EFFECTIVENESS OF COMMUNICATION STRATEGY FOR DIFFUSION OF FAMILY PLANNING IN WEST PAKISTAN

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ABSTRACT

EFFECTIVENESS OF COMMUNICATION STRATEGY FOR
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by Wiqar Husain Zaidi

Population problems of the world in general, and of the developing countries in particular, have aroused universal interest during the past decade. There is a recognition of the need for curbing the rate of population growth, to which end Pakistan launched a massive family planning program in 1965. The assumption has been that a sound communication program is an essential ingredient for widespread acceptance of birth control practices. A study was conducted in 1967 by the National Research Institute of Family Planning at Karachi to assess the success of the strategies of the program.

In recognition of the significance and utility of the framework employed in studying the diffusion of innovations, the present study seeks to explore the applicability of the model for popularizing family planning in the diverse cultural conditions of Pakistan.

A stratified random sample of 487 married males from six districts of West Pakistan was interviewed on a schedule which included items on demographic characteristics of the respondents, their communication behavior, their exposure to family planning messages over several channels, their knowledge of information sources, and their awareness and aoption of family planning practices. Statistical treatment of the data included calculation of means and standard deviations, percentages, and product-moment correlation. Five communication indices

were constructed to derive composite scores on specific dimensions of behavior.

The respondents, three-fourths of whom were rural residents of areas, showed a very high level of awareness of family planning program. Ninety-four percent had heard about it, seventy-five percent were aware of the functionaries, and twenty-five percent were practicing birth control at the time of interview.

Urban residence, respondent's education, and wife's education were associated with exposure to mass media of communication, as well as exposure and favorable reactions to the messages of family planning. Age, parity, and occupation were correlated negatively or insignificantly with the indices of knowledge, attitude, and action.

Early awareness was related to education and membership in formal organizations. Urbanity, education of wife, and supplementary sources of income were correlated with early consideration and early start of the practice. Adopters, as a group, had high parity compared to non-adopters.

About one-third of the practitioners claimed to have been sought after for advice, whereas half that number sought advice. Both groups were similar in characteristics, none of which were significantly correlated with opinion leadership.

More than three-fourths of the respondents had seen a poster, and sixty percent attended a mass meeting on the subject. Between one-fourth and one-third of the sample reported exposure to family planning messages through pamphlets, radio, newspapers, cinema advertisements, and family planning workers. Most of the people either approved

of the messages or remained neutral.

Action following exposure to messages was mostly expression of interest in innovation and visiting functionaries for additional information. Most influential were newspapers, and least influential were cinema slides and posters. Selection of specific contraceptives was related to the characteristics of the individuals.

It seems that the diffusion framework is applicable in broad outline to family planning. But the nature of the innovation and the strategies of the program signify the need for modification. The strategies of the program succeeded in early stages but need reorientation for later stages of diffusion.

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By

Wiqar Husain Zaidi

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CHAPTER I

INTRODUCTION

The population problem is universally considered as one of the gravest and most significant problems in the world today. As John D. Rockefeller has observed:

> Today no problem is more urgently important to the well-being of mankind than the limitation of population growth . . . . In many parts of the world, it obstructs much needed economic growth even as it fosters social unrest and political instability. (34, p. 2)

The world is plagued by an unprecedented growth of population as a result of rapid decline in mortality rates through revolutionary developments in preventive and curative measures of diseases such as small pox, cholera, plague, tuberculosis, malaria, typhoid, and influenza. The development of antibiotics has caused a sudden drop in the death rates. The drop in the death rates has been accompanied by an increase in the birth rate, producing a further acceleration of the rate of natural increase.

Whereas the population of the world took about 1,200 years to double itself since the beginning of the Christian era, and another 400 for the next doubling, under existing fertility conditions the world population is expected to rise from 3,281 million in 1965 to 7,522 million at the turn of the century. Even under conservative projections, anticipating a fertility decline, the population may grow to

6,130 million by that time (49). More people are living in the world today than have lived in the entire history of mankind. There is little ground for optimism unless a concerted effort is made to remedy the unmitigated process of proliferation (10).

The demographic transition theorists, taking the western world as a model, expect a downward trend in birth rates following a reduction in death rates accompanying industrialization, urbanization and education, the general indicators of modernization (46). There is evidence of such occurrence in the Far East (6, 17). The hope is, however, that this will occur soon enough to avert calamity. Despite improvements in scientific agriculture, large areas of the world are faced with near-famine conditions alleviated only through huge imports of foodstuffs from advanced and generous countries of the world, mainly the U.S.A.

The population problem should not be perceived in the context of food shortages alone. An added concern is the rising expectations of the youth in the "have-not" countries of the world, which has produced rising frustrations, political unrest, and social upheaval (26).

Against this background, the developed countries of the world are offering liberal economic assistance to the less developed areas. And, notwithstanding national philosophies to the contrary, programs of birth control have been included in the sphere of technical assistance. Not only are national governments launching massive programs (6), but international organizations--the United Nations and its subsidiaries (ECAFE, UNESCO, WHO, UNICEF) (48), and agencies such as SIDA (Sweden), AID (U.S.A.), Ford Foundation, and Rockefeller Foundation,

to name a few most significant--have extended their support to family planning programs in the world.

The Population Council of New York is dedicated to family planning and allocates large sums of money for developing better contraceptives and for providing technical assistance around the globe (33). The effort and enthusiasm of the chairman of the board of trustees, John D. Rockefeller 3rd, culminated in the signing of the Declaration on Population by thirty heads of states (47).

In their declaration, the heads of states enumerated their convictions concerning the importance of the population problem for national planning of economic goals and for the achievement of lasting peace, their belief in the right of parents to plan the size of their families, and the view that the enrichment of human life is the objective of family planning (47). The UN General Assembly unanimously adopted a resolution on 17 December, 1966, requesting the Secretary General to implement the work program recommended by the Population Commission and endorsed by the Economic and Social Council (48).

More and more governments are joining the community of nations with more or less official programs that bring family planning information, services, and supplies to mass populations. Pakistan is not only a signatory to the declaration on population but had earlier launched, in July '65, an intensive and massive government-sponsored program of family planning, probably the largest in the world.

