Kye-Choon Ahn**
Ock-Kyung Kim***

A Study on the Acceptability of Male Fertility Regulating Methods in Korea*

INTRODUCTION

1. BACKGROUND AND OBJECTIVES

As part of the WHO Expanded Program is Human Reproduction, the Task Force on the Acceptability of Fertility Regulating Methods was established in 1972. The objective of the Task Force is to study those attributes of methods that affect acceptance in various sociocultural settings, in order to provide guidance to biomedical scientists engaged in the development of new and improved techniques of regulating fertility.

At one of the initial task force meetings (March, 1973), it was recommended that high priority research objective be to determine the potential need for new and improved fertility regulating methods (FRMs) for men, and, if a demand exists, to provide biomedical scientists with cultural specifications for such methods. Information of this type obtained directly from potential users would help biomedical scientists evolve products consistent with the social and personal needs of people from various cultural settings.

In May 1974 the Task Force convened a meeting of scientists to specify the objectives and design for the present cross-cultural research project. The six scientists at the meeting represented Latin America, Africa, Asia, the South Pacific, the Middle East and North America. They recommended that the objectives of this project be to determine the attractiveness of attributes of existing and potential male methods and to assess the relative acceptability of male and female contraceptives. The study was implemented in Korea, Iran, Mexico, Fiji and India in January 1975.

With regard to the coordination of the study, all collaborating centers had contracts directly with WHO. Thus, the Task Force was responsible for the administrative monitoring of the projects progress. In addition, the Task Force facilitated communication between sites (and as a result the comparability of final data) by convening four meetings of the principal investigators from each

* The present paper is a country report of the comparative study supported by WHO Task Force on Acceptability of Fertility Regulating Methods. WHO approved of the publication of the report in this form.

** Associate Professor, Dept. of Sociology, Yonsei University.

*** Researcher, Center for Population and Family Planning, Yonsei University.

collaborating center and by arranging for at least two research visits to each site (except Fiji) at key decision making points in the study. The Task Force also supervised coordination between social and biomedical scientists, by having one biomedical scientist from the steering committee of the Male Method Task Force (Dr. Bryan Hudson) attend the research meetings of scientists in the present study. The Task Force secretariat made substantial substantive contributions during each phase of the research.

The Task Force requested the following social scientists to be the principal investigator for their respective research centers:

Dr. Kye Choon Ahn Center for Population and Family Planning, Yonsei University	Republic of Korea
Mr. Subhas Chandra Psychological Assessment Unit University of the South Pacific	Fiji Islands
Dr. Rogelio Diaz - Guerrero Instituto Nacional del Comportamiento Y de la Actitud Publica	Mexico
Dr. D.C. Dubey National Institute of Family Planning	India
Dr. Amir Mehryar Pahlavi Population Center Pahlavi University	Iran

The Task Force requested Dr. Andrew Davidson to coordinate the study. In this role he had primary responsibility for (a) the overall design of the project, (b) the design of the questionnaires, (c) design of the sampling plan, (d) analysis of the data, and (e) preparation of the final multinational report. Mutual agreement among all collaborating centers as to the content and procedures of each stage of the research was reached before each phase of the study was initiated.

The principal investigators were responsible for all aspects of the project at their center. This included (a) translation and modification of the research instrument, (b) selection, training and supervision of interviewers, (c) identification of areas to be sampled, (d) analysis of open-ended responses, (e) interpretation of data analyses, (f) preparation of site reports. Principal investigators could extend

their studies beyond the core project, to include investigations of matters of particular interest revealed in the local surveys, insofar as such extensions did not interfere methodologically with the core project.

2. SPECIFIC AIMS

To achieve the broad objectives of the study, the collaborating scientists agreed that the research should be designed to investigate the following research questions:

1) The Acceptability of Attributes of Existing and Potential Male FRMs.

   a. Which biomedically-defined attributes of male FRMs are evaluated as acceptable and which are evaluated as unacceptable?

   b. What are the "user-defined" attributes of male FRMs, and are they evaluated as acceptable or unacceptable?

   c. How does the acceptability of the attributes of a male FRM relate to (i) the overall acceptability of the FRM and (ii) the decision to use/not use the FRM? Which attributes are most important in determining (i) the overall acceptability of the FRM and (ii) the decision to use/not use the FRM?

   d. What are men's perceptions of their sexual partners' views concerning the acceptability of male FRMs?

   e. How does the acceptability of existing methods relate to the acceptability of potential methods?

   f. What variations exist between and within cultures in relation to questions (a) through (e) above?

2) Acceptability of Male FRMs Relative to Female FRMs.

   a. Is the man or woman perceived to have primary responsibility for preventing unwanted pregnancies?

   b. What beliefs are held about men who use contraceptives? Are these beliefs positively or negatively evaluated? Are men who use contraceptives positively evaluated?

   c. What percentage of men would use the potential male FRMs?

   d. What is the acceptability of male FRMs relative to female FRMs?

   e. What variations exist between and within cultures in relation to (a) through (e) above?

METHODOLOGY

1. OVERVIEW OF THE RESEARCH STRATEGY

Data relevant to the study's objectives were obtained during three stages of surveying:

1) Survey of Knowledgeable Sources (Sample Size = 40).

Knowledgeable sources consist of physicians, family planning field workers, and social scientists who by virtue of their profession and experience are presumably in a position to know how potential users would feel about existing and potential male methods. This survey is designed to (a) assess the opinions of knowledgeable source concerning the acceptability of potential male methods, (b) determine the validity of this relatively quick and inexpensive method for obtaining information on potential users' perceptions and attitudes, and (c) provide preliminary data to help design questionnaires for potential users.

2) Survey I of Potential Users (Sample Size = 40).

The purpose of this open-ended elicitation survey of potential users was to identify, in each country, the salient user defined attributes of male FRMs. The acceptability of the elicited attributes and the biomedically defined intrinsic attributes of male methods were measured in Survey II of Potential Users. The same sampling frame was utilized in Survey I and II.

3) Survey II of Potential Users (Sample Size = 350).

Survey II was the primary data gathering effort in this project. The questions and measurement techniques were designed on the basis of experience and data obtained in the SKS and Survey I of Potential Users. The survey focused on the acceptability of attributes of existing and potential male methods and the relative acceptability of male and female methods. The research instrument was pretested on forty males at each site. Data from Survey II was coded at each site and sent to WHO, Geneva, for comparative and multivariate analyses.

2. MEASUREMENT PROCEDURES

The measurement procedures employed reflect basic decisions that were made by the principal investigators at the initial planning meeting:

1) The basic data would be obtained through interviews;

2) Comparable data would be collected in several countries;

3) Salient user-defined attributes of male methods should be elicited from potential users of male FRMs and included in Survey II;

4) Due to the hypothetical nature of many of the responses, every effort would be made to determine the reliability and couvergent validity of the measures.

Survey Instruments. The instruments utilized in the Survey of Knowledgeable Sources, Survey I and Survey II of Potential Users are presented in Appendices A, B and C respectively. These instruments focused on the acceptability of attributes of the condom, vasectomy, male daily pill and the male monthly injection. The potential male methods were recommended for study by the Male Methods Task Force because they represent two of the most probable combinations of the key attributes – route of administration and duration of effectiveness – that would be found in a new male method. As practically all of our respondents were unfamiliar with the potential FRMs, and some were unfamiliar with vasectomy, it was necessary to include a brief description of these methods. These descriptions definitely influenced responses because they provided almost all the information a respondent had about a potential male method. The descriptions were carefully designed, on the basis of consultation with biomedical scientists in the Male Methods Task Force, to represent their best estimates of the information that would be provided to men when (and if) these methods became available.

The descriptions of the potential methods and vasectomy follow:

Description of male daily pill: Scientists and doctors are developing a pill that a man can take every day so that his wife would not get pregnant. The male pill is small and must be taken every day. However, if you forget to take the pill occasionally (once or twice a month), the method is still effective. The pills are claimed to be very effective, safe and do not reduce sexual desire. After a man stops taking the pill, it would probably take 2 - 3 months before he could make his wife pregnant. The pills come in a small package.

Description of male monthly injection: Scientists and doctors are developing an injection that a man can take so that his wife would not get pregnant. The injection must be taken every month. The injection is administered by a nurse, family planning field worker, pharmacist or doctor. The injections are claimed to be very effective, safe and do not reduce sexual desire. After a man stops the injections, it would probably take 2 - 3 months before he could make his wife pregnant . The injections are equal in pain to most other injections.

Description of Vasectomy: A vasectomy is a sterilization operation that a man can have so that his wife will not have more children. The vasectomy is a minor operation performed on the scrotum. A small incision, about 1 centimeter, is made in the scrotum and the tube carrying the sperm is cut

or tied. The operation takes about 10 minutes to complete, and is usually performed by a medical doctor. The patient can go back to work the next day. The operation does not have any effect on a man's masculinity. That is, it does not reduce sexual desire. The operation is effective and safe. The operation is usually not reversible.

The questionnaire for the Survey of Knowledgeable Sources was designed so that it could either be used in an interview format or be self-administered. The majority of doctors and social scientists preferred the self-administered format, whereas most family planning field workers were interviewed in group. It required approximately 75 minutes to complete the interview. One hundred and ninety four items were included employing both open-ended and pre-coded questions.

Survey I of Potential Users utilized an open-ended interview, which was designed to elicit the salient user-defined attributes of existing and potential male methods. A number of important advantages were gained from the responses obtained in Survey I in constructing the Survey II instrument. First, it helped to insure that the attributes and characteristics relevant to the populations of interest were included. Second, it guided the construction of questionnaire items in a way that was most compatible with the vernacular used by the respondents in describing FRMs.

By performing content analyses of these responses at each site and then comparing these analyses between sites it was possible to arrive at a set of about 15 characteristics of each method that were most frequently elicited both between and within countries. These 15 user-defined characteristics of each method were incorporated with a list of biomedically-defined attributes and included in the Survey II instrument.

Survey II of potential users employed a precoded fomat which required between 60 and 90 minutes to complete. The procedures used for measuring acceptability have been developed and refined through previous research, much of which has been cross-cultural, (see Davidson and Jaccard, 1975; Davidson, et.al., 1976; Fishbein and Ajzen, 1973; Triandis, et.al., 1972). Most of the measurement procedures are based on the semantic differential technique (Osgood, May and Miron, 1975), the behavioral differential technique (Triandis, 1964), Likert scaling and rank ordering (for a description of these latter techniques see Edwards, 1957). A few questions were repeated in the questionnaire to assess the reliability of the measures. In addition, key variables were measured using multiple procedures so that the convergent validity of these procedures could be estimated. The questionnaire also contained measures of various demographic variables.

Translation. Preliminary versions of all instruments were reviewed and revised at meetings of the principal investigators, in an effort to decrease the probability that the content or structure of the instrument would be incompatible with the groups being studied. When the final form of the questionnaire was agreed upon it was carefully translated into the local language using the back translation method. At least two translators worked independently on this task -- one translating from English to the local language and the second translated from the local language back to English. The principal investigator was responsible for the resolution of discrepancies between the original version and the back translated version. Particularly difficult or ambiguous items discovered on the initial questionnaires were either revised or dropped from the later questionnaires. At each stage of transla-

tion conceptual equivalence rather than linguistic equivalence was sought.

Survey II of potential users was pretested on samples drawn from the same populations that were studied in the final survey. The pretest provided feedback on the adequacy of translation, comprehensibility of the items and the range and appropriateness of responses.

Interviewers. Given the complexity and hypothetical nature of the interview schedule, special attention was given to the selection, training and supervision of the interviewers. To guarantee some level of expertise during the administration of Survey II, the same interviewers were involved in the SKS, Survey I and II. Due to the increased number of sample in Survey II, however, the number of interviewers was increased to six. It was possible to hire male students in sociology who had some experience in interview. During the interviewer training, attention was given to supervised practice interviewing and the establishment of rapport with rural and urban respondents of different socioeconomic status.

