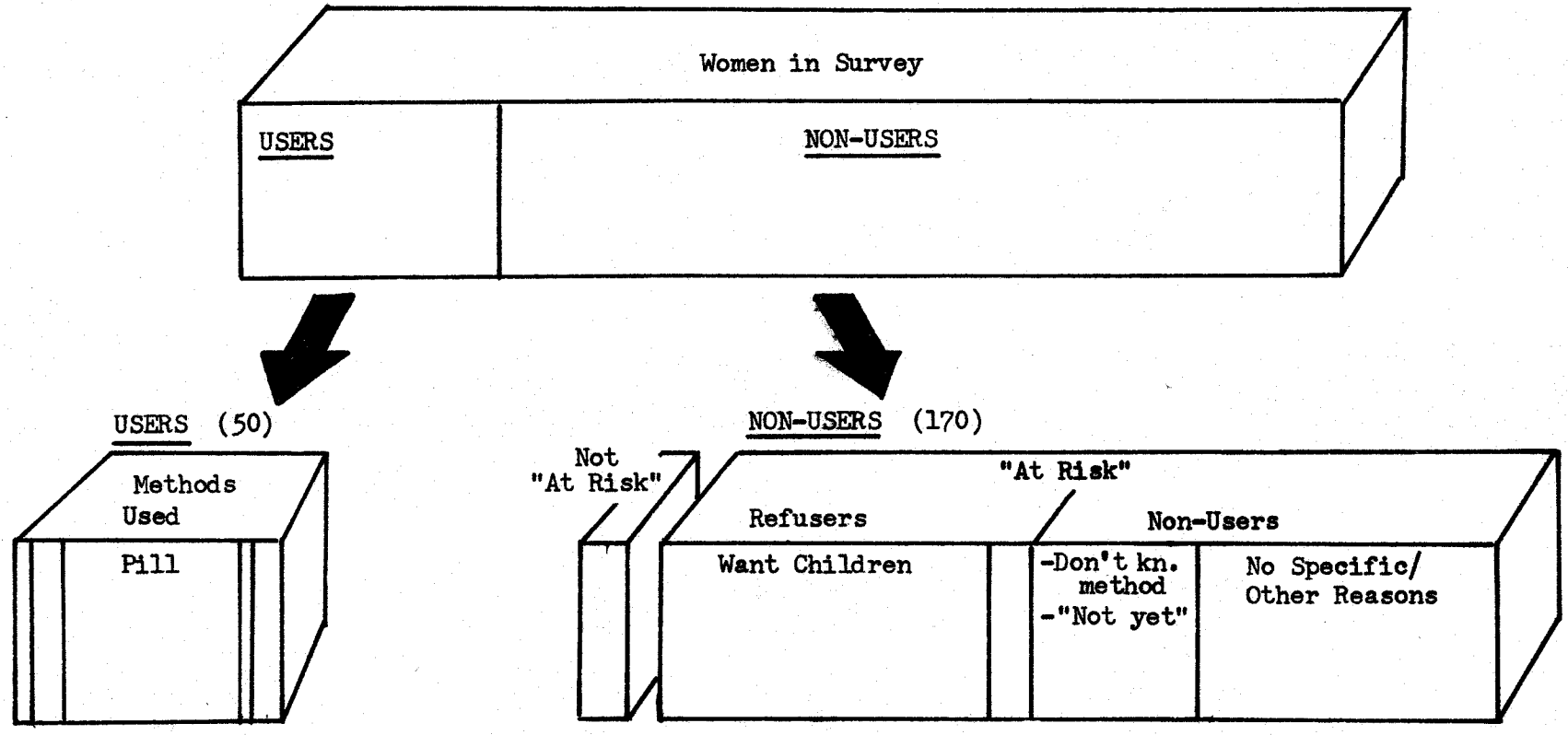
f. Reproductive Status:

Age at first pregnancy:	range (age) 13-37; average 18.9; median 18.4*
Number of pregnancies to date:	range 1-16; average 5.2; median 4.5*
Number of surviving children:	range 0-12; average 4.6; median 4.0*
Women pregnant at the time of the survey:	20%
Women who have adopted children:	42%
Total fertility rate, women 15-44:	8881.0 (not reliable)
Completed family size, women over 40:	7.5
Median interval between pregnancies:	average 2.8; median 2.8
Ideal family size (desired number of children):	range 2-15; average 6.1; median 5.9

*Calculated only for women who have had at least one pregnancy.