Demographic Situation in Pakistan

The high priority assigned by the government of Pakistan to curbing population growth should be viewed in the light of the country's geographic and demographic characteristics and its problems of social and economic development. In 1966, the president of Pakistan, Field Marshall Mohammad Ayub Khan, expressed his concern in the following worlds:

> The rapid growth of population creates frightening prospects for those looking into the future . . . our planning, our sacrifices, and our hard work for the progress of the country would be neutralized by the rapid growth of population. If nothing is done to check the rate of growth, I shudder to think of what will happen after a few decades . . . . The coming generation would not forgive us for landing them in such a mess. (2)

The enumerated population of the areas now comprising Pakistan rose from 46 million in 1901 to 76 million in 1951, an increase of 30 million (65 per cent) over a period of 50 years, a little over 1 per cent per annum. The 1961 census recoreded 94 million, an addition of 18 million (24 per cent) over a decade (30). In view of probable under-enumeration, the Planning Commission of Pakistan estimated the 1961 population at about 102 million, with an estimated growth of 115 million by 1965 (32).

The population figures are further confounded in the absence of even a crudely acceptable registration of vital events. In 1962, a Population Growth Estimation Project (PGE) was established to derive, from a national sample, the estimates of vital rates using simultaneous registration and quarterly surveys. By using the Chandra-Deming formula for adjusting unreported events, the Crude Birth Rate (CBR) for 1963 was

estimated at 54 and the Crude Death Rate (CDR) 19, indicating a 3.5 per cent Rate of Natural Growth (NGR) annually. The Family Planning Program, framed before this report, is based on a CBR of 50, CDR of 20 and NGR of 3 per cent (31).

The U.S. Bureau of Census constructed a population projection for Pakistan under various realistic assumptions. If the Family Planning Program succeeds in achieving its target of a 20 per cent decline in birth rate during the five-year period, the population may be limited to 210 million in 1985; if the program fails, it may increase to 240 million. The Family Planning Program may thus effect a reduction of 30 million in 20 years (50).

Demographic characteristics of the country lend greater urgency to the program. The country has about 45 per cent of its population under 15 years of age (30), only 19 per cent of the population over five years of age was literate in 1961 (1), and the rural population constituted 85 per cent of the total population, even though the urban population increased by 52 per cent during the decade (2).

Such conditions impose a heavy burden on national resources for economic growth, since the country has to earmark greater sums of money for improvement of health, education, social welfare, urban development and resettlement, and public works (58). The most pressing argument for population control for the policy makers is the chronic shortage of food, the country being an importer of grains worth about 200 million dollars annually. Hence a very high priority has been given to the Family Planning Program, the cause being championed by the president himself (2).

Early Family Planning Programs

The earliest record of organized effort in family planning dates back to 1953 when the Family Planning Association was formed with a modest grant from the government. Later, several branches were established with the provision for clinical activities supported by education and publicity on a limited scale. During the first Five-Year Plan (1955-60), a small sum of $100,000 was allocated for family planning through grants to voluntary agencies and to the Village AID (community development) organization (2).

Substantive steps were taken by the government after the Revolutionary Regime (initially Martial Law Administration) assumed power. Eight million dollars were allocated to family planning as a component of general health services under the second Five-Year Plan (1960-65) for training motivational personnel, for providing technical services and contraceptive supplies through hospital and dispensaries, and for promotion of research projects.

The program failed to achieve its target, even in terms of expenditure. It led, however, to the establishment of research and administrative units and some pilot projects, and provided research findings that could lay the guidelines in formulating the new scheme to be launched as a part of the third plan (31).

The New Scheme

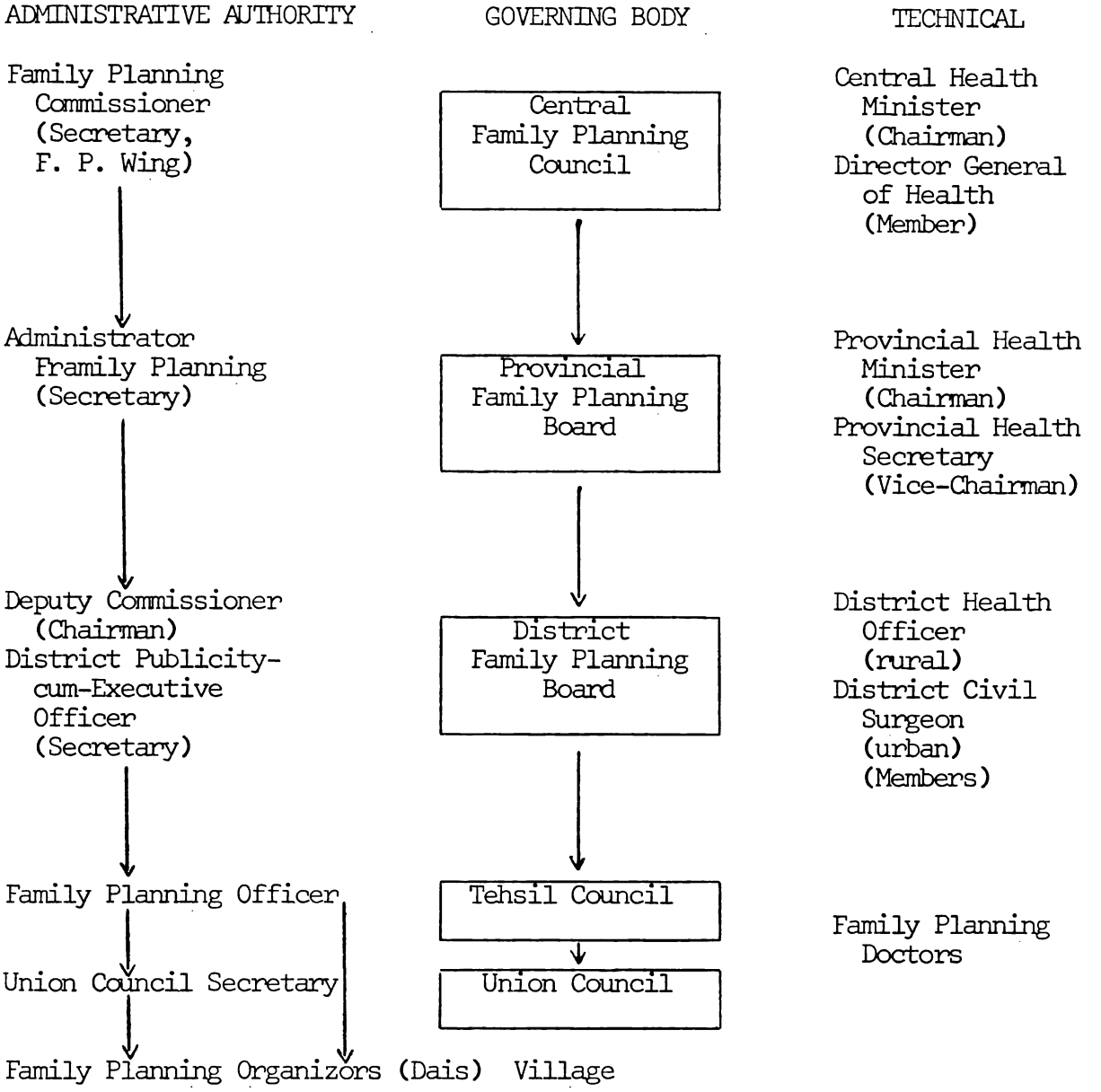
The new scheme incorporated provisions which could remedy the shortcomings of the previous schemes. Stress was laid on the motivational and communication aspects particularly.