3. SAMPLING

The primary objectives of the sampling strategy were:

1) To obtain adequate representation on a number of background variables which were thought to affect the acceptability of male FRMs, including (a) education (and the constellation of characteristics associated with socioeconomic status), (b) urban-rural background, (c) age, and (d) parity

2) To minimize interviewer bias in the sampling selection.

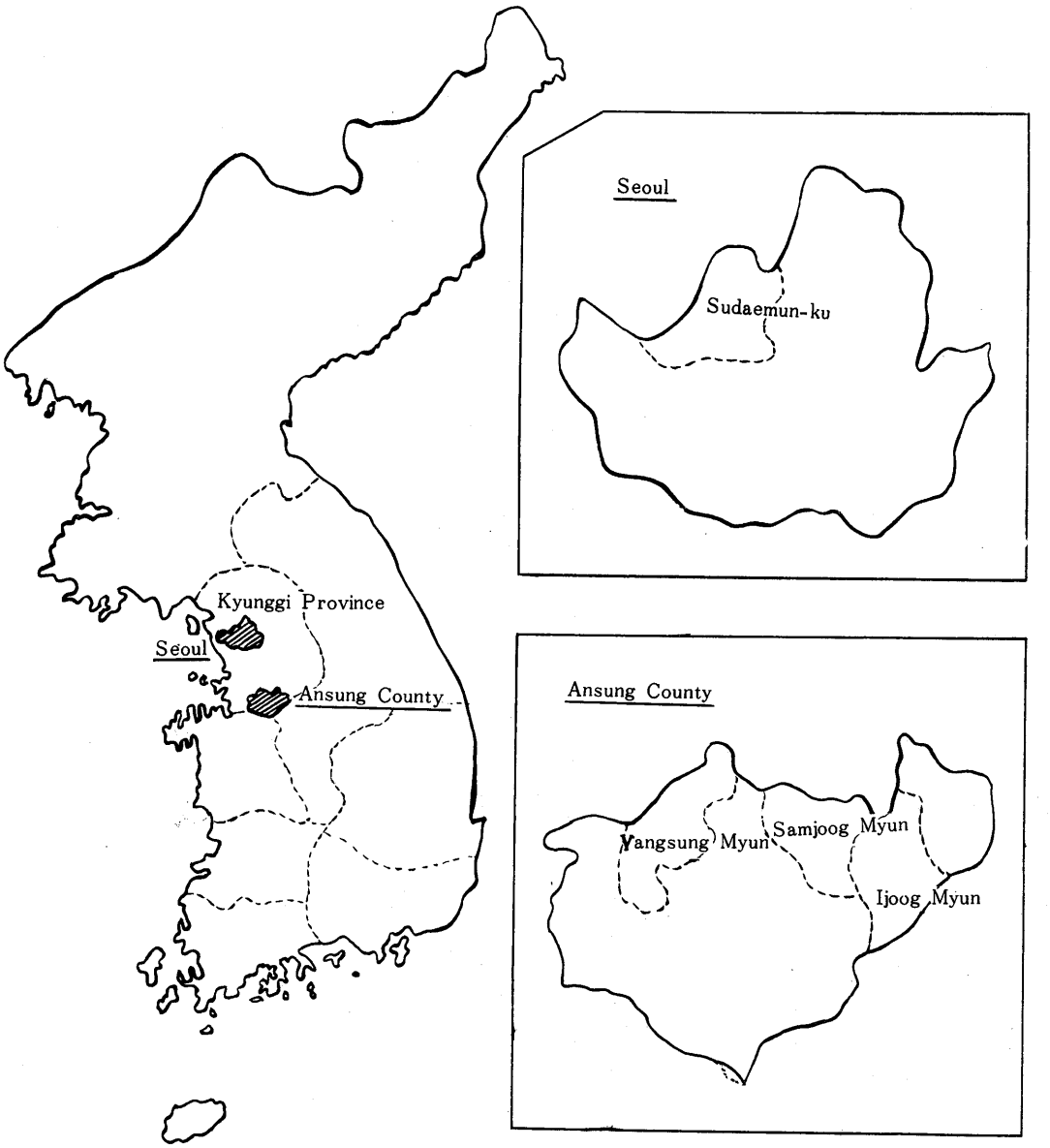
It should be noted that national samples of men were not obtained. Given unlimited resources it would have been preferable to obtain national representative samples. However, for a number of countries included in the study, this task would have been extraordinarily difficult if not impossible.

In terms of the ratio of cost for a national sample to benefit received, the investigators felt that representative national samples would have been an unwise choice. The background characteristics of greatest applied interest to the consumers of acceptability research (party, age, urban-rural and SES) can be studied within sub-regions of the country. In addition, as this was one of the initial investigations of acceptability, it was thought desirable to limit the scope of the study so that the researchers would have greater opportunity to monitor the quality of the data.

Selection of villages and urban areas to be studied. The villages and urban areas to be studied were selected from Kyunggi Province and Seoul City respectively. Seoul is the capital city of Korea, which it is the most urbanized metropolitan area and has about 7.5 million population. Kyunggi Province is an administrative region surrounding Seoul City, which had a population

of 3,353,272 in 1970. (See the map) As the areas are too big, two sub-regions were selected first from the two regions: Sudaemun-ku from Seoul City and Ansung County from Kyunggi Province.

Figure 1. The Location of Sample Areas: Republic of Korea



To select areas of the city to be sampled, the principal investigator delineated on a map those areas known to be of lower SES and those known to be middle SES. An area was considered of low SES if most residents (a) had unskilled jobs, requiring few if any formal qualifications, and (b) had little or no education. In middle SES areas, most residents were employed in jobs that were considered to indicate middle SES. (e.g., administrative personnel, owners of small business, lesser professionals, clerical and sales workers, technicians, etc.)

The urban areas to be sampled were selected as follows:

Middle SES; Galhyun-dong (1st, 22nd, 23rd Tongs)
Bulkwang-dong (1st, 2nd, 3rd, 33rd Tongs)

Lower SES; Namgaiwa 1 dong (22nd, 23rd, 2nd Tongs)
Sungsan-dong (17th, 33rd Tongs)

(Tong refers to the sub-region of Dong)

Although the investigator's bias could easily influence the selection of areas, it was felt that the procedures adequately met the objective of providing variance in SES among respondents.

Villages included in the study were to meet the following criteria:

1. Primarily farming or herding economy;
2. Population of less than 3,000
3. Very few people (if any) work in an urban area with a population of more than 20,000;
4. Very few people (if any) come (visiting and shopping) to an urban area with a population of more than 20,000 more than once a week.

We selected 6 villages (Ri's) from three townships (Ijoog Myun, Yangsung Myun, Samjoog Myun) meeting the above criteria using the following guidelines. The village should be somewhat representative of the other villages in the area on such factors as religion and educational level of inhabitants.

The village should be accessible to the interviewers, but not so accessible that the inhabitants are more similar to city dwellers than villagers. The village should have a stable enough political structure so that once the interviewing is initiated it can be successfully completed. The major sources of bias that were guarded against in the selection of villages were (a) selection of villages because they are easy to travel to, and (b) selection of villages because they are exotic (not typical) and hold some special interest for the researcher.

One may still wonder how much typical the sample areas are. As shown in Table 1, the proportion of non-farm household and the level of educational attainment are a little bit higher in the rural

sample area than in the whole rural area of the country, but demographic characteristics and the current practice rate of contraception are not considerably different between those two areas. We can hardly say that the rural sample area is not typical of the rural area of the country. Although statistics are not shown for the urban areas, the urban sample areas were selected from the region typical of Seoul city.

Table 1. Percent Distribution of Selected Characteristics by Rural Areas: 1970 Census

	Whole Country (Rural Area)	Kyunggi Province (Rural Area)	Ansung County (Rural Sample Area)
Total Population	15,653,957	2,040,602	133,404
Proportion of Non-Farm Household	22.8 %	-	27.1 %
Educational Attainment			
Never attended	39.2 %	30.3 %	35.5 %
Primary school	45.8 %	47.5 %	45.2 %
Secondary school	13.7 %	20.0 %	17.3 %
College or over	1.3 %	2.2 %	2.0 %
	100.0 % (N=9,111,834)	100.0 % (N=1,205,089)	100.0 % (N=76,678)
Age			
Under 14	45.4 %	43.2 %	44.0 %
15 - 64	50.2 %	53.2 %	51.9 %
65 or more	4.4 %	3.6 %	4.1 %
	100.0 % (N=15,653,957)	100.0 % (N=2,040,602)	100.0 % (N=133,404)
Marital Status			
Single	25.4 %	26.6 %	27.4 %
Married	63.5 %	63.7 %	62.5 %
Widowed or Divorced	11.1 %	9.7 %	10.1 %
	100.0 % (N=8,553,397)	100.0 % (N=1,159,836)	100.0 % (N=74,662)
Current Practice Rate of Family Planning*	39.8 %	-	38.7 %

* Based on 1976 Fertility and Family Planning Survey conducted by Korean Institute for Family Planning and Service Statistics Data collected by Ansung Health Center.

Selection of respondents. The population of interest was married males, less than 45 years of age. It was felt that by interviewing only married men, the potentially embarrassing situation of interviewing unmarried males about their contraceptive behavior would be eliminated. The sample was limited to married men less than 45 years of age to eliminate men who were already sterilized and for whom the contraceptive decision was no longer salient.

The primary sampling unit was the household. The concept of household in based on the arrangements made by persons, individually or in groups, for providing themselves with food or other essentials for living. Households usually occupy the whole, part of, or more than one housing unit, but they may also be found in camps or be homeless. Households consisting of extended families which make a common provision for food, or of potentially separate households with a common head may occupy more than one housing unit. If more than one eligible respondent were found at any household, a random selection procedure was devised for selecting only one respondent to be interviewed.

Depending on the size of the urban area or village, it was divided into a number of distinct units. Three units for each area were randomly selected, and the households within the unit were first enumerated and then randomly sampled.

Respondents for Survey I and Survey II were selected from the same sampling frame. For Survey I of potential users, the objective was to interview 20 rural males, 10 urban low SES males and 10 urban middle SES males. For Survey II the objective was to interview 150 rural males, 100 urban low SES males and 100 urban middle SES males.

4. LIMITATIONS OF THE PRESENT RESEARCH

We have divided the methodological difficulties confronting as into two categories: (1) to what degree is the acceptability of a hypothetical male FRM related to the ratings of attributes of the method; and (2) to what extent does the acceptability of a hypothetical method predict actual use of the method when it becomes available.

As the present study sheds considerable light on the first problem, we will initially focus on it. From the outset the work of the Task Force has been guided by the assumption that a hypothetical FRM could be viewed as a package of attributes, and that if one could ascertain for a sample of respondents the acceptability of the relevant attributes and discern their cognitive calculus for combining acceptability ratings, one could accurately predict the acceptability of the overall method.

To date, however, the assumption that the acceptability of a hypothetical FRM is some function of the acceptability of the attributes has not been empirically tested. The present study provides such a test. The results should be reviewed in the context of prior research which found that for Mexican and American respondents, simply summing the acceptability of characteristics of female oral contraceptives accounted for almost all of the nonerror variance in intention to use the method.(Davidson and Jaccard, 1975; Davidson et.al., 1976)

The reliability of acceptability measures definitely has direct impact on the ability of measures to predict both the acceptability of a method and the actual use of the method. Accordingly, in the present study the reliabilities of measures were assessed and a special effort was made to include multiple measures of key acceptability constructs to determine the convergent validity of these measures.