PRACTICE - Graph MS-I

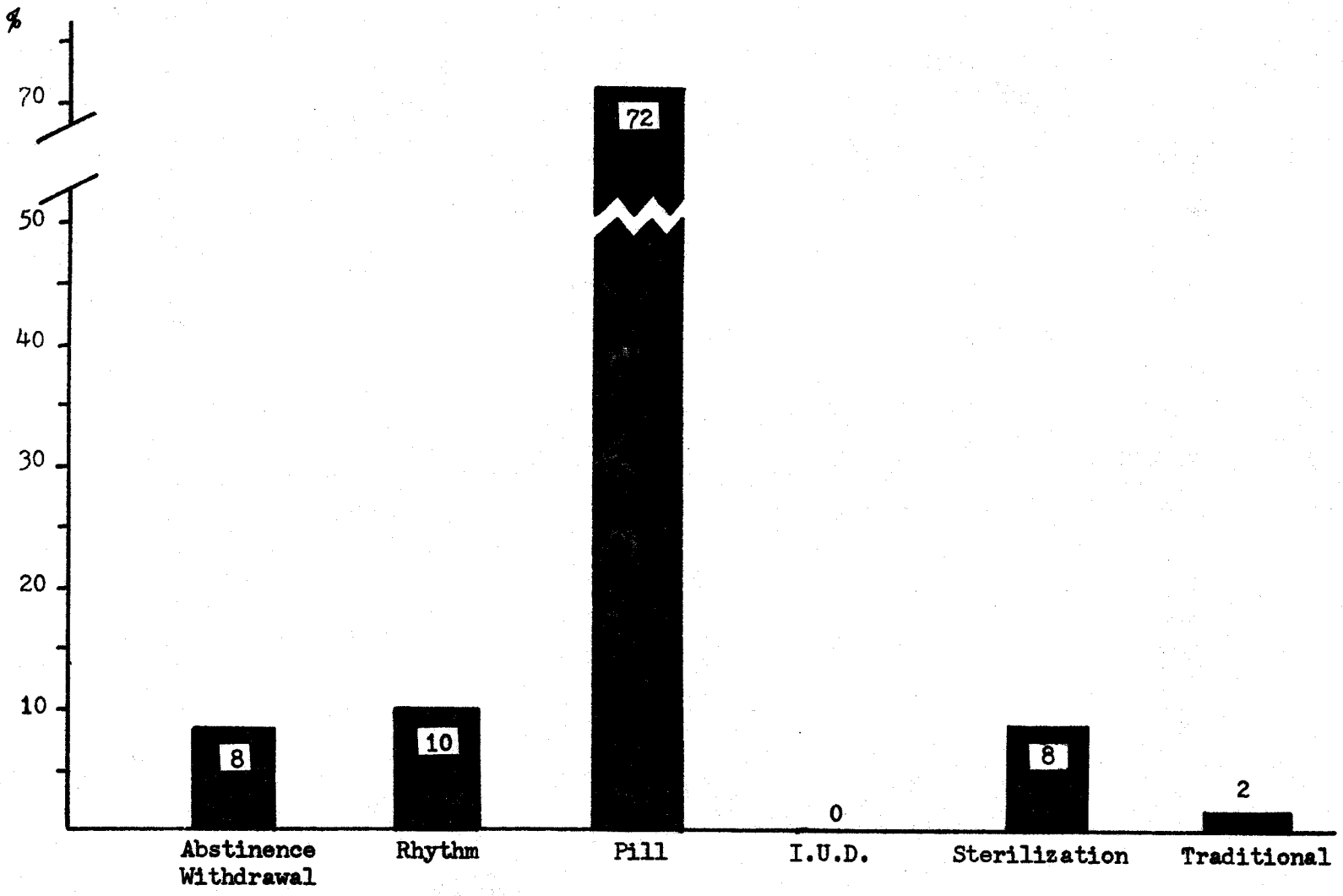
CURRENT CONTRACEPTIVE STATUS of SAMPLE POPULATION



(See page 73.)