Administrative Organization: A salient feature of the scheme is the establishment of an autonomous organization for flexibility and quick decisions not permissible under rigid government regulations; yet the organization retained the basic character of governmental activities.

Policy decisions come from the Central Family Planning Council (Chart 1), chaired by the Minister of Health, with membership composed of the top executives of allied departments, the executive authority vested in the Family Planning Commissioner who is the secretary of the council and of the family planning division. Besides units for co-ordination, planning and training, evaluation and administrative supervision, the council has attached to it the National Research Institute of Family Planning (NRIFP) at Karachi, responsible for conducting research on medical, communication, demographic, and social psychological aspects of the program with a view to making modifications in the scheme when necessary.

The execution of the program is primarily the responsibility of the Provincial Family Planning Boards constituted on the lines of the Council. The program is operated by District Family Planning Boards where the administrative head of the district, the Deputy Commissioner, is the chairman, and the Publicity-cum-Executive Officer (DPCEO) is the secretary.

Family Planning Officers, one for each 30,000 people are appointed to organize the motivational program in their areas under the direction of the DPCEO. He supervises the work of the grass roots level workers, gives them training, makes arrangement for supplies and



Source: Adapted from FAMILY PLANNING SCHEME FOR PAKISTAN DURING THE THIRD FIVE-YEAR PLAN (1965-70) PERIOD) Govt. of Pakistan, 1965.

Chart 1. Pakistan Family Planning Organizational Chart

services, and maintains records. He is expected to enlist the support of the organized groups. A functionary of the local government, the Union Council Secretary, is expected to establish contact with local pressure groups and opinion leaders. The most striking feature of the program is the employment of Family Planning Organizers, mostly the village midwives (Dais), who carry the greatest burden for informing and motivating village women through home visits and provide feedback to the program. One organizer is appointed for each one or two thousand persons. Besides the above mentioned functionaries, thousands of distribution agents have been appointed on a commission basis for the sale of contraceptives.

Communication Aspect: The role of communication in the success of the program has been recognized through the hiring of motivational personnel, through pre-service training and refresher courses, and through laying specific guidelines for field workers (31). The philosophy behind the communication strategy is the use of a multi-channel approach. The scheme enunciates that the methodology employed will be:

1. motivation through individual contact
2. motivation by group discussions at the village level
3. motivation by mass media of publicity
4. motivation by monetary incentives
5. motivation by bringing supplies and services to the doorsteps of the people. (31)

Techniques and principles have been listed in the scheme. Table 1 shows the itemized provisions for publicity materials to be

Table 1. Estimated expenditure on publicity of family planning (in thousands of rupees* over a 5-year period).

Type of Expenditure	East Pakistan	West Pakistan	Total
Billboards	1,105.0	1,285.0	2,390.0
Pamphlets	1,090.0	1,285.0	2,375.0
Flash Cards for Dais	1,215.0	810.0	2,025.0
Bus Panels	810.0	810.0	1,620.0
Posters	730.0	740.0	1,470.0
Press Publicity	720.0	740.0	1,460.0
Films	405.0	405.0	810.0
Match Box Advertisement	36.3	36.3	72.6
Cinema Slides	24.2	24.2	48.4
Total	6,135.5	6,135.5	12,271.0
Salary to Dais (Family Planning Organizers)	21,870	14,580	36,450

Source: FAMILY PLANNING SCHEME FOR PAKISTAN DURING THE THIRD FIVE-YEAR PLAN (1965-70), Govt. of Pakistan, Ministry of Health and Social Welfare, Rawalpindi, 1965.

*A rupee is officially equivalent to 21 cents.

used during the five-year period.

Contraceptives: Berelson (7) considers contraceptives as one of the three ingredients determining the success of the program of family planning, the other two being administrative efficiency and communication. In Pakistan, a "cafeteria" system is followed, where a client is guided

in selecting the contraceptive technique best suited to his needs. Clinical contraceptives--Intra-uterine Contraceptive Devices (IUD), mainly the Lippes Loop, tubeligation (female sterilization), and vasectomy (male sterilization)--are offered free of cost. Additional incentives for acceptance of clinical contraceptives include small payments for sterlization, post-service medical care, follow-up visits, and free medicines.

If the couple do not desire any of the clinical methods, they are supplied, at a nominal price, conventional contraceptives--condoms, foam tablets, liqui foam, diaphragm, and jelly. In view of the high cost, the lack of adequate research information on acceptance and continued use, and the scarcity of qualified doctors to supervise hormone therapy, oral pills are not promoted in the program. To those who can afford them, pills of several brands are available in urban areas.

CHAPTER II

THE THEORETICAL FRAMEWORK OF THE STUDY

This study uses the conceptual framework first established in the study of the diffusion of innovations in rural sociology in the U.S.A. The theory has been extended to the process of modernization in traditional and transitional societies (52).

The Process of Diffusion

Diffusion research has recently made an attempt to develop "middle range" analyses between "raw empiricism" and "grand theory" (40). This approach essentially consists of accumulating and synthesizing a series of middle range generalizations from empirical findings on the diffusion of innovations. According to DeFleur (11) the studies of diffusions of innovations, including the part played by mass communication, promise to provide an empirical and quantitative basis for developing more rigorous approaches to theories of social change.