No data will be gathered in the present study to answer the second question raised above - the ability of verbal acceptability responses to predict future contraceptive behavior. However, our selection of variables to study has been guided by the findings of previous longitudinal investigations of the attitude-behavior relation. Most attitude-behavior studies in the family planning area have assessed the relation of fertility desires to future fertility behavior. In terms of the present investigation, the finding of greatest relevance is that fertility intentions are the best single predictor of future fertility behavior.

The conclusions reached on the basis of longitudinal studies of fertility appear to be generalizable to contraceptive behaviors. Subrequest contraceptive behavior in best predicted by behaviored intentions and the degree of the relation increases if predictions are made at an aggregate or group level.

It should be noted that general attitudes toward family planning are notoriously poor predictors of specific contraceptive behavior. This is not surprising, for there is no theoretical or methodological reason to believe that very general attitudes would predict specific behaviors. In contrast, in the present review we have focused on research that attempts to predict specific behaviors (e.g. condom use) from very specific behavioral intentions.(e.g. intention to use condoms) We have measured acceptability of a method as either the intention to use or the attitude toward using a specific method. These variables should be the best predictors of future behavior. At the individual level, however, this relation will tend to be moderate or low. Accordingly, we discuss most of our results at the aggregate level or in terms of group averages of acceptability, which should bear a stronger relation to future contraceptive behavior.

The strengths and weaknesses of surveys like the present one, and clinical trial acceptability studies are clearly complementary. The major strength of survey research is the representativeness of the sampling design and the weakness is that subjects are responding to hypothetical methods. Accordingly, consistent findings between surveys and clinical trial research would provide strong support for both sets of data. With regard to the acceptability of male FRMs, the present study and research in conjunction with clinical trials of male methods have been designed to provide comparability between studies.

III. REVIEW OF THE LITERATURE INVESTIGATING THE ACCEPTABILITY OF POTENTIAL MALE FERTILITY REGULATING METHODS

To date, very few studies have investigated the acceptability of potential methods of fertility regulation. The subset of acceptability studies which have focused on potential male methods is smaller still. As previously mentioned, the present study was commissioned in response to the lack of information on this important topic.

The majority of acceptability studies that we will review can be criticized for a variety of methodological reasons: (a) the reliability of all of the reported measures is unknown; (b) most study samples are of limited generalizability (in fact, almost all of the studies were done in one country); and (c) few researchers seriously questioned the validity of responses concerning hypothetical methods. Accordingly, in presenting these studies we are less interested in the exact percentage reporting they would use a method than in the identification of psychological and demographic variables which are related to acceptability responses.[1)]

In one of the earliest studies of the acceptability of potential male FRMs, Balswick (1972) investigated the attitudes of 93 lower-class married men residing in a city in the south-eastern United States. In response to the question, "Would you object to taking birth control pills for men if they were found to be successful in preventing pregnancy and would in no way interfere with sexual activity?", 47 percent said yes they would object, 12 percent were undecided and 41 percent said no. Spillane and Ryser (1975) asked a somewhat similar question, "If a birth control pill was developed for the male to take would you be willing to use it?". Of the 523 married men from the greater Pittsburgh metropolitan area in their sample, 56% said yes, 30% said no and 14% were uncertain.

Keith, Russell and Wells (1974) also investigated attitudes toward potential male methods in a survey of 438 men in the northeastern United States. They report that 70% of the men said they "Would use a newly developed male contraceptive if it were other than a condom or withdrawal."

The finding of greatest interest in these studies is the strong positive linear relation between years of education and acceptability of potential male methods. This relation is so robust that it is apparent both between and within studies. Viewing this relation between studies, the men interviewed in the Balswick (1972) project were lowest in average years of education and found the potential method least acceptable. In the Keith et.al., (1974) study the sample had the highest average years of education and found the potential male methods most acceptable. The men in the Spillane and Ryser (1975) study fell at an intermediate position in terms of both years of education and rated acceptabi-

1) We have chosen not to review knowledge, attitude and practice (KAP) studies concerning condoms and vasectomy because the results are of greater value in understanding the acceptability of existing methods than in determining the acceptability of potential methods. For reviews of such studies, see Presser (1970); Redford, Duncan and Prager, (1974); Sciarra, Markland and Speidel, (1975); and Spillane and Ryser, (1975).

lity of potential male methods. Within the Balswick (1972) and Spillane and Ryser (1975) studies, years of education had a significant positive correlation with acceptability. (this relation could not be computed from the data presented in the Keith et. al., 1974 peper) For example, Spillane and Ryser report that only 44% of the males with less than 12 years of education would use a birth control pill developed for men. In contrast, 70% of males with 13 years of education or more were willing to use the male pill.

Very few studies have investigated the acceptability of attributes of potential male methods. Keith et.al., (1974) assessed acceptance of attributes by presenting subjects with a number of potential male methods and asking which they would most prefer. In terms of preferred duration of effectiveness for a "male sterility pill or shot", 27% preferred a monthly method, 15% endorsed a daily method, 13% a weekly method, and 10% a yearly method. For this sample, acceptance was a non-monotonic function of duration of effectiveness, which peaked at one month. It is interesting to note that in response to Keith et al's question only 1% preferred a reversible vasectomy whereas 10% preferred improved condoms.

Wetherbee, Smith and Benfield (1975), in a study of college students in Mississippi, compared the female pill and the hypothetical male pill on a number of attributes. Subjects perceived the female pill to be more effective and safer than the male pill. Neither pill was perceived as dangerous to the health of children conceived after it had been used.

Bardwick (1973) also studied the relative acceptability of the male and female pills but her subjects were all females. One hundred and seven Ann Arbor women were asked, "If there was a pill for men like the pill for women, who would you prefer to be responsible for contraception?". Seventy-two percent of the women said they wanted control, 16 percent preferred male control and 12 percent said both should be responsible. Bardwick reported that responses to this question tended to indicate levels of trust in the relationship, some resentment and envy that the male can enjoy sex without feeling responsible, and the idea that contraception threatens the male ego.

In addition to the acceptability surveys which have queried respondents about hypothetical methods, preliminary assessments of acceptability have also been obtained in some clinical trials of the new male methods. Paulsen (Lublin, 1975) gave 95 young men daily danazol tablets and monthly testosterone injections for five to six months. He reported that other than a slight weight gain, volunteers showed no side effects. The Fifth Annual Report of the World Health Organization Expanded Program of Research, Development and Research Training in Human Reproduction (1976) reports on two other clinical trials using androgen/gestagen combinations. In Toronto and Copenhagen small samples of men have received the drug orally and no adverse reactions were noted.

A second compound, cyproterone acetate, an anti-androgen, has also been tested in a number of clinical trials. Roy et.al. (1976) administered either 5 or 10 mg of cyproterone acetate to 17 normal volunteers over a period of 20 weeks. They report that "at low doses of cyproterone acetate therapy, libido and potentia are not adversely affected". The Fifth Annual Report (1976) summarizes current data from clinical trials conducted in five countries using a variety of dosages of cyproterone acetate. In these trials, involving seventy-nine subjects, (this includes the 17 subjects in the Roy et.al. study)

only two men showed a transient change in libido but for neither man was there a change in sexual potential.

Clearly, clinical trials on new male methods represent an excellent opportunity for obtaining acceptability data. Recognizing this opportunity, the Acceptability Task Force is initiating studies in conjunction with clinical trials of male methods in Bangkok, Toronto, Mexico City, New Delhi, Seoul, Hong Kong, and Vancouver. Results from these clinical trials, when viewed in conjunction with data from the present survey sample, will greatly increase our understanding of the acceptability of potential male FRMs.

IV. RESULTS OF THE SURVEY

1. SOME CHARACTERISTICS OF RESPONDENTS

The total number of respondent interviewed was 353 cases - 99 cases from urban middle SES, 104 cases from urban low SES and 150 cases from the rural area. Some characteristics of respondents from each sample area were shown in Table 3. As was expected from the sampling design, respondents from each region significantly differ in terms of educational attainment and socioeconomic status of respondent's occupation. Respondents from urban middle SES shown the highest educational attainment and occupational status, while those from the rural area the lowest.

Demographic characteristics such as age and parity do not significantly differ among sample groups. We may note, however, that the number of living children is largest for those respondents from urban low SES. This might have been resulted from their contraceptive experiences.

While respondents from each region have about the same amount of knowledge of contraceptive methods, their contraceptive behaviors are considerably different from each other. First of all, we should note that percent presently using a contraceptive method for the whole sample (59%) is considerably higher than that of national average 44% in 1976.[2)]

2) This figure was obtained from the preliminary analysis of the National Sample Survey on Fertility and Family Planning by the Korean Institute for Family Planning in 1976.

Table 2. Descriptive Statistics for Respondents from Three Sampling Regions:

Variable	Grand mean	Sampling region: Urban middle SES (1) N= 99	Urban low SES (2) N= 104	Rural (3) N= 150	Significance p <.05
Years of schooling (husband)	9.96	13.69	9.64	7.73	$\frac{3}{2}$ $\frac{2}{1}$ $\frac{1}{3}$
Years of schooling (wife)	8.89	11.87	8.94	6.86	$\frac{3}{2}$ $\frac{2}{1}$ $\frac{1}{1}$
Socioeconomic status of husband's occupation	2.48	1.95	2.54	2.78	$\frac{1}{2}$ $\frac{2}{3}$
Percent of literate males	86.9 N= 304	95.9 N= 94	92.2 N= 94	77.3 N= 116	not applicable
Husband's age		36.33	36.12	35.19	3, 2, 1
Wife's age		32.57	32.14	32.55	2, 3, 1
Number of children		2.37	3.59	3.15	1, 3, 2
Percent presently using a contraceptive method	59.3 N= 208	60.2 N= 59	53.8 N= 56	62.4 N= 93	not applicable
Number of known contraceptive methods	2.89	2.95	2.82	2.90	2, 3, 1
Percent ever used condoms	47.9 N= 169	58.6 N= 58	53.8 N= 56	36.7 N= 55	not applicable
Percent ever used withdrawal	16.7 N= 59	19.2 N= 19	18.3 N= 19	14.0 N= 21	not applicable

[1] Scored: 1 = Executives, business managers and professionals
2 = Administrative personnel, owners of small businesses, lesser professionals, clerical and sales workers and technicians
3 = Manual employees, machine operators, small farm owners, semi-skilled employees, tenant farmer and unskilled employees

Since the acceptability of male FRM could be partly considered as a reflection of people's contraceptive practices, we may refer to the national figures of currently practicing methods. According to the results of the national sample survey in 1976, the IUD and other methods (rhythm, withdrawal, foam tablet, diaphragm etc.) are the most widely practiced methods. Despite the fact that the government program had put more emphasis on the IUD, oral pill, and sterilization, those who use other methods are still many in both urban and rural areas.

The IUD is more popular among rural women, while condom and sterilization are more popular among urban residents.

The distribution of currently practicing method for our sample are as follows:

Oral pill	13.6 %
IUD	17.0 %
Condom	9.3 %
Other methods	18.4 %
Total	59.3 %

The proportions for each method are higher than those of the national average, but the pattern of distribution is similar to that of the national figure.

Table 3. Percent Distribution of Currently Practicing Method for Currently Married Women 15 - 44 by Place of Residence

	Whole Country	Urban	Rural
Oral pill (female)	8 %	8 %	7 %
IUD	11.%	8 %	13 %
Condom	6 %	8 %	4 %
Sterilization	8 %	11 %	6 %
Male	4 %	5 %	3 %
Female	4 %	6 %	3 %
Other	11 %	13 %	10 %
Total	44 % N = 5,008	48 % N = 2,591	40 % N = 2,417

* Source: Preliminary Analysis of Family Planning Evaluation Survey, Korean Institute for Family Planning, 1976.