PRACTICE - Graph MS-II

CONTRACEPTIVE PRACTICE by PER CENT of 50 PRACTICING WOMEN

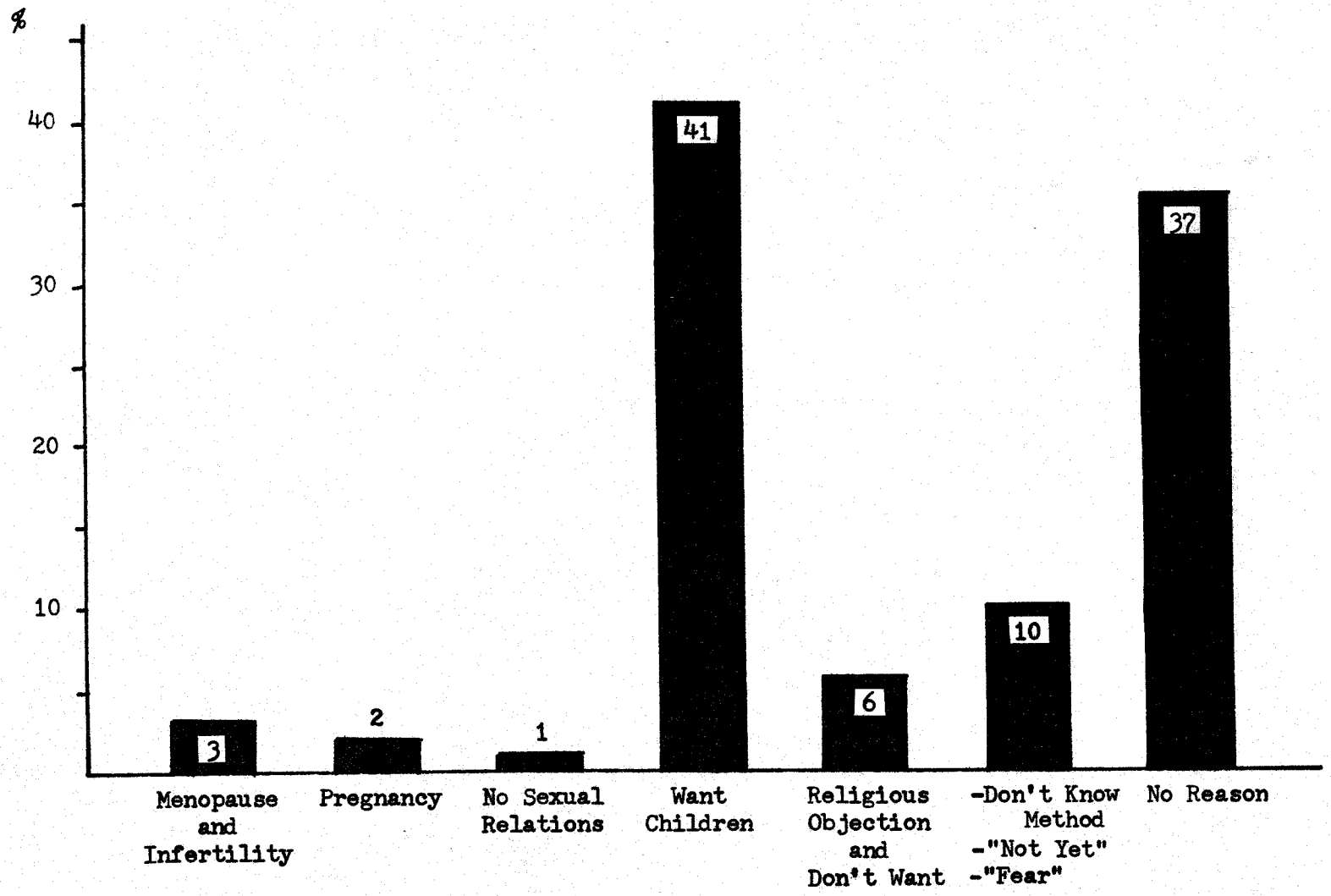


(See page 73.)