An "innovation," according to Rogers (35), is an idea perceived as new. "Diffusion" is the process by which innovations are communicated by certain channels to the members of a social system. Katz (19) characterized the process of diffusion as (1) acceptance (2) over time (3) of a specific item--an idea or practice (4) by individuals or groups or other adopting units (5) linked to specific channels of communication (6) to a social structure, and (7) to a given system of

values or culture.

Stages of Adoption

In the acceptance of a new idea, invention, or practice, an individual undergoes specified stages of decision making. Several researchers (5) empirically confirmed the existence of identifiable stages though they differed in the number and sequence. In agricultural practices they have been identified (27, 35) as (1) awareness (2) interest (3) evaluation (4) trial and (5) adoption. Wilkening (55) accepts only three stages, awareness, decision-making, and adoption. In family planning practice, Bogue proposed four stages: (1) awareness and interest; (2) information gathering, evaluation and decision to try; (3) implementation; and (4) adoption and continued use. Realizing the weaknesses of early conceptualizations of the sequence of stages, Rogers and Shoemaker (40) suggested a set of four functions or sub-processes to the innovation decision. They name them as (1) knowledge; (2) persuasion; (3) decision and (4) confirmation.

Studies have been conducted, in recent years, to investigate communication strategies successful at various stages of the decision process for the adopting unit as well as the community. In a more modernized system, innovations find quicker acceptance by the individuals than in those systems where the community is more traditional (40). Whereas a program of information (knowledge) could be sufficient in the early stages of the introduction to create awareness of and interest in the innovation, persuasive communication is necessary during decision and implementation. Dubey (12) found confirmation of the relevance of

stages in the adoption of IUD and also found corroborative evidence of communication variability at different stages.

Categories of Adopters

The consideration of time is central in the diffusion process. Not only do psychological processes involved in the passage from one stage to another by the adopting unit involve an element of time, but time is also relevant in terms of the rate of spread of the innovation in a social system. A general finding of past research is that the adoption of an innovation follows a bell-shaped curve when plotted over time, and approaches normality. This finding has led to the development of categories of adopters falling in different segments of the normal curve. The criterion for innovativeness is the degree to which an individual is relatively earlier to adopt new ideas than other members of the social system. The continuum of innovativeness has been divided into five categories: Innovator, Early Adopter, Early Majority, Late Majority, and Laggard, on the basis of mean and standard deviation of the time of adoption. (35)

Characteristics of Innovativeness

In reviewing the studies on diffusion of innovations, Rogers (35, 36) arrived at the generalization that earlier adopters are younger in age, have higher social status, more favorable financial position, more specialized operations, and a different type of mental ability from late adopters. Earlier adopters also utilize information sources that are more impersonal and cosmopolite. It is in the early adopting group that opinion leadership, so crucial in the diffusion process is found.

These generalizations, mainly derived from research studies of the diffusion of agricultural practices, have found general confirmation in other fields (38, 39).

Opinion Leadership

Studies of personal influence have conclusively demonstrated the limitations of mass media in changing attitudes and behaviors of people (25, 38). Previously the potentiality of mass communication in determining response to their appeal was highly rated (19). Studies of social and political behaviors conducted by Lazarsfeld and his associates (21) found that ideas often flow from radio and print to opinion leaders and from there to less active sections of the populations. This is the well-known "Two-Step Flow of Communication" hypothesis (18). Opinion leaders are individuals who are influential in approving or disapproving new ideas.

A reformulation of the "two-step flow" hypothesis (35) suggests that innovations spread from sources of new ideas via relevant channels to opinion leaders and from them by way of personal communication channels to the followers. It is likely that the first step from source to opinion leaders is mainly the transfer of information, while the second step, from opinion leader to the followers, may also involve the spread of influence.

Recent research indicates (51) that a three step or multiple flow of communication may exist under certain conditions. In that case, opinion leaders influence other opinion leaders and they in turn influence their followers. This chain of personal influence causes a rapid

adoption of innovations after the practice is accepted by the opinion leaders.

The role of opinion leaders in exerting personal influence is hardly in dispute. But the issue regarding whether they are monomorphic (one opinion leader for one practice) or polymorphic (an opinion leader influencing adoption of several practices) is not settled. It has been observed that opinion leaders are not significantly different from their followers in respect to socioeconomic characteristics; that is, a condition of homophily exists between the leader and the follower (55).

The concept of opinion leader is highly relevant to family planning innovations, where people prefer to talk to their close and intimate friends rather than the change agent, who is an outsider to the social system. If the opinion leader can be identified, the rate of adoption can be accelerated by focussing the attempt for conversion on the influential.

Several techniques for identifying opinion leaders are described. Most commonly people are asked to identify their sociometric choice for their most frequently consulted source of information. The reputational method, where selected persons are asked to identify the opinion leaders, is also used. The simplest technique is to ask the respondent himself whether he was sought out for advice and/or whether he sought others for advice. None of these techniques have proven their validity in identifying the persons who are really influential and exert personal influence upon a certain number of people in the specific situation.

Specific Item

Rogers (40) has enumerated five characteristics of an innovation which facilitate the diffusion of an item. They are: complexity, relative advantage, compatability, divisibility, and communicability. Niehoff (29) cited several cases where characteristics played a significant role in their acceptance in the social system.

In family planning, it is not only the general concern about birth control that is diffused, but the specific contraceptives which have their own advantages and limitations and may determine the success of the program. Berelson (7) attributes paramount importance to the method of contraception in the success of a family planning program. Convenience, safety, cheapness, reversibility (non-permanence), durability and freedom from discomfort and side-effects seem to be some of the characteristics which are important in making family planning innovations attractive (24).

Family planning research is concentrating on specific single items or a few methods for investigation. We can find in family planning literature studies on IUD, sterilization, conventional contraceptives like condom and foam tablets, pills, etc. The characteristics of the acceptors have been found to differ from method to method. Ghani (14), in a small pilot study in Karachi, found that more educated, younger respondents who exercised more choice, accepted condoms more often than IUD or foam tablets, which were more likely to be popular with older and lower status women. In a rural setting, it was found that women first selected foam tablets, then changed to condoms, and later adopted IUD and probably would accept sterilization at a later

period of their reproductive life (1, 22).

Channel

Concern with the selection of communication channels has drawn attention of the investigators in contemporary studies of diffusion. Katz (20) directed his criticism at the neglect of looking at the interpersonal relationships in research in the field of mass communication, rural sociology, and marketing. Rogers (40) and Waisanen (51) identify the possibility of a multi-step flow of communication in certain types of situations.