Even if we take the time gap between the two surveys into account, we can hardly say that the difference is due to sampling error. At any rate, it is interesting to note that the rural sample shows the highest rate of current practice. This may be related to the fact that the government family planning program is most active in rural area and poorly reaches those in urban low SES. It is well known in Korea that the urban-rural gap in contraceptive practice has been narrowed considerably since the initiation of the national family planning program.

2. RELIABILITY AND VALIDITY OF THE MEASURES

As was pointed out earlier, efforts have been made to check the reliability of attitudinal responses and the convergent validity of multiple measures of acceptability for each method. Reliability measures were obtained by a test-retest type for three questions.(See Table 4) Reliability measures (Correlation Coefficient, r) is particularly high in the case of question dealing with intention to use a existing method, while it is moderately high for questions dealing with attitude toward using a method. We can see that reliability goes down as we move from behavioral intention to attitude and from the existing method to the potential method.

Table 4. Intrasubject Reliability Estimates for Three Questions:

	Q. 720 - Intention to use condoms	Q. 721 - Attitude toward using condoms	Q. 722 - Attitude toward using daily pill
Q. 215 - Intention to use condoms	.82		
Q. 216 - Attitude toward using condoms		.58	
Q. 317 - Attitude toward using daily pill			.49

Convergent validity was measured by intercorrelations of multiple measures of acceptability for each male FRM. As shown in Table 5, convergent validity is generally high for each method. One exception is the case of the rank of each method; correlations between the rank of each method and other measures of acceptability for each method are rather low. This may be due to the possibility that people are more likely to take other FRM's into account when they consider the rank of each method. However, vasectomy is not the case. It is probably because vasectomy is definitely the least preferred method in whatever terms and whatever methods they may take into account.

Table 5. Intercorrelations of Multiple Measures of Acceptability for Each Method:

CONDOM

	Q. 215	Q. 216	Q. 217	Q. 218	Q. 701
Q. 215 Intention to use condoms[1]	-				
Q. 216 Attitude toward using condoms[2]	.37	-			
Q. 217 Attutude tw condom[2]	.32	.49	-		
Q. 218 Attitude toward using condoms[3]	.39	.56	.52	-	
Q. 701 Rank of condom[4]	.21	.12	.08	.12	-

DAILY PILL

	Q. 316	Q. 317	Q. 318	Q. 319	Q. 702
Q. 316 Intention to use male pill[1]	-				
Q. 317 Attitude toward using male pill[2]	.53	-			
Q. 318 Attitude toward male pill[2]	.44	. 56	-		
Q. 319 Attitude toward using male pill[3]	.60	. 74	.62	-	
Q. 702 Rank of male pill[4]	.24	. 28	.20	.29	-

[1] Scores range from 1 (definitely will use) to 5 (definitey will not use).

[2] Scores range from 1 (very good) to (very bad).

[3] Scores range from 1 (very favorable) to 5 (very unfavorable).

[4] Scores range from 1 (most prefer) to 4 (least prefer).

Table 5. Intercorrelations of Multiple Measures of Acceptability for Each Method (cont'd):

MONTHLY INJECTION

	Q. 415	Q. 416	Q. 417	Q. 418	Q. 703
Q. 415 Intention to use monthly injection[1]	-				
Q. 416 Attitude toward using monthly injection[2]	.56	-			
Q. 417 Attitude toward monthly injection[2]	.44	.55	-		
Q. 418 Attitude toward using monthly injection[3]	.62	.64	.58	-	
Q. 702 Rank of monthly injection[4]	.34	.26	.30	.38	-

VASECTOMY

	Q. 513	Q. 514	Q. 515	Q. 516	Q. 704
Q. 513 Intention to have vasectomy[1]	-				
Q. 514 Attitude toward having vasectomy[2]	.65	-			
Q. 515 Attitude toward vasectomy[2]	.40	.48	-		
Q. 516 Attitude toward having vasectomy[3]	.67	.72	.49	-	
Q. 704 Rank of vasectomy[4]	.64	.47	.32	.51	-

[1] Scores range from 1 (definitely will use) to 5 (definitely will not use).

[2] Scores range from 1 (very good) to 5 (very bad).

[3] Scores range from 1 (very favorable) to 5 (very unfavorable).

[4] Scores range from 1 (most prefer) to 4 (least prefer).

3. Overall Acceptability of Existing and Potential Male Fertility Regulating Methods

As was pointed out, we attempted to measure the acceptability of existing and potential male FRM's by five different methods. According to the rank of each method, the monthly injection is the most preferred method in each sample areas, while vasectomy is least preferred. (See Table 6) The next preferred method is daily pill for all respondents, and the order of rank is almost the same in all sample areas. These findings are consistent with the results of SKS.

When we look at other measures of acceptability, however, the order of preference for each method changes slightly. The male daily pill is the most preferred method, the monthly injection is the next preferred, and vasectomy in the least preferred method for all measures of acceptability and for almost all sample areas. It is not clear at this moment why the acceptability ranks of monthly injection and male daily pill were reversed for these measures. We have already noted that the convergent validity is generally low in the case of the rank measure of acceptability. We can hardly conclude, however, that the rank of each method is not a valid measure of acceptability. We should

Table 6. Alternative Measures of the Acceptability of Existing and Potential Male FRMs for Males from Three Sampling Regions:

Q#	Acceptability measure	Grand mean	Sampling region: Urban middle SES (1) n = 99	Urban low SES (2) n = 104	Rural (3) n = 150	Significance P <.05
701	Rank of condom[1]	2.49	2.33	2.49	2.59	1, 2 / 2, 3
702	Rank of daily pill[1]	2.22	2.48	2.20	2.07	3, 2 / 1,
703	Rank of monthly injection[1]	1.80	2.10	1.77	1.62	3, 2 / 1,
704	Rank of vasectomy[1]	3.48	3.71	3.06	3.54	1 / 2, 3
215	Intention to use condom[2]	2.84	2.59	2.64	3.15	1, 2 / 3
315	Intention to use daily pill[2]	2.28	2.49	2.21	2.19	3, 2 / 2, 1
415	Intention to use monthly injection	2.50	2.73	2.35	2.46	2, 3 / 3, 1
513	Intention to have vasectomy[2]	4.01	3.39	3.90	4.51	1 / 2 / 3

Table 6. Alternative Measures of the Acceptability of Existing and Potential Male FRMs for Males from Three Sampling Regions (cont'd):

Q#	Acceptability measure	Grand mean	Sampling region: Urban middle SES (1) n = 99	Urban low SES (2) n = 104	Rural (3) n = 150	Significance P <.05
216	Attitude toward using condom[3]	2.57	2.47	2.34	2.79	$\frac{2, 1}{3}$
317	Attitude toward using daily pill[3]	2.28	2.35	2.33	2.21	3, 2, 1
416	Attitude toward using monthly injection[3]	2.49	2.60	2.33	2.53	$\frac{2, 3}{3, 1}$
514	Attitude toward having vasectomy[3]	3.44	2.93	3.35	3.83	$\frac{1}{\frac{2}{3}}$
218	Attitude toward using condom[4]	2.70	2.65	2.60	2.81	2, 1, 3
319	Attitude toward using daily pill[4]	2.32	2.52	2.29	2.22	$\frac{3, 2}{2, 1}$
418	Attitude toward using monthly injection[4]	2.53	2.77	2.38	2.47	$\frac{2, 3}{1}$
516	Attitude toward having vasectomy[4]	3.54	3.01	3.48	3.94	$\frac{1}{\frac{2}{3}}$
217	Attitude toward condom[3]	2.30	2.27	2.15	2.42	$\frac{2, 1}{1, 3}$
318	Attitude toward daily pill[3]	2.06	2.24	1.97	2.01	$\frac{2, 3}{1}$
417	Attitude toward monthly injection[3]	2.13	2.28	1.88	2.19	$\frac{2}{3, 1}$
515	Attitude toward vasectomy[3]	2.65	2.38	2.35	3.03	$\frac{2, 1}{3}$

(cont'd)

Table 6. Alternative Measures of the Acceptability of Existing and Potential Male FRMs for Males from Three Sampling Region(cont'd):

O#	Accptability measures	Grand mean	Sampling region: Urban middle SES (1) n = 99	Urban low SES (2) n = 104	Rural (3) n = 150	Significance P<.05
709	Rank of daily pill[5]	2.94	2.93	2.96	2.94	1, 3, 2
710	Rank of weekly pill[5]	1.97	1.96	1.98	1.98	1, 3, 2
711	Rank of monthly pill[5]	1.08	1.11	1.06	1.08	2, 3, 1
712	Rank of monthly injection[1]	3.65	3.78	3.45	3.70	$\frac{2}{3, 1}$
713	Rank of 3-monthly injection[1]	2.78	2.82	2.73	2.79	2, 3, 1
714	Rank of 6-monthly injection[1]	2.09	2.05	2.14	2.08	1, 3, 2
715	Rank of yearly injection[1]	1.48	1.35	1.67	1.43	$\frac{1, 3}{3, 2}$
705	Rank of weekly injection[1]	3.85	3.83	3.81	3.89	2, 1, 3
706	Rank of weekly pill[1]	2.67	2.72	2.58	2.70	2, 3, 1
707	Rank of monthly injection[1]	2.30	2.25	2.37	2.27	1, 3, 2
708	Rank of monthly pill[1]	1.19	1.20	1.24	1.14	3, 1, 2

1 Scores range from 1 (most prefer) to 4 (least prefer).

2 Scores range from 1 (definitely will use) to 5 (definitely will not use).

3 Scores range from 1 (very good) to 5 (very bad).

4 Scores range from 1 (very favorable) to 5 (very unfavorable).

5 Scores range from 1 (most prefer) to 3 (least prefer).

also note that the rank of each method was measured around the end of questionnaire after having talked about all existing and potential male FRM's. The acceptability response to one method at a time could be different when respondents knew about other methods available.

The figures in Table 6 speak themselves for differential preferences for each method among three sample groups. Looking at all measures of acceptability, we can find the following tendencies:

a. Condom is more preferred among urban samples than among rural samples;
b. Daily pill is more preferred among urban low SES samples and rural samples than among urban middle SES samples;
c. Monthly injection is more preferred among urban low SES and rural samples than among urban middle SES samples;
d. Vasectomy is less preferred among rural samples than among urban samples.

Finally we compared the acceptability of two potential male methods according to the different timing of taking. For both pill and injection the longer the timing, the more it is preferred in all sample areas. It is also true when we take the two methods into consideration at the same time. In acceptability of the two potential male methods, timing is more important than the routes of administration. Given the same timing, however, pill is more preferred than injection in all sample areas.

4. BELIEFS ABOUT ATTRIBUTES OF MALE FRM's

Since beliefs about attributes of each male FRM are regarded as one of the important aspects of acceptability, we measured them first by the five-point scale of "agree-disagree" and tried to see how they are related to the behavioral intentions to use each methods.

Attritubes of each method are either intrinsic or user-defined.

1) Beliefs about attributes of condom.

As shown in Table 7, attributes of condom with which respondents agree most are those related to its effectiveness and safety for health reasons. Attributes with which respondents disagree most, on the other hand, are those related to obtaining the method and moral obligation in using the method. These could be interpreted as a reflection of the fact that condom has been included as a method in the national family planning program. Most Koreans are familiar with condom and, if they want, can obtain and use it without any difficulty or embarrassment.

When we compare the mean belief scores between those who intend to use condom and those who do not intend, however, we can see somewhat different findings. In many cases of the attributes, mean belief scores are significantly different between these two groups. In other words, beliefs on many attributes of condom clearly differentiate behavioral intentions to use the method.

Attributes that show bigger differences in mean belief scores between the two groups are put in order:

- My wife wants me to use condoms as a method of birth control;
- Condoms are convenient and easy to use;
- Condoms are difficult to store privately;
- Condoms are the best male method of birth control;
- Condoms decrease sexual satisfaction.