P R A C T I C E - Graph MS-III

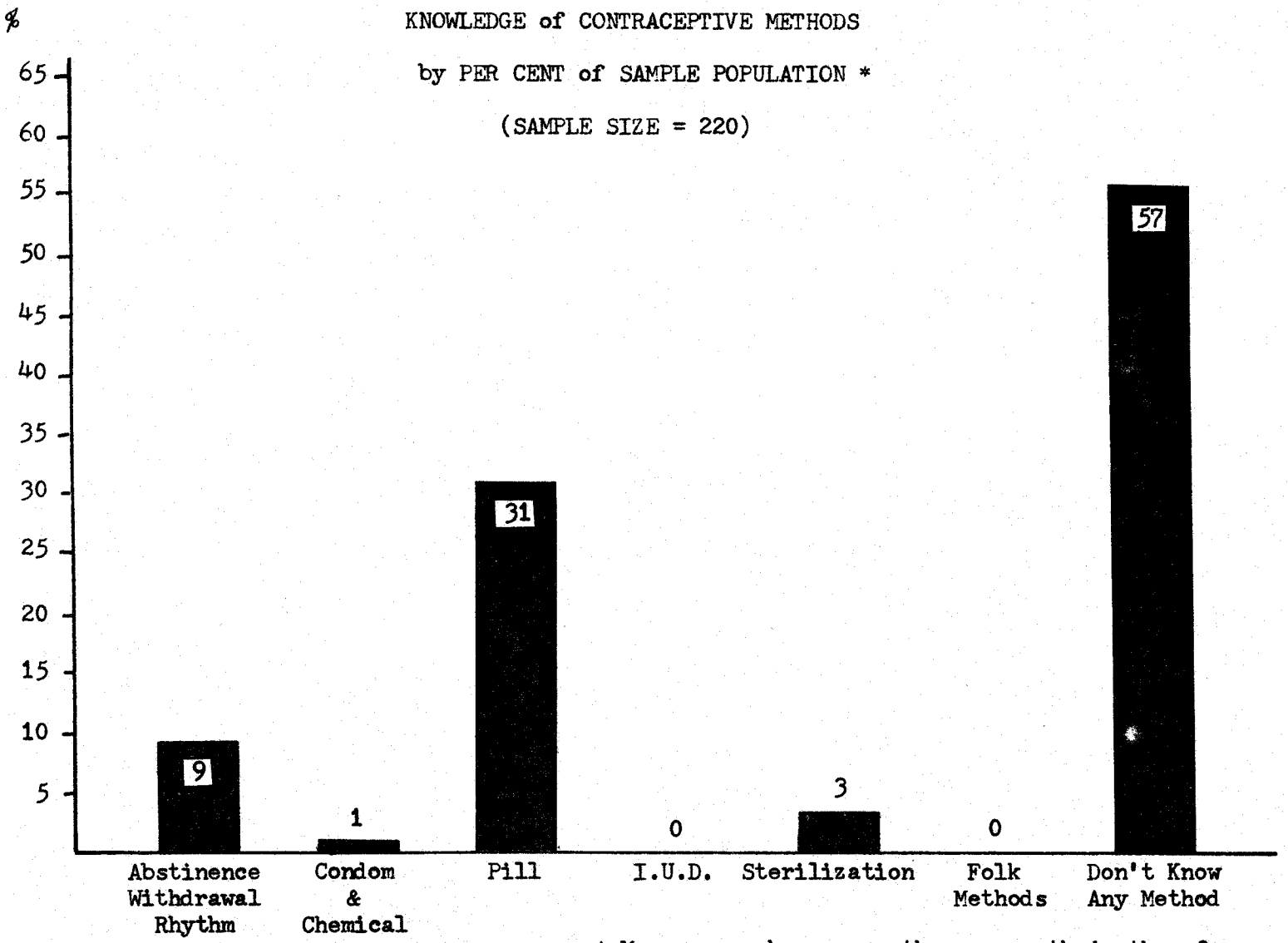
REASONS FOR NOT PRACTICING CONTRACEPTION

By PER CENT of 220 NON-PRACTICING WOMEN



(See page 74.)