In synthesizing the findings on the effects of mass communication, Klapper (24) asserts that mass communication is more likely to reinforce existing opinions than to change them and more likely to produce modification (change in intensity) than conversion (change in direction). Rogers (35) draws a distinction between cosmopolite and localite sources of communication in respect to their impact. Interpersonal channels, according to his findings, provide for maximum interaction, a large amount of feedback, which makes attitude change possible, while, on the other hand, mass media channels provide a potent means of rapidly spreading information with high accuracy, even though the direction of message flow is one way. Mass media communication is more important in changing cognition while interpersonal communication is more likely to cause attitude change (37).

Seldom has the persuasive effect of various channels been investigated in family planning research. Most studies on contraceptive practices seek recall from the respondents of the source of information

or influence. The generalized communication model described by Berlo (8), which analyzes the process involving Source, Message, Channel, and Receiver (better known as SMCR Model), might be interpreted differently under such conditions, as questions regarding the source are essentially about the channel.

There are hardly any family planning studies where a distinction is clearly made between the source of information and the channels through which it has been received. Studies conducted in different countries and by different persons frequently report the responses of the sample about the initial awareness of the innovation.

Misra (28) found that his male respondents had maximum exposure and thoroughness in learning a family planning message through his wife, a friend, and written communication, in that order. From an analysis of data collected in India about diffusion of innovation, Kivlin (23) found that friends, followed by change agents, were best sources of knowledge as well as practice of birth control methods. In Dubey's study (12) the source of information varied from stage to stage. Mass communication was found, in the Hooghly study (4), to be effective in increasing the awareness of family planning. Similarly, in the Songdong Gu study in Korea (42), women coming to health clinics attributed their visit to a program of mass media campaign. All these studies show some influence of mass communication on awareness and interest in family planning.

But in most of the studies, interpersonal channels were found to be most influential as sources of knowledge. In a study in Korea (56), in which respondents were asked to name the source of their

knowledge, neighbors were mentioned most frequently. Next in order of frequency were health centers, radios, village chiefs, relatives, and lastly newspapers. In the same country, a study designed to investigate the effect of channels on the acceptance of family planning reproted (45) that home visits were most effective, followed by group meetings, mailing, and media alone. The rates of acceptance under each of the aforementioned experimental conditions were between 10 and 20 per cent.

Wherever users of specific methods were identified as a separate category of influentials, they have been most often mentioned by the clients. In Taiwan, (17) satisfied users who were neighbors and friends of IUD clients were reported as most influential, while those neighbors and friends who did not wear an IUD were near the bottom of the list of influentials. Similarly in Thailand (41), IUD users and friends were most often mentioned as the persons who motivated the visitor to the clinics.

In the national IUD study in Pakistan conducted before the implementation of the new family planning scheme, loop users were most frequently mentioned as the source of information (3). In this and in another study in a hospital environment in Pakistan, doctors were most often mentioned as the source of information and as the person whose advice would be taken before adoption of family planning (59).

In reviewing the findings of communication research in family planning, Berelson says:

> Thus far, information on family planning has apparently been more effective than education, person-to-person contact more effective than mass media in implementation,

> and informal diffusion through trusted associates, supplementary in an important degree to the formal program. (6, p. 13)

Later on he says:

> From what we know, in other circumstances, the persuasive effect of the mass media are likely to be middle and long run than immediate. Media can be importantly influential in determining the climate of discussion about family planning even when they do not directly convert. (6, p. 15)

Rogers (37) upholds mass media as a catalytic agent in the modernization process in line with Lerner's model of modernization (26). Rogers and Bettinghaus (39), while comparing the studies on agricultural innovations and family planning innovation, decry the neglect of attitudinal, social relationship variables in family planning research. Specific variables which should receive the focus of investigation, according to their recommendations, include knowledge level, attitude towards innovations, opinion leadership, group participation, cosmopoliteness, mass media exposure, interpersonal communication, and intensity of change agent contact.

There is a growing realization of the significance of communication strategy in family planning programs. The diffusion model should be of special significance to administrators and promoters of programs who seek to introduce new ideas in order to achieve definite goals (12).

CHAPTER III

THE SAMPLE

Background of the Study

The communication strategies of the family planning program of Pakistan, under the new family planning scheme, incorporated the theoretical assumptions and results of attitude surveys and pilot action projects (1, 21, 56) and also the recommendations of the consultants. The theories and the recommendations have generally been derived from Western experiences, and therefore might not hold true in the widely varying cultural conditions of Pakistan. Continual research and evaluation are designed to investigate whether the assumptions hold true. The National Research Institute of Family Planning was established with a mandate to conduct empirical research and to help in the formulation and the modification of the executive policies on the basis of the findings.

A study was designed to assess the success of the communication program pursued for about a year. It was designed in early 1967 when the program had been in operation in 25 districts for more than a year. These districts lie in four regions of West Pakistan having at least three sub-cultural and linguistic groups. The present investigation, as part of the larger study, is an attempt to explore the applicability of the diffusion model in a Pakistani setting and in a specific practice

(family planning). Diffusion is essentially a communication problem and, as such, this study can provide a fruitful exercise in the application of the relevant framework.

Sampling Procedure

A stratified sample of seven districts was drawn to achieve linguistic representation. Strata were formed on the basis of dialects and languages spoken in the provinces. Administrative and research problems, however, necessitated the curtailment of the sample to six districts. Among the problems forcing this decision was the delay in starting the project and hence prolonging the period of data collection beyond the estimated time, so that personnel became unavailable. Since no purposive selective processes were involved in the sample, it is assumed that the findings of the study are not greatly biased.

For each district in the sample, four areas under the jurisdiction of the Family Planning Officers were randomly selected, three rural and one including an urban locality. Four units (villages in rural areas and mohallas in urban localities) were drawn at random from the lists given in the District Census Reports 1961. A scheme for identification of the households for random selection was designed. Five households were sampled from each of the sampling units. The main bread-winner of the household was to be interviewed if he was married and not over sixty years of age; we assume that his wife would be in the child-bearing age. When the main bread-winner did not belong in this category, the next male in the household was to be interviewed. Certain adjustments were made to obtain a sample of 500 males from the six

districts with some considerations for the population of the districts. No substitution of households was permitted. Data collected from 487 cases were analyzed for this report.