Table 7. Mean Scores on Beliefs about Attributes of the Condom for Men who intend and do not intend to use Condoms:

Q#	Attribute	Mean belief score[1] (agree-disagree)			Significance P<.05
		Grand mean	Intend n = 197	Not intend n = 144	
201	Effective	2.18	2.08	2.33	*
202	Difficult to store privately	2.96	3.12	2.76	*
203	Safest (for health reasons)	2.28	2.18	2.40	*
204	Embarrassing to obtain	3.42	3.51	3.28	*
205	Inconvenient and difficult to obtain	3.61	3.69	3.50	
206	Sloppy/messy/dirty method	2.99	3.05	2.90	
207	Difficult to dispose of privately	3.03	3.12	2.92	
208	Avoid unwanted children	2.25	2.11	2.43	*
209	Decreases sexual satisfaction	2.68	2.82	2.49	*
210	Convenient and easy to use	2.85	2.68	3.08	*
211	Best method	2.61	2.46	2.82	*
212	Wife approves	3.04	2.74	3.45	*
213	Friends and relatives approve	3.22	3.30	3.11	*
214	Moral obligation not to use	3.60	3.67	3.52	

[1] All scales range from 1 (strongly agree) to 5 (strongly disagree).

2) Beliefs about attributes of the male daily pill

Attributes of the daily pill with which respondents agree most are also those related to its effectiveness and convenience in using.(See Table 8) Many people agree with statements that daily pill avoids unwanted pregnancy, that it is a very effective method for preventing pregnancy, and that it is convenient and easy to use. On the other hand, many people disagree with statements on negative attributes of the daily pill such as:

- A man would have to wait too long a time before he could make his wife pregnant after he stops taking the male daily pill;
- I feel that I have a moral obligation not to use the male daily pill;
- The male daily pill would be very embarrassing to obtain.

As a result, we can conclude that respondents have favorable beliefs on the daily pill. This partly explains why respondent ranked the daily pill so highly.

Mean belief scores are significantly different in most of the attribute statements between those who intend to use the daily pill and those who do not. Bigger differences in the mean scores are found among the following attribute statements:

- If the male daily pill was available my wife would want me to use it;
- The male daily pill would be the best male method of birth control;
- If the male daily pill was available my close friends and relatives would want me to use it;
- The male daily pill would be convenient and easy to use.
- It would be too easy for me to forget to take the male pill every day.

These attribute statements markedly differentiates respondents' behavioral intentions to use the daily pill.

3) Beliefs about attributes of the monthly injection

As was the case of the male daily pill, many respondents agree with attribute statements on the effectiveness of the monthly injection and disagree with statements on negative attributes of the method. (See Table 9) Respondents generally have favorable beliefs on the monthly injection.

In almost all cases of attribute statements, mean belief scores are significantly different between those who intend to use the method and those who do not. Remarkable differences are found among the following attribute statement:

- If the monthly injection was available my wife would want me to have it;
  If the monthly injection was available my close friends and relatives would want me to have it;

Table 8. Mean Scores on Beliefs about Attributes of the Daily Pill for Men who intend and do not intend to use the Daily Pill:

Q#	Attribute	Mean belief score[1] (agree-disagree)			Significance P < .05
		Grand mean	Intend n=266	Not intend n = 72	
301	Effective	2.11	1.99	2.54	*
302	Wait too long to make wife pregnant	3.87	3.92	3.70	*
303	Safest (for health reasons)	2.96	2.87	3.31	*
304	Embarrassing to obtain	3.63	3.67	3.50	
305	Inconvenient and difficult to obtain	3.48	3.57	3.17	*
306	Decreases sexual desire	2.94	2.97	2.84	
307	Easy to forget to take	2.51	2.64	2.04	*
308	Convenient and easy to use	2.32	2.19	2.81	*
309	Causes weakness	2.77	2.78	2.71	
310	Avoid unwanted children	2.08	1.97	2.47	*
311	Difficult to store privately	3.56	3.62	3.31	*
312	Best method	2.37	2.18	3.07	*
313	Wife approves	2.33	2.13	3.07	*
314	Friends and relatives approve	2.57	2.40	3.19	*
315	Moral obligation not to use	3.85	3.89	3.72	

[1] All scales range from 1 (strongly agree) to 5 (strongly disagree).

Table 9. Mean Scores on Beliefs about Attributes of the Monthly Injection for men who intend and do not intend to use the Monthly Injection:

Q#	Attribute	Mean belief score[1] (agree-disagree)			Significance
		Grand mean	Intend n=239	Not intend n = 98	P <.05
401	Effective	2.15	2.00	2.52	*
402	Wait too long to make wife pregnant	3.95	3.98	3.84	
403	Safest (for health reasons)	2.77	2.58	3.21	*
404	Embarrassing to obtain	3.03	3.21	2.58	*
405	Inconvenient and difficult to obtain	2.97	3.14	2.55	*
406	Decreases sexual desire	2.83	2.92	2.61	*
407	Easy to forget to take	3.42	3.57	3.05	*
408	Very painful	3.31	3.42	3.03	*
409	Causes weakness	2.92	2.99	2.75	*
410	Avoid unwanted children	2.05	1.94	2.32	*
411	Best method	2.31	2.10	2.81	*
412	Wife approves	2.39	2.11	3.05	*
413	Friends and relatives approve	2.56	2.31	3.17	*
414	Moral obligation not to use	3.88	3.92	3.81	

[1] All scales range from 1 (strongly agree) to 5 (strongly disagree).

Table 10. Mean Scores on Beliefs about Attributes of the Vasectomy for Men who intend and do not intend to have a Vasectomy:

Q#	Attribute	Mean belief score[1] (agree-disagree) Grand mean	Intend n=60	Not intend n = 272	Significance P<.05
501	Effective	1.86	1.55	1.93	*
502	Painful operation	2.92	3.35	2.82	*
503	Causes weakness	2.73	3.55	2.54	*
504	Avoid unwanted children	2.11	2.20	1.72	*
505	Decreases sexual desire	2.60	3.28	2.45	*
506	Embarrassing to obtain	2.95	2.84	3.37	*
507	Inconvenient and difficult to obtain	2.95	3.37	2.86	*
508	Safest (for health reasons)	3.11	2.30	3.28	*
509	Best method	2.73	2.02	2.89	*
510	Wife approves	3.36	2.33	3.59	*
511	Friends and relatives approve	3.53	2.63	3.73	*
512	Moral obligation not to have	3.45	3.95	3.35	*

[1] All scales range from 1 (strongly agree) to 5 (strongly disagree).

. The monthly injection would be the best male method of birth control;
. The monthly injection would be the safest male method of birth control;
. The monthly injection would be very embarrassing to obtian.

4) Beliefs about attributes of the vasectomy

Here again respondents agree most with attributes statements related to the effectiveness of the vasectomy, (See Table 10) However, they also agree considerably with statements on negative attributes of the vasectomy such as:

. The vasectomy decreases sexual desire;
. The vasectomy causes weakness.

Respondents disagree most with statements on wife's approval, approval of friends and relatives, and moral obligation.

Mean belief scores differ significantly in all cases of attribute statements between those who intend to have vasectomy and those who do not. Attribute statements that more sharply differentiate behavioral intentions to have a vasectomy are put in order as follows:

. My wife would want me to have a vasectomy;
. My close friends and relatives would want me to have a vasectomy;
. The vasectomy causes weakness;
. The vasectomy is the safest male method of birth control;
. The vasectomy is the best male method of birth control.

Analysis so far reveals that respondents agree mostly with attribute statements related to the effectiveness of male methods and disagree with those related to negative attributes of the methods. The vasectomy, the least preferred method, was not the case however. It is interesting to know that, in all male methods, concern with wife's approval was the only attribute that differentiates most sharply behavioral intention to use the method in the future. It seems to imply that contraception is not the business of either husbands or wives but the business of couples involved even in a male-dominant society. It also justifies the need for a research on famales' attitudes toward male methods

We have examined so far each single beliefs about attributes of each male FRM and how it differentiates future behavioral intentions to use each method. What happens if we take beliefs about attributes of each method together and see how they are related to behavioral intentions to use each method? Table 11 shows what proportions of respondents are correctly classified as intending vs. not intending to use a male method based on a weighted linear combination of beliefs about the method. The result implies that in all male methods except condom, we can predict more than 80 percent of future intention to use a method on the basis of beliefs about all attributes of the method.

Table 11. Percentage of Respondents Correctly Classified as Intending vs. not Intending to Use a Male FRM Based on a Weighted Linear Combination of Beliefs about the Method:

Methods	Percentage correctly classified by FRM
Condom	66.8 %
Daily Pill	83.3 %
Monthly Injection	85.2 %
Vasectomy	84.9 %

5. ACCEPTABILITY OF ATTRIBUTES OF MALE FRMs

To measure the acceptability of attributes, attributes of all existing and potential male methods were listed (questions 601 through 622), and, for each attribute, respondents were asked to check on a five-point scale whether they like or dislike the method that has the attribute. As shown in Table 12, most of the respondents like the male method that is self-administered, taken daily, stored in a small package, and taken by the pill. On the other hand, most of the respondents dislike the male methods that decreases sexual desire or sexual satisfaction, is taken daily and easy to forget to take, and administered by a third person. Mean scores for the other attributes range mostly from 2.5 to 3.5 around the mid-point 3. Since the mid-points were left out in calculating mean scores, these attributes seem to be acceptable for about half of the respondents and not acceptable for the rest.

Among the attributes of male FRMs, we selected those relevant to each of the existing and potential male methods and examined how the acceptability of them is related to the behavioral intentions to use the method in the future.

1) Acceptability of attributes of male FRMs for men who intend and do not intend to use condoms

In four cases of attributes of condom, mean acceptability scores are significantly different between those who intend to use condom and those who do not.(See Table 12) Three of them are attributes most respondents liked: method obtained from pharmacy, method stored in a small package, and method that is self-administered. One of them is the least preferred attribute: method that decreases sexual satisfaction. The other attributes of condom do not significantly differentiate the behavioral intention to use the method.

Table 12. Mean Scores on Acceptability of Attributes of Male FRMs:

More liked attributes			More dislike attributes		
Q#	Attribut	Mean[1]	Q#	Attributes	Mean[1]
614	Method that is self-administered	1.89	612	Method that decreases sexual satisfaction	4.11
601	Method taken monthly	1.97	611	Method that decreases sexual desire	4.08
619	Method stored in a small package	2.18	602	Method taken daily	3.91
605	Method taken by pill	2.24	620	Method that is easy to forget to take	3.89
601	Method obtained from pharmacy	2.34	613	Method administered by a third person	3.53
615	Method that requires 2 - 3 months for fertility return	2.35	604	Method used during intercourse	3.15
610	Method that increases sexual desire	2.44			
607	Method obtained from field worker	2.67			
617	Method that requires 4 - 5 months for fertility return	2.68			
618	Method that is permanent	2.71			
616	Method that requires one month for fertility return	2.81			
606	Method taken by injection	2.81			
609	Method obtained from health center or clinic	2.90			
603	Method taken weekly	2.95			

[1] All scales range from 1 (like very much) to 5 (dislike very much).

2) Acceptability of attributes of male FRMs for men who intend and do not intend to use the daily pill

As we can see in Table 14, mean acceptability scores significantly differentiate behavioral intention to use the daily pill in man cases of attributes relevant to the method. It is interesting to note that almost all of these attributes are preferred ones. Only in one case of least preferred attributes, the mean acceptability score is significantly different between two groups; the attribute that the method is taken daily is the case.