K N O W L E D G E - Graph MS-IV

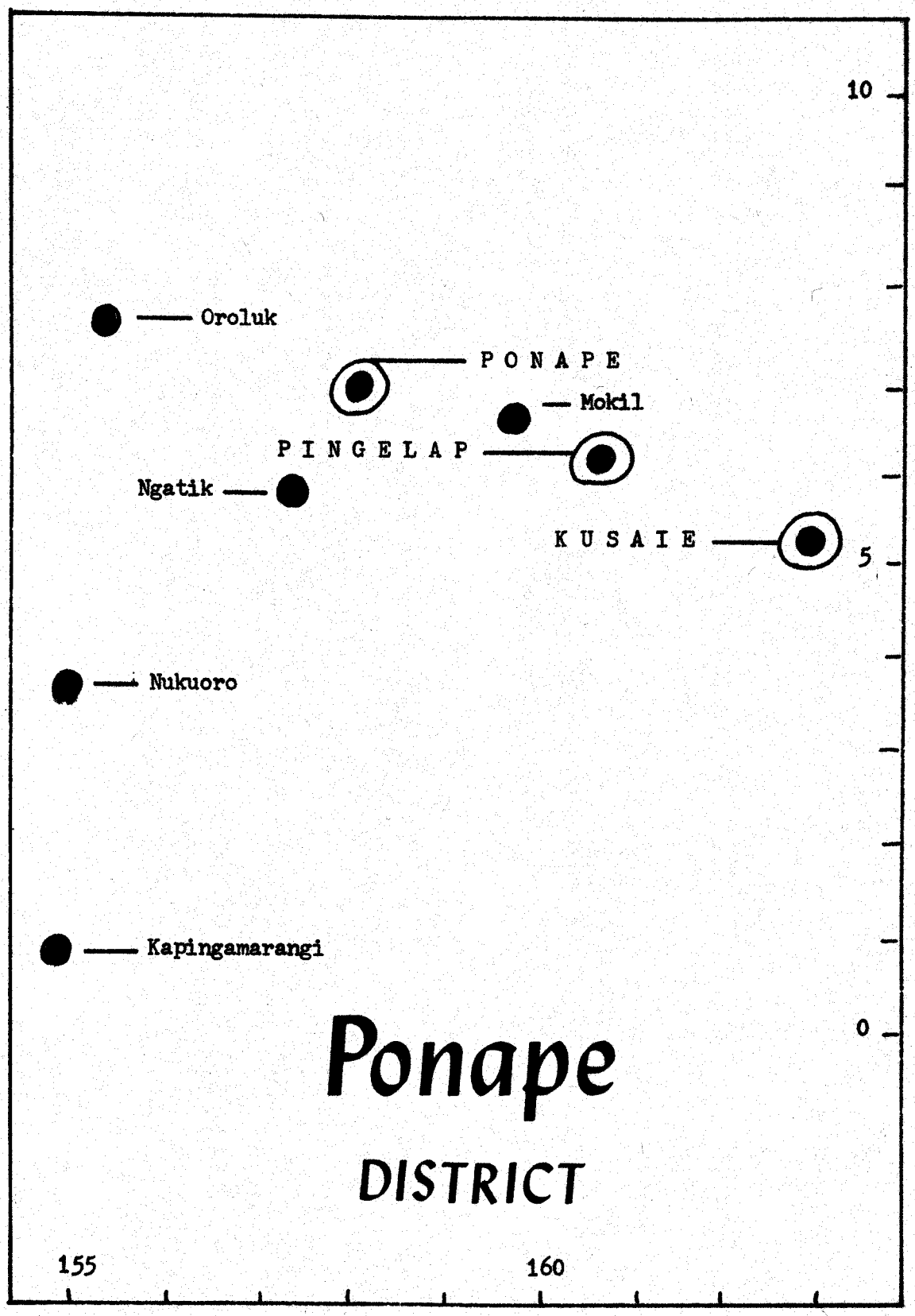


* Many women know more than one method; therefore the percentages add up to over 100%. 46% of sample knows at least one method.

(See page 75.)

V. DISTRICT REPORTS

C. Ponape District


10
Oroluk
PONAPE
Mokil
PINGELAP
Ngatik
KUSAIE
5
Nukuoro
Kapingamarangi
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Ponape
DISTRICT
155
160