Interview Schedule

An interview schedule was developed to seek information about the demographic characteristics of the respondents, their exposure to mass media of communication and to the channels of communication employed in spreading information about family planning program, the knowledge of, opinion about, and responses to family planning information sources. Items were included about each of the important channels (a translated schedule is given in Appendix B). An attempt was made to precode items where suitable. However, where appropriate, free responses were also included.

The instrument was pretested on a small sample of respondents who came from different regions and possessed varying characteristics but were living in Karachi. The questionnaire was printed in Urdu, the official and the main language of the province. To facilitate interviewing in the local language, the schedule was translated in three additional languages: Sindhi, Punjabi, and Pushto. The responses were recoreded in Urdu for the convenience of coding.

Three interviewers, each a college graduate belonging to one of the three linguistic regions, were selected after an interview. They were trained for a week in the technique of interviewing other topics related to the project. They moved from one Union Council to anther individually on a scheduled program drawn up in consultation with the

DPCEO (officer in charge of the district).

Data Collection

Interviewing was done from April 1967 to July 1967 as the interviewer had to move from one place to another and the field work could not start simultaneously in all the regions. It was the non-availability of one of the interviewers beyond this period which forced the curtailment of the sample. Completed schedules were sent to the NRIFP at Karachi where necessary editing and coding was done by the regular employees. A coding design was prepared by the principal investigators including construction of an educational and occupational scale, as no standard scale existed for the measure of social status in Pakistan.

Characteristics of the Sample

Table 2 describes the main features of the sample. Of the 487 cases 71 per cent came from rural areas, 4 per cent from semi-urban, and 25 per cent from urban localities. The mean age of the respondents was 37 years with a standard deviation of 11 years. The mean number of living children was 3. On an eight-point occupational scale the mean was 4 (farmer cultivating 5 acres of land). Twenty-nine per cent said they had some supplementary source of income. On a seven-point scale designed to rate education and literacy, the mean education of the husbands was 3.4 (part elementary school) with standard deviation of 2.3, and the mean education of the wives was 1.7 (literate no schooling) with standard deviation of 1.5. But 77 per cent of the wives and 39 per cent of the husbands were illiterate. Fifteen per cent of husbands claimed to be members of some formal organization, and 74 per cent were

Table 2. General characteristics of the sample.

Characteristic	Category of Response	Per cent	Mean	Standard Deviation
Residence	Rural	71.3		
	Semi urban	4.2		
	Urban	24.5		
Age	Years since born	3	37.1	11.3
Parity	Number of children living		3.0	2.2
Occupation	Kind of work		4.1*	1.7
Other sources of Income	Any other occupation	29.2		
Education of Wife	Grades completed		1.7**	1.5
Respondent's Education	Grades completed		3.4***	2.3
Organizational Membership	Appointed to local body	15.2		
Headship of House	Himself as the head	74.1		

* Equals a little higher than cultivation of fifteen acres of land.
** Code 2 is literate but no schooling, 77 per cent were illiterates.
*** Code 3 is part primary (elementary); 38.6 per cent were illiterate

heads of their households. Where the husbands were not the head, the occupational status of the head was a little lower on the average. In the absence of a valid and standard occupational scale and in view of the predominance of farmers in the sample, the scale used in this analysis can not be defended.

In view of our knowledge of the country, the sample does not appear to be greatly biased, though there seems to be a slight tendency for the selection of the higher status persons to be included in the sample. This should not present a serious flaw, in view of the objectives of the study.

Media Exposure

Exposure to mass communication, in underdeveloped societies in general and the rural population in particular, is limited due to illiteracy and the availability of electricity, resulting in limited accessibility to media like newspapers, television, cinema, and radio. Only recently, transistor radios, still beyond the means of a common man, have been made available in the market.

Thirty-nine per cent of the respondents claimed they owned a radio, although some of the sets were not working at the time. For those not having a working set, 61 per cent mentioned having access to a public place for radio listening, the remaining 39 per cent of non-owners (which constituted 25 per cent of the total sample) had no access to a radio set.

Fifteen per cent mentioned subscribing to a newspaper, not necessarily a daily or even a regional weekly. An additional 34 per cent could read or listen to a newspaper at some other place in the locality. Thus, 51 per cent were without any newspaper exposure.

Only 40 per cent of the respondents had ever been to a movie. Ninety-four per cent traveled by a public bus, which could roughly be considered an indication of some degree of outside contact.

When viewed in the light of the fact that 25 per cent of the respondents came from urban areas, where exposure to mass communication is generally high, exposure of the rural population to mass media of communication was extremely low. It was the realization of this inadequacy of mass media to saturate the population that accent was laid on interpersonal communication in the family planning program of Pakistan.

Exposure to Family Planning Communication

Table 3 describes the exposure and the reaction of the interviewees to family planning information. Respondents were asked if they knew of any person in the locality who had adopted family planning. Thirty per cent said they knew such persons. Since 24 per cent were themselves practitioners, it seems that there is some communication between the practitioners. Possibly they knew each other's practice.

Seventy-four per cent of the respondents were aware of persons who urged others to adopt birth control. Of this number, 66 per cent identified the person as an employee of the family planning organization, 17 per cent mentioned the secretary of the union council, and 25 per cent the organizer. Only 3 per cent mentioned another villager as the motivator. This indicates that the stage of voluntary activity has not yet been reached. Since only 32 per cent admitted having met a worker, respondents seem to be only aware of the functionary, and persuasion has not reached a high level of activity among the workers. Personal contact is still sparse.

Asked to name the functionaries of the organization working in that area, 66 per cent could correctly name the FPO, and 63 per cent

Table 3. Communication behavior of the respondents

Media	Category of Response	Number	Per Cent
Radio	Owns a set	190	39.0
	Available at other places	188	38.6
	Listens at other places	107	22.0
Newspaper	Subscribes	113	23.2
	Available at other place	137	28.1
Cinema	Goes to watch	194	39.8
Bus	Travels by public bus	460	94.5

the organiser. The higher percentage of those who knew the FPO could possibly be due to the sample being all males. Had a female sample been included, it is likely that greater awareness could be found for the organisers, who contact wives. Forty-six per cent knew of a distribution agent, 33 per cent a clinic, and 15 per cent a doctor. Awareness of the functionary seems to have reached a high level in the short period of less than two years.

Ninety-four per cent had heard about the family planning innovation. Some 88.5 per cent of the sample had heard since the introduction of the new scheme. Only 5.5 per cent of the respondents knew about it before that. Thirty-nine per cent had attended a meeting where family planning was discussed, even though holding group meetings is not yet a characteristic feature of the program. Mass meetings on family planning are becoming popular.