Table 13. Mean Scores on Acceptability of Attributes of Male FRMs for Men who intend and do not intend to use Condoms:

Q#	Attribute	Mean acceptability score[1] (like - dislike) Grand mean	Intend n=197	Not intend n = 144	Significance P < .05
604	Method used during intercourse	3.15	3.06	3.27	
607	Method obtained from field worker	2.67	2.71	2.61	
608	Method obtained from pharmacy	2.34	2.20	2.52	*
609	Method obtained from health center or clinic	2.90	2.88	2.76	
610	Method that increases sexual desire	2.44	2.37	2.53	
611	Method that increases sexual desire	4.08	4.12	4.01	
612	Method that decreases sexual satisfaction	4.11	4.20	3.99	*
614	Method that is self-administered	1.89	1.82	2.00	*
619	Method stored in a small package	2.18	2.06	2.35	*
620	Method that is easy to forget to take	3.89	3.86	3.92	

[1] All scales range from 1 (like very much) to 5 (dislike very much).

Table 14. Mean Scores on Acceptability of Attributes of Male FRMs for Men who intend and do not intend to use the Daily Pill:

Q#	Attribute	Mean acceptability score[1] (like - dislike) Grand mean	Intend n=266	Not intend n = 72	Significance P<.05
602	Method taken daily	3.90	3.83	4.18	*
605	Method taken by pill	2.24	2.05	2.94	*
607	Method obtained from field worker	2.67	2.57	3.01	*
608	Method obtained from pharmacy	2.34	2.30	2.51	
609	Method obtained from health center of clinic	2.82	2.74	3.11	*
610	Method that increases sexual desire	2.43	2.30	2.90	*
611	Method that decreases sexual desire	4.07	4.10	3.97	
612	Method that decreases sexual satisfaction	4.12	4.12	4.10	
614	Method that is self-administered	1.88	1.80	2.17	*
615	Method that requires 2 - 3 months for fertility return	2.35	2.30	2.54	
616	Method that requires one month for fertility return	2.82	2.80	2.89	
617	Method that requires 4 - 5 months for fertility return	2.66	2.57	3.00	*
619	Method stored in a small package	2.17	2.09	2.43	*
620	Method that is easy to forget to take	3.89	3.86	4.00	

[1] All scales range from 1 (like very much)to 5 (dislike very much).

Table 15. Mean Scores on Acceptability of Attributes of Male FRMs for Men who intend and do not intend to use the Monthly Injection:

Q#	Attribute	Mean acceptability score[1] (like - dislike) Grand mean	Intend n=239	Not intend n = 98	Significance P < .05
601	Method taken monthly	1.97	1.83	2.31	*
606	Method taken by injection	2.80	2.49	3.55	*
607	Method obtained from field worker	2.68	2.60	2.88	*
608	Method obtained from pharmacy	2.34	2.29	2.48	
609	Method obtained from health center or clinic	2.84	2.77	3.01	
610	Method that increases sexual desire	2.44	2.34	2.69	*
611	Method that decreases sexual desire	4.07	4.07	4.07	
612	Method that decreases sexual satisfaction	4.12	4.06	4.15	
613	Method administered by a third person	3.53	3.48	3.64	
615	Method that requires 2 - 3 months for fertility return	2.35	2.23	2.64	*
616	Method that requires one month for fertility return	2.82	2.77	2.95	
617	Method that requires 4 - 5 months for fertility return	2.69	2.62	2.86	
620	Method that is easy to forget to take	3.88	3.82	4.05	*

[1] All scales range from 1 (like very much) to 5 (dislike very much).

3) Acceptability of attributes male FRMs for men who intend and do not intend to use the monthly injection

In six cases of attributes relevant to the monthly injection, mean acceptability scores are significantly different between those who intend to use the monthly injection and those who do not. (See Table 15) Five out of six attributes are more preferred ones, mostly related to the routes of administration timing, and service. One less preferred attribute that significantly differentiates the behavioral intention is the case that the method is easy to forget to take.

4) Acceptability of attributes of male FRMs for men who intend and do not intend to have a vasectomy.

Only one attribute that the method is permanent significantly differentiates the behavioral intentions to have a vasectomy in the future.(See Table 16) The least preferred attributes about sexual desire or sexual satisfaction are not so important in the behavioral intentions to have a vasectomy.

Table 16. Mean Scores on Acceptability of Attributes of Male FRMs for Men who intend and do not intend to have Vasectomy:

Q#	Attribute	Mean acceptability score[1] (like - dislike)			Significance P<.05
		Grand mean	Intend n = 60	Not intend n = 272	
609	Method obtained from health center or clinic	2.84	2.81	3.00	
610	Method that increases sexual desire	2.42	2.35	2.43	
611	Method that decreases sexual desire	4.08	4.18	4.06	
612	Method that decreases sexual satisfaction	4.13	4.25	4.10	*
613	Method administered by a third person	3.56	3.60	3.56	
618	Method that is permanent	2.74	2.23	2.86	*

[1] All scales range from 1 (like very much) to 5 (dislike very much).

6. FACTORS RELATED TO THE ACCEPTABILITY OF MALE FRMs

In this section we will examine how demographic variables are related to the various aspects of the acceptability of male FRMs. Various aspects of the acceptability are, as we have discussed, the overall acceptability of existing and potential male FRMs, beliefs about attributes of each male FRMs, and the acceptability of attributes of male FRMs. Demographic variables are the place of residence, age, and years of education. It should be kept in mind that age mostly reflects other demographic characteristics such as the number of living children and the duration of marriage, and that education partly reflects the socio-economic status or the level of living.

1) Factors related to the overall acceptability of male FRMs.

Two measures of the overall acceptability were used: intentions to use and attitudes toward using each male methods. As shown in Table 17, the urban-rural residence is significantly related to the acceptability of condom and vasectomy; urban residents like condom and vasectomy more than rural residents. These findings are consistent with the national figures on the current practice rate. We have shown that practice rates of condom and sterilization are considerably higher in urban areas. It is speculated that condoms and vasectomy are more acceptable in urban areas because they are more popular and easily available there.

Age of respondents is not related to the attitudes toward using each male methods, but significantly related to the behavioral intentions to use each of male methods. In other words, younger people have stronger intentions to use each of male methods. This finding seems, at a first look, inconsistent with our expectation that older people have stronger intention to use any method. At a second look, however, we could conjecture that younger people are more likely to intend to use any male methods available in the future while older people would have preferences for the methods they or their wives are using.

The level of educational attainment is not significantly related to the acceptability of condom, but related to the acceptability of other male FRMs. While the zero-order correlation between the level of education and the acceptability of condom is significant, the relationship disappears when the effects of other variables are taken into account. For other methods, there are tendencies that more educated men dislike pill and injection more and that more educated men like vasectomy more.

The total variance of acceptability measures explained by these three variables is the biggest in the case of vasectomy, while it is rather small for other methods. Since the vasectomy is the least preferred method on the average, there seems to be wide variation in acceptability according to the values of these variables. On the whole, we can say that demographic characteristics are not so important in the acceptability of male FRMs.

Table 17. Correlations, Regression Coefficients, and Multiple Correlations of Urban Residence, Age and Years of Education on Acceptability of Male FRMs:

Acceptability measure		Urban residence		Age		Years of education		R	R^2
		Correlation Coefficient	Regression Coefficient	Correlation Coefficient	Regression Coefficient	Correlation Coefficient	Regression Coefficient		
Q. 215	Intention to use condoms	-.19	-.16**	.11*	.12*	-.16**	-.07	.23**	.05
Q. 216	Attitude toward using condoms	-.20**	-.15*	.01	.01	-.17**	-.09	.21**	.05
Q. 316	Intention to use male pill	.07	-.05	.14*	.16**	.16**	.20**	.23**	.05
Q. 317	Attitude toward using male pill	.07	.01	-.05	-.04	.13*	.12*	.14	.02
Q. 415	Intention to use monthly injection	.03	-.08	.11*	.13*	.14*	.19**	.20**	.04
Q. 416	Attitude toward using monthly injection	-.04	-.10	.04	.06	.06	.11	.11	.01
Q. 513	Intention to have vasectomy	-.34**	-.27**	.15**	.17**	-.33**	-.18**	.42**	.18
Q. 514	Attitude toward having vasectomy	-.32**	-.21**	.01	.02	-.32**	-.21**	.37**	.14

*P < .05

**P < .01

2) Factors related to beliefs about attributes of each male FRMs.

Although we have seen that younger men have stronger intentions to use all male methods, mean scores on beliefs about attributes of each male methods are not significantly different in all cases of methods except the daily pill between younger men and older men. In other words, beliefs about attributes do not significantly explain the relationship found between age and the intention to use condom, the monthly injection, and the vasectomy. In the case of the daily pill, however, mean scores on beliefs about five attributes out of 15 are significantly different between younger and older men. (See Table 18) Most of these attributes are preferred attributes of the daily pill. We can say that they partly explain why younger people have stronger intention to use the daily pill.

Table 18. Mean Scores on Beliefs about Attributes of the Daily Pill for Men above and below the Median Age:

Q#	Attribute	Mean belief score[1] (agree - disagree)			Significance P<.05
		Grand mean	Younger men	Older men	
308	Convenient and easy to use	2.32	2.23	2.41	*
310	Avoid unwanted children	2.09	1.99	2.17	*
311	Difficult to store privately	3.55	3.67	3.44	*
312	Best method	2.38	2.28	2.48	*
313	Wife approves	2.36	2.23	2.47	*

[1] All scales range from 1 (strongly agree) to 5 (strongly disagree).

The level of education, in contrast to age of respondent, significantly differentiates beliefs about some attributes of all male FRMs. In the case of condom, more educated men disagree more with statements of negative attributes of condom. (See Table 19) Beliefs about these negative attributes of condom explain the earlier finding that more educated men like condom more.

Mean scores on beliefs about six attributes of the daily pill are significantly different between less educated and more educated men. Three of these attributes are positive ones and three of them are negative ones. Less educated men agree more with statements of positive attributes and disagree less with statements of negative attributes. It was expected that more educated men disagree less with statements of negative attributes; however, that is not the case. At any rate, differences in beliefs about positive attributes between the educational groups partly explain the earlier finding that more educated men dislike more the daily pill.

Table 19. Mean Scores on Beliefs about Attributes of the Condom for Men above and below the Median Years of Education:

Q#	Attribute	Mean belief score[1] (agree - disagree)			Significance P<.05
		Grand mean	Low education	High education	
202	Difficult to store privately	2.97	2.82	3.15	*
204	Embarrassing to obtain	3.41	3.21	3.66	*
205	Inconvenient and difficult to obtain	3.61	3.44	3.83	*
206	Sloppy/messy/dirty method	3.01	2.84	3.24	*

[1] All scales range from 1 (strongly agree) to 5 (strongly disagree).

Table 20. Mean Scores on Beliefs about Attributes of the Daily Pill for Men above and below the Median on Years of Education:

Q#	Attribute	Mean belief score[1] (agree - disagree)			Significance P<.05
		Grand mean	Low education	High education	
301	Effective	2.13	2.04	2.25	*
304	Embarrassing to obtain	3.63	3.50	3.79	*
306	Decreases sexual desire	2.93	2.79	3.11	*
310	Avoid unwanted children	2.09	2.01	2.19	*
311	Difficult to store privately	3.55	3.42	3.72	*
312	Best method	2.38	2.24	2.57	*

[1] All scales range from 1 (strongly agree) to 5 (strongly disagree).

Table 21. Mean Scores on Beliefs about Attributes of the Monthly Injection for Men above and below the Median on Years of Education:

Q#	Attribute	Mean belief score[1] (agree - disagree)			Significance P<.05
		Grand mean	Low education	High education	
401	Effective	2.16	2.09	2.26	*
406	Decreases sexual desire	2.83	2.72	2.97	*
409	Causes weakness	2.93	2.84	3.05	*
411	Best method	2.32	2.24	2.43	*

[1] All scales range from 1 (strongly agree) to 5 (strongly disagree).