Utilization of mass media for creating awareness can be gauged from the fact that 33 per cent of the respondents received some message on the subject of family planning through radio, 32 per cent through advertisements in the newspaper, 77 per cent through posters, 35 per cent through pamphlets, 14 per cent through bus panels and 26 per cent through advertisement on cinema slides.

Statistical Analysis

The coded data were comprised of 155 variables. Basic statistics with blanks on non-applicable items, were computed on the standard computer program available in the Stat Series of the MSU Agricultural Experiment Station.* Severl items had dichotomous distribution and in most of the items, the distribution was not normal. This could lead to a lower coefficient of correlation than could be obtained by using non-parametric statistics (34).

To explore the application of theory in more comprehensive concepts, five communication indices, described in Appendix A, were constructed by adding responses on several items related to a certain dimension of the behavior. The scope of the study does not justify assignment of weights to the items. Even in more sophisticated studies like that of Lerner (26) or Waisanen (53), the researchers did not consider such a step necessary.

For comparison between the channels, percentages have been used

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*Calculation of Basic Statistics when Missing Data is involved (The MDSTAT Routine), Stat Series Description No. 6, 1968.

to indicate the relative effectiveness.

Measures

The important independent variables were assigned numerical values on the basis of the responses on items related to the measure.

a. Residence

Localities were classified as rural, semi-urban, and urban. The respondents were coded as 1, 2, and 3, respectively, based on the place they lived at the time of interview.

b. Age

The age in years stated by a respondent was assigned a two-column field in analysis. The interviewers were instructed to help the respondents in calculating their ages by mentioning significant and historical events known in that area. The age distribution of the sample shows misstatement of ages, largely through a preference to certain digits (mostly 5 and 0 at upper ages).

c. Parity

Parity was measured by the number of children born to the respondent who were alive at the time of interview. This eliminated the need of questioning about the number of marriages or recalling the number of children born alive who had died. It was assumed that the number so stated was more meaningful for family planning, and more accurate, than recalling each pregnancy.

d. Occupation

The respondents were asked to describe the job they were doing

and, in the case of farmers, to mention the number of acres of land they farmed. Their statements were classified according to occupational scales. Most commonly used occupational scales in U.S.A. were utilized, with modifications as deemed necessary for the rural conditions of Pakistan. Eight categories were thus formed: (0) unemployed, (1) unspecified day worker, (2) unskilled laborers, (3) skilled workers, (4) farmer cultivating less than 5 acres, (5) farmers cultivating 5 acres or more, (6) small business and shopkeeper, (7) white-collar worker, (8) professional, including teacher.

e. Education

Each respondent was asked if he could read or write simple material in any language. If the answer was in the affirmative, he was asked to tell the grades in school he completed. A seven-point scale was designed as (1) illiterate, (2) literate no schooling, (3) part elementary, (4) completed elementary school (grade V), (5) part secondary, (6) completed secondary (7) college education.

f. Membership in Organization

To avoid undue inflation of data by including meaningless and nonfunctioning organizations, only the membership in the local bodies, or being recognized head of the village, including Lambadar (responsible for rent collection designated by the government; a high status position) were considered positive responses.

g. Head of the Household

In Pakistan, most often the oldest male member in the extended

family sharing a kitchen is considered the head of the household unit and has more authority in family decisions. The subjects were asked if they were the head.

h. Other Sources of Income

Respondents were asked if, besides the occupation stated earlier, they had some additional source of income.

i. Media Exposure

Media exposure was a composite score formed by the addition of scores on their duration of radio listening, frequency of newspaper reading or listening, and frequency of watching movies in the cinema.

j. Message Exposure

Message exposure was an index formed by adding the scores on exposure to family planning messages through various channels of communication media, including interpersonal.

k. Knowledge of Information Sources

Score on this index consisted of the sum of all the persons and places mentioned where information on family planning is available, namely functionaries, agents, doctors and clinics.

l. Discussion of Message

The respondent was asked if he discussed family planning information received through various channels with others. Affirmative responses were added to produce his score on this index.

m. Message Approval

For each item in which the respondent mentioned having been

exposed to family planning information, he was asked to state his opinion. These were summed to form the index.

A positive response on an item was given a score of 1, a negative response was coded as zero. On opinion questions, neutral responses were scored as 1, and favorable as 2. Details of the index formation are given in Appendix A.

CHAPTER IV

FINDINGS I: CHARACTERISTICS OF RESPONDENTS AND ADOPTION OF INNOVATION

Analyses of the data were designed to explore the application of the diffusion of innovation model, which asserts that over time, an innovation (family planning practice) will be adopted by the members of the social systems (married couples in Pakistan, represented in this study by males up to the age of 60 years in West Pakistan) through the communication channels (interpersonal visits with the functionaries of the department or change agents, local leaders, neighbors and relations, and messages through mass media--radio, newspaper, billboards, posters, pamphlets, bus panel, cinema slides and family planning films).

In this chapter the data about the characteristics of the respondents will be used to explore whether the correlates of family planning agree with the relationships observed in other diffusion studies.

Characteristics of Respondent and Media Exposure

As independent variables, demographic characteristics are invariably studied by the social scientists not only from theoretical interest but also for the promotion of a program of social change. The relationship between identifiable characteristics and a predisposition to intended change serves as a guidepost to the change agent in selecting his target. The measures of demographic characteristics, described in the previous chapter, were related to cognitive, motivational, and be-

havioral components as applied to family planning.

Table 4 describes the Pearson's product moment correlation (r) between the measures of respondent characteristics and the indices of

Table 4. Correlation between characteristics and indices.

Variable	Media Exposure	Message Exposure	Knowledge of Source	Message Approval	Message Discussion
Urbanity	.422***	.390***	.103*	.402***	.320***
Age	-.161***	-.126**	.045	-.070	-.072
Parity	-.108**	-.047	-.007	-.036	-.034
Occupation	-.003	-.069	-.047	-.032	-.030
Education	.641***	.676***	.299***	.672***	.520***
Wife's Education	.477***	.466***	.288***	.456***	.456***
Member Organization	.047	.169***	.045	.087	.106*
Head of Household	-.120**	-.040	.121**	.004	-.048
Number of Cases	487	487	487	487	487

* Significant at .05 level for 485 degrees of freedom.
** Significant at .01 level for 485 degree of freedom.
*** Significant at .001 level for 485 degree of freedom.

communication behavior. Media exposure (usually associated with modernity) should be expected to be related to personality characteristics indicative of modernity. The correlations of urbanity, respondent's education, and wife's education with media exposure were significantly high, .422, .641, and .477, respectively. The nature of the components

of this index should guarantee the association. In West Pakistan where newspapers, radio, and cinema are mostly available only in urban areas, and the literate population can make use of them, urban literate persons are more likely to be exposed to media.