Table 22. Mean Scores on Beliefs about Attributes of the Vasectomy for Men above and below the Median on Years of Education:

Q#	Attribute	Mean belief score[1] (agree - disagree)			Significance P<.05
		Grand mean	Low education	High education	
502	Painful operation	2.92	2.81	3.06	*
503	Causes weakness	2.72	2.45	3.06	*
505	Decreases sexual desire	2.61	2.46	2.79	*
507	Inconvenient and difficult to obtain	2.97	2.84	3.11	*
508	Safest (for health reasons)	3.09	3.32	2.80	*
509	Best method	2.70	2.81	2.55	*
510	Wife approves	3.36	3.57	3.10	*
511	Friends and relatives approve	3.51	3.68	3.30	*

[1] All scales range from 1 (strongly agree) to 5 (strongly disagree).

In the case of the monthly injection, mean scores on beliefs about four attributes are significantly different between the less educated and more educated men.(See Table 21) Two of them are negative attributes and the other two are positive attributes. Less educated men agree more with all of four attribute statements. Differences in mean scores on positive attributes partly explain the earlier finding that less educated men like more the monthly injection.

For many attributes of the vasectomy, the level of education significantly differentiates mean scores on beliefs.(See Table 22) More educated men agree more with statements of positive attributes and disagree more with statements of negative attributes. This explain why more educated men like more the vasectomy.

3) Factors related to the acceptability of attributes of male FRMs

Only in four cases out of twenty attributes of male FRMs, age of respondents significantly differentiates the mean scores on acceptability of attributes.(See Table 23) Younger men like more the method that is stored in a small package and requires 1 - 3 months for fertility return, and dislike less the method taken daily.

In eight cases out of twenty attributes of male FRMs, mean scores on acceptability are significantly different between the educational groups.(See Table 24) Less educated men show consistently more favorable attitudes toward attributes related to pill and injection. This explains the earlier finding that more educated men dislike more pill and injection.

Table 23. Mean Scores on Acceptability of Attributes of Male FRMs for Men above and below the Median Age:

Q#	Attribute	Mean acceptability score[1] (like - dislike)			Significance P <.05
		Grand mean	Younger men	Older men	
602	Method taken daily	3.91	3.81	4.01	*
615	Method that requires 2 - 3 months for fertility return	2.34	2.17	2.50	*
616	Method that requires one month for fertility return	2.81	2.64	2.96	*
619	Method stored in a small package	2.18	2.09	2.27	*

[1] All scales range from 1 (like very much) to 5. (dislike very much).

Table 24. Mean Scores on Acceptability of Attributes of Male FRMs for Men above and below the Median Years of Education:

Q#	Attribute	Mean accepatability score[1] (like - dislike)			Significance P<.05
		Grand mean	Low education	High education	
602	Method taken daily	3.91	3.83	4.01	*
605	Method taken by pill	2.25	2.16	2.37	*
606	Method taken by injection	2.82	2.69	2.97	*
607	Method obtained from field worker	2.68	2.55	2.85	*
609	Method obtained from health center or clinic	2.84	2.68	3.03	*
611	Method that decreases sexual desire	4.08	4.01	4.17	*
612	Method that decreases sexual desire	4.11	4.05	4.19	*
617	Method that requires 4 - 5 months for fertility return	2.68	2.57	2.83	*

[1] All scales range from 1 (like very much) to 5 (dislike very much).

7. MALE'S WILLINGNESS TO SHARE RESPONSIBILITY FOR CONTRACEPTION

Another important element to be considered with regard to the acceptability of male FRMs is men's willingness to share responsibility for contraception. Even if some male FRMs are found to be acceptable, they are not guranteed to be accepted unless men are willing to share the responsibility. The number of children is generally regarded as a matter for the couples to dicide, and so is contraception as a means to control the number. However, there would be cultural variations in the extent to which husbands are willing to share responsibility for contraception.

Korea is known as a male-dominant society, and, on this ground, it is hypothesized not infrequently that Korean men would not share the responsibility. According to the results of SKS, knowledgeable sources were doubtful about the willingness of men to share responsibility in preventing a

birth. However, our findings are not consistent with those of SKS. As shown in Table 25, more than half of the respondents said that they would use male FRMs, while less than one fourth of respondents said that only wives should use birth control methods. We can conclude, therefore, that prospects for introducing new male FRMs are optimistic in Korea as far as men's cooperation is concerned.

Table 25. Male's Willingness to Share Responsibility for Contraception:

		Percentage choosing each altermative:			
	Question	Self	Both	Wife	Total
717	Who decided what method of birth control your family will use?	29.1	57.5	13.4	100.0
718	If you and your wife decided you want to use birth control to have no more children, who should use birth control you or your wife?	50.0	27.6	22.4	100.0
719	If you were forced by circumstances to make a choice, would you rather have your wife use the female birth control pill or you use the male birth control pill?	61.1	15.9	23.0	100.0

It is true that there was a male-dominance in the traditional Korean society. The traditional male-dominance, however, has been changing into an equalitarian husband-wife relationship as Korea underwent rapid social changes particularly since World War II. It is also true that the Korean family planning program has put a more emphasis upon the female side since its inception. But male methods were not entirely neglected in the program, and the Korean program might not have succeeded that much without cooperation of husbands behind the scene.

V. SUMMARY OF FUNDINGS AND POLICY IMPLICATIONS

To assess the acceptability of existing and potential male fertility regulating methods a total of 353 male respondents was interviewed from three sampling areas; 99 cases from urban middle SES, 104 cases from urban low SES, and 150 cases from the rural area. As was expected from the sampling design, respondents from each area significantly differ in terms of educational attainment and socioeconomic status. However, demographic characteristics such as age and parity do not significantly differ among sampling groups. While respondents from each area have about the same amount of knowledge of contraceptive methods, their contraceptive behaviors are considerably different from each other. The rate of currently practicing contraception was highest among rural samples and lowest among urban low SES groups.

The relative acceptability of two existing (condom and vasectomy) and two potential (daily pill and monthly injection) male FRMs was assessed using several measures of acceptability. Whatever measure used, the most consistent finding among sampling groups was that vasectomy is the least acceptable method. This may be partly due to the fact that our sample design excluded from the study those who already had vasectomy. It is true, however, that vasectomy is least preferred among potential users. Our finding suggests that the current target system on vasectomy be reconsidered in the national family planning program.

For all measures of acceptability potential methods were more preferred than either condom or vasectomy for the rural and urban low SES samples. There was a tendency for the pill to be preferred over injection although the difference was not statistically significant. As rural and poor urban populations would be important consumers of new and improved contraceptives, the present finding that potential methods are strongly preferred over existing methods, argues for continued development of the potential male methods. It was also found that there are some differences in preferences for each male methods among different sample groups. This implies that acceptance could be enhanced by providing each target group with their preferred methods.

With regard to the potential male methods, we examined the acceptability of two of the most salient attributes; duration of action and route of administration. It was found that methods with longer duration of action are preferred to methods with a shorter duration. For all sampling groups a monthly pill is preferred to a weekly pill, which in turn is preferred over a daily pill. Similarly, if the route of administration is injection, the longer the duration of action the more the injection is preferred. There was also consistency among sampling groups concerning the most preferred route of administration. If the duration of action is held constant, the pill is preferred to injection. The duration of action seems to be more important attribute than the route of administration.

Next we examined respondent's beliefs about attributes of each male methods using the agree-disagree scale. Respondents agreed mostly with attribute statements related to the effectiveness of male methods and disagreed with those related to negative attributes of the method. In the case of

vasectomy, however, respondents agreed mostly with statement of negative attributes. It is interesting to see that for all male methods concern with wife's approval was the only attribute that differentiates most sharply behavioral intention to use the method in the future. It seems to imply that contraception is the business of couples involved even in a male-dominant society and justifies the need for research on females attitudes toward male methods.

The acceptability of attributes of all existing and potential male methods was measured by asking respondents, for each attribute, to check on a five-point reale whether they like or dislike the method that has the attribute. Most of the respondents liked the male method that is self-administered, taken monthly, stored in a small package, and taken by the pill. On the other hand, most of the respondents disliked the male methods that decreases sexual desire or sexual satisfaction, is taken daily, easy to forget to take, and administered by a third person. These information could help biomedical scientists develop new contraceptive technology and those involved in family planning program supply more acceptable male methods.

Among the attributes of male FRMs, we selected those relevant to each of the existing and potential male method and examined how the acceptability of them is related to the behavioral intentions to use the method in the future. While there were some differences in attributes among male FRMs, those important attributes mentioned in the above, liked or disliked, tended to significantly differentiate behavioral intentions to use each male FRM in the future.

Three demographic characteristics were examined how they are related to the acceptability of each male FRMs. It was found that the urban-rural residence is significantly related to the acceptability of condom and vasectomy; urban residents liked condom and vasectomy more than rural residents. Age of respondents is not significantly related to the attitudes toward using each male methods, but significantly related to the behavioral intentions to use each male methods. The educational level is not significantly related to the acceptability of condom, but related to the acceptability of other male FRMs. There were tendencies that more educated men dislike pill and injection more and that more educated men like vasectomy more. These findings imply that diversified efforts are needed to introduce different male methods to people with different demographic characteristics in family planning program. It should be kept in mind, however, that the total variance of acceptability measures explained by these three variables was not so big on the whole.

Finally, men's willingness to share the responsibility for contraception was examined. It has been hypothesized not infrequently that Korean men would not share the responsibility, and the knowledgeable sources in our study also expressed the same opinion regarding male's cooperation in contraception. However, our findings were on the contrary to the hypothesis. More than half of the respondents said that they would use male FRMs, while less than one fourth of respondents said that only wives should use birth control methods. We can conclude, therefore, that prospects for introducing new male FRMs are optismistic in Korea as far as men's cooperation is concerned. While condom and vasectomy were already included in the national family planning programs, other male FRMs should be equally emphasized when they are available in the future.

REFERENCES

Balswick, J., Attitudes of lower class males toward taking a male birth control pill. *The Family Coordinator,* 1972, *21,* 195 - 201.

Bardwick, J. Psychological factors in the acceptance and use of oral contraceptives. In J. Fawcett (Ed.), *Psychological perspectives on population.* New York: Basic Books, 1973.

Bumpass, L. and Westoff, C. The prediction of completed fertility. *Demography,* 1969, *6,* 445 - 454.

Davidson, A. R. The psychosocial acceptability of contraceptive technology. In J. Gardner, R. Wolff, D. Gillespie and G. Duncan (Eds.), *Village and household availability of contraceptives: Southeast Asia, 1976.* Seattle: Battelle Human Affairs Research Centers.

Davidson, A. R., and Jaccard, J. Test of a decision model for predicting family planning behavior. Paper presented at the Annual Meeting of the American Psychological Association, Washington, D. C., 1976.

Davidson, A. R., and Jaccard, J. Population psychology: a new look at an old problem. *Journal of Personality and Social Psychology,* 1975, *31,* 1031 - 1040.

Davidson, A. R., *et. al.,* Cross-cultural model testing: toward a solution of the etic-emic dilemma. *International Journal of Psychology,* 1976, *11,* 1 - 13.

Edwards, A. Techniques of attitude scale construction. New York: Appleton Century-Crofts, 1957.

Fishbein, M., and Ajzen, I. *Belief, Attitude, Intention and Behavior.* Reading, Massachusetts: Addison-Wesley Publishing Co., 1975.

Freedman, R. and Takeshita, J. *Family planning in Taiwan.* Princeton: Princeton University Press 1969.

Lublin, J. S. The men's turn: Scientists forsee likely development of male oral contraceptive. *Wall Street Journal,* Sept. 29, 1975, pp. 1; 11.

Osgood, C., May, W. and Miron, M. *Cross-cultural universale of affective meaning.* Urbana, Illinois: University of Illinois Press, 1975.

Presser, H. Voluntary sterilization: a world view. *Reports on Population/Family Planning,* 1970, 5, 1 - 36.

Redford, M., Duncan, G., and Prager, D. *The condom: Increasing utilization in the United States.* San Francisco: San Francisco Press, Inc., 1974.

Freedman, R., Hermalin, A., and Chang, M. Do statements about desired family size predict fertility? The case of Taiwan, 1967 - 1970. *Demography,* 1975, *12,* 407 - 416.

Goldberg, D., Sharp, H. and Freedman, R. Stability and reliability of expected family size data. *Millbank memorial fund quarterly,* 1959, *37,* 369 - 385.

Keith, L., Keith, D., Bussell, R., and Wells, J. Attitudes of men toward contraception. Paper presented at the 1st Annual Conference of the World Population Society, Washington, D.C., February 8, 1974.

Kothandapani, V. Validation of feeling, belief, and intention to act as three components of attitude and their contribution to prediction of contraceptive behavior. *Journal of Personality and Social Psychology,* 1971, *19,* 321 - 333.

Roy, S. *et. al.,* Effectis of cyproterone accetate on reproductive functions in normal human males. *Contraception,* 1976, *14,* 403 - 420.

Sciarra, J., Markland, C. and Speidel, J. *Control of male fertility.* New York: Harper and Row, 1975.

Spillane, W., and Ryser, P. *Male fertility survey: fertility knowledge, attitudes and practices of married men.* Cambridge, Mass.: Ballinger, 1975.

Triandis, H. Exploratory factor analyses of the behavioral component of social attitudes. *Journal of abnormal and social psychology,* 1964, *68,* 420 - 430.

Triandis, H., Vassiliou, V., Vassiliou, G., Tanaka, Y., and Shanmugam, A. *The analysis of subjective culture.* New York: John Wiley, 1972.

Westoff, C., Mishler, E. and Kelly, E. Preferences in size of family and eventual fertility twenty years after. *American journal of sociology,* 1957, *62,* 491 - 497.

Westoff, C., Potter, R. and Sagi, P. *The third child.* Princeton: Princeton University Press, 1963.

Wetherbee, H., Smith, M. and Benfield, W. "The pill" for men: attitudes of college students. *Medical Marketing and Media,* 1975, *10,* 31 - 36.

World Health Organization. *Expanded Program of Research, Development and Research Training in Human Reproduction,* Fifth Annual Report. World Health Organization: Geneva, Switzerland, November 1976.

World Health Organization, Human Reproduction Unit. Perceptions and attitudes toward fertility regulating methods and services. *In Asian Population Studies Series No. 26.* Bangkok: United Nations Economic and Social Commission for Asia and the Pacific, 1975.

〈抄 錄〉

男性 出產調節方法의 受容性에 관한 硏究

安 啓 春* 金 玉 卿**

現存하거나 앞으로 개발될 男性 出產調節方法의 受容性을 검토하기 위하여 세 標本地域으로부터 353名의 남편 응답자들을 面接하였다. 세 標本地域은 都市의 中產層 地域, 都市의 低所得層 地域, 農村地域으로 하였으며, 각 地域으로부터 99명, 104명, 150명의 응답자가 조사되었다. 이와같은 標本設計로부터 짐작할 수 있는 바와 같이 세 지역의 應答者들은 敎育程度나 社會·經濟的 水準에 있어서 현저한 차이를 나타내고 있었다. 그러나 年齡 및 子女數와 같은 人口學的 特性에 있어서는 세 地域의 應答者사이에 별로 차이가 없었다. 避姙方法에 대한 知識에 있어서는 세 地域間에 별 차이가 없었으나,그들의 避姙方法에 있어서는 서로 상당한 차이가 있었다. 避姙實踐率은 農村地域에서 가장 높았고,都市低所得層에서 가장 낮았다.

現存하는 두 가지 피임방법(콘돔과 精管手術)과 앞으로 개발될 두 가지 男性避姙方法(매일 먹는피임약과 月1回注射)의 상대적 受容性을 몇가지 方法으로 측정하였다. 어떤 方法으로 측정하든지 세 標本集團사이에 가장 일관성있는 發見은 精管手術의 受容性이 가장 낮다는 점이었다. 이것은 部分的으로 이 硏究의 標本設計가 精管手術을 이미 받은 사람들을 연구대상에서 제외시켰다는 사실에 기인할 수도 있다. 그러나 잠재적인 使用者사이에 精管手術이 가장 환영을 받지 못하고 있다는 것은 사실이다. 이러한 사실은 현재 우리나라의 가족계획사업에서 실시하고 있는 정관수술의 目標量制度를 再檢討해 보아야 할 것을 暗示하고 있다.

農村地域과 都市低所得層에서는 어떤 方法으로 측정해 보더라도 앞으로 開發될 方法들이 現存하는 콘돔이나 精管手術보다 수용성이 더 높았다. 그리고 統計的으로 의미있는 것은 아니지만 男性用 먹는피임약을 注射보다 더 좋아하는 경향을 나타냈다. 農村地域과 都市低所得層人口는 새로운 避姙方法의 중요한 消費者들일 것이므로 現存 방법보다 앞으로 개발될 방법을 더 좋아한다는 사실은 새로운 男性避姙方法을 계속 발전시켜야 한다는 必要性을 제시해 주는 것이라고 볼 수 있다. 또한 각 標本集團은 각 男性避姙方法에 대한 選好에 약간의 차이를 나타냈는데, 이것은 각각의 對象集團에 그들이 좋아하는 避姙方法을 提供함으로써 家族計劃의 受容度를 높일 수 있음을 의미한다.

* 延世大學校 社會學科 敎授.
** 延世大學校 人口 및 家族計劃硏究所.

앞으로 개발될 男性 避姙方法에 관해서 두 가지의 가장 중요한 屬性의 受容性을 검토해 보았다. 두 가지 屬性은 投入經路와 有效期間이다. 어느 집단을 막론하고 有效期間이 긴 方法을 짧은 方法보다 더 좋아 하였다. 먹는 避姙藥의 경우 매일 먹는것보다는 일주일에 1회 먹는것 보다는 한달에 한번 먹는 것을 더 좋아했다. 注射인 경우에도 이와 마찬가지로 유효기간이 길수록 더 좋아했다. 그러나 有效期間이 같다면 注射보다 먹는 藥을 더 좋아하는 경향을 나타냈다. 有效期間이 投入經路(주사 혹은 먹는 藥)보다 더 중요한 屬性인 것으로 보인다.

다음으로 同意與否를 묻는 尺度를 사용하여 각 男性方法의 屬性에 관한 應答者의 認識內容을 檢討하였다. 應答者들은 대체로 男性 避姙方法의 效果에 관한 屬性에 동의를 나타냈고, 否定的 屬性에 대해서는 동의를 하지 않는 경향을 보였다. 그러나 精管手術의 경우에는 예외로 응답자들은 정관수술의 否定的 屬性을 나타낸 진술에 동의를 표시하였다. 모든 男性避姙方法에 있어서 婦人의 承認與否가 앞으로 그 方法을 쓸 意思가 있는지의 與否를 결정하는데 매우 중요한 要因으로 나타난 것은 매우 흥미있는 결과이다. 한국과 같은 男性支配的인 社會에서도 夫婦가 모두 避姙에 관심을 가져야 할 當事者라는 認識이 매우 높아진 것으로 보인다. 이러한 결과는 또한 男性避姙方法에 대한 女性의 態度에 관해서 더 연구해야할 必要性을 제기해 준다.

現存하거나 앞으로 개발될 모든 男性避姙方法의 諸屬性에 대해서 그 受容性을 측정하기 위하여 응답자들에게 각각의 屬性을 가지고 있는 方法을 좋아하는지 싫어하는지를 5點 尺度에 표시하도록 하였다. 그 결과 대부분의 應答者들은 ①自己가 사용하고, ②한달에 한번 사용하고, ③작은 갑속에 포장되어 있고, ④입으로 먹는 등의 屬性을 가진 男性避姙方法을 좋아하였고, 반대로 ①性欲이나 性的滿足感을 저하시키고, ②매일 먹어야 하고, ③쓰는 것을 잊어버리기 쉽고, ④第三者에 의해서 제공되는 등의 屬性을 가진 男性方法을 싫어하였다. 이러한 情報는 生醫學者들이 새로운 避姙方法을 개발하는데 도움이 될 뿐만 아니라, 家族計劃事業에 종사하는 사람들이 보다 수용성이 높은 男性方法을 공급하는데 도움이 될 것이다.

男性出產調節方法의 여러가지 屬性中에서 현존하거나 앞으로 개발될 각각의 男性避姙方法에 해당되는 것들을 골라내어 그 屬性의 受容性이 앞으로 그 方法을 사용할 意思가 있는지의 與否와 어떻게 관련되는지를 검토하였다. 각 男性避姙方法別로 해당되는 屬性에 차이가 있기는 하지만 대체로 위에서 열거했던 중요한 屬性들(좋아하건 싫어하건)이 앞으로 각 男性方法을 사용할 意思 有無와 매우 밀접한 관련성을 나타내고 있었다.

다음으로 세가지 人口學的 特性(居住地, 年齡, 敎育程度)이 각 男性避姙方法의 상대적 수용성에 어떻게 관련되는지를 살펴 보았다. 居住地域은 콘돔과 精管手術의 受容性과 관계가 있었는 바, 都市居住地는 農村住民보다 콘돔과 정관수술을 더 좋아하는 경향이 있었다. 응답자의 年齡은 각 男性方法을 사용하는데 대한 態度와는 별 관련성이 없었지만, 앞으로 각 男性方法을 사용할 意思有無와는 상당한 관련성이 있었다. 敎育程度는 콘돔의 受容性과는 별로 관계가 없었

지만 다른 남성방법의 受容性과는 관련성이 있었다. 즉 敎育을 많이 받은 사람들은 적게 받은, 사람들 보다 먹는 피임약과 注射를 더 싫어하고, 敎育을 더 많이 받은 사람들은 적게 받은 사람들 보다 精管手術을 더 좋아하는 경향이 있었다. 이러한 결과는 家族計劃事業에 있어서 人口學的 特性이 다른 사람들에게 각기 다른 男性方法을 소개하려는 다양화된 노력이 필요하다는 것을 시사해 준다. 그러나 전체적으로 볼 때 이 세가지 人口學的 變數에 의하여 설명된 受容性의 전체 變量은 그렇게 크지 않았다는 점도 염두에 둘 필요가 있다.

마지막으로 男性들이 과연 避姙에 있어서 어느 정도의 責任을 분담할 意思를 가지고 있는지 검토하였다. 韓國男性들은 避姙에 있어서 책임을 분담하려들지 않을 것이라는 假說이 곧 잘 대두된 바 있거니와, 실제로 본 연구의 일부로 실시된 專門家 調査의 結果를 보면 이러한 가설을 뒷받침하는 의견을 말하였다. 그러나 본 연구의 결과는 그러한 假說과는 정반대의 경향을 나타내고 있었다. 應答者의 반 이상이 자기들이 男性避姙方法을 사용하겠다고 말하였으며, 應答者의 1/4미만이 避姙方法은 婦人들만이 사용해야 한다고 말하였다. 이러한 反應이 과연 얼마나 行動에 옮겨질지는 의문이지만 우리나라에서 男性避姙方法을 소개하는 데 있어서의 展望은 어느 정도 낙관적이라고 말할 수 있다. 콘돔과 精管手術은 이미 우리나라의 家族計劃事業에 포함되어 있지만, 앞으로 새로운 男性避姙方法이 개발되어 이용할 수 있다면 그러한 男性 避姙方法에도 못지 않게 重要性을 認識하도록 해야 할 것이다.