Media exposure was not correlated with occupation and membership in organizations. Perhaps these measures were not valid indicators of social status.

Age, parity, and headship of the household were significantly but negatively correlated with media exposure; the r's were -.161, -.108, and -.102, respectively. It seems that persons who have lived longer in the social system, when there was not much availability of electronic and print media and when literacy was lower, did not feel inclined to develop the new tastes and new habits of the younger generation. The status hierarachy might additionally keep them away from involvements with the matters that are the center of interest of the newer generation and to whom the mass media caters in selecting the coverage.

Characteristics of Respondents and Message Exposure

Since several items contributing to this index were contingent upon mass media exposure, it is expected that the correlates of message exposures should be about the same as media exposure. This held true. Urbanity, husband's education, and wife's education were significantly related to message exposure, but generally to a lower degree than with media exposure.

Age was significantly but negatively related to message exposure as well. But parity and headship of household were not significant

even though the direction of relationship remained the same.

Occupation was also not related. Membership in organizations was significantly related to message exposure. Probably responsible persons are more exposed to interpersonal communication on family planning, by virtue of their positions which bring them into contact with workers.

Characteristics of Respondents and Knowledge of Information Sources

Knowledge of information sources was also significantly correlated with urbanity, education of the respondent, and his wife's education, the correlation coefficients being .103, .288, and .299, respectively, lower than the correlation of the variables exposure with mass media. Headship of the household was positively and significantly related with knowledge of information sources. Probably his position is that of the "gatekeeper."

Age, parity, occupation, and membership in organizations were only negligibly correlated to knowledge of information sources. Heterogeneity of the sources of informations have probably led to individual selection of the source suited to a person's situation rather than multiple-source selection.

Characteristics of Respondents and Message Approval

The scores on this index came from the approval of messages to which a person was exposed. Only when a person was exposed to family planning message, was he asked to express his opinion on the message. Urbanity, respondent's education and wife's education were significantly correlated with the approval of family planning messages, the r's being

.402, .672, and .456, respectively.

All other correlations were insignificant. Even if people do not adopt a practice, they do not seem to show disapproval of the campaign. Probably urban and educated people are in favor, and the older and more traditional do not much care and remain neutral.

Characteristics of Respondents and Message Discussion

The scores on an index of message discussion were also significantly related to the same three variables, urbanity, respondent's education, and wife's education. The values of r's in this case were .320, .520, and .456, respectively. At a lower level of statistical significance was the association with membership in organizations.

Age, parity, occupation, and headship of the household were all insignificantly though negatively correlated.

Summary of Correlates of Communication Indices

Residence, education of the respondent, and wife's education were significantly related with all five communication indices. Educated people living in urban areas are more likely to use mass media of communication, they listen to the family planning message, are aware where supplies and services and also advice on family planning can be obtained, they are in favor of family planning, and discuss the matter with others.

Occupation, generally considered the most reliable index of social status, was not related to any of the indices. This might be due to some flaw in the scale, or the preponderance of farmers in the sample. Maybe occupation has no significance for family planning as it

represents several aspects of personality influenced by education, income, heredity, and aspiration.

In some cases age, parity, and headship of the household were negatively correlated with the communication indexes. But for knowledge of information sources the relationship was different. They were aware of the sources in view of the relevance of the subject to them. The head of the household in a status-conscious society must know what is being discussed.

Membership in formal organizations has no consistent relationship. Respondents apparently are users of media and talk with others, but are not particularly interested in family planning matters.

Correlates of Adoption of Family Planning

In adoption of an innovation an individual undergoes a number of stages. In this study three items were included to explore this aspect of behavior. One was related to the time of hearing, another was concerned with the intention to adopt, and the third was the use of contraception. They purported to measure awareness and intention, decision-making, and implementation. Innovativeness is measured by the earliness of adoption in respect of these variables. In this section their association with the characteristics of respondents will be discussed.

1. Characteristics of Early Awareness

Respondents who had heard about family planning were divided into two groups: those having heard before the new scheme, and those hearing after the new scheme (after 1965). Table 5 shows the correlations between demographic characteristics and early awareness. Only two

Table 5. Correlations between characteristics of respondents and innovativeness.

Characteristics	Early Hearing	Early Intention	Early Practice
Urbanity	.004	.240**	.131
Age	.042	-.135	.003
Parity	-.038	-.100	.020
Occupation	-.018	-.008	-.045
Other Income	.009	.180	.296
Education	.211**	.337**	.197**
Education of Wife	.069	.396	.253**
Membership in Organization	.175	-.121	-.087
Head of Household	.078	-.241	.156
Indices			
Media Exposure	.093	.478**	.377**
Message Exposure	.108	.205**	.004
Knowledge of Information Sources	.010	-.080	-.200**
Message Approval	.074	.211	.085
Message Discussion	.051	.198**	.020

** Significant at .05 level for 114 degrees of freedom.

variables, education and membership in the formal organizations, were significantly correlated with the time of hearing, the value of r being .211 and .175, respectively. There was no significant correlation with any other variable, not even with urbanity and wife's education. It seems that educated persons, and those holding some responsible position knew of family planning before the new scheme was introduced. This early awareness could be due to emphasis on conventional contraceptives and their distribution through clinics and general hospitals. Among the communication indices only message exposure was significantly related to early awareness, the r being .108.

2. Characteristics of Early Intention

The respondents who practiced family planning were asked when they first considered adoption of the practice. This response was coded on a five-point scale. Zero order correlations between the responses about intention to adopt family planning and the demographic characteristics are shown in column 2, Table 5. Urbanity, education, wife's education, and supplementary source of income were positively related with intention at a statistically significant level, the coefficients being .240, .337, .396, and .180, respectively. It may be recalled that the same variables were associated with media exposure and message exposure.

Age ($r = -.135$), parity ($r = -.100$), membership in organization ($r = -.121$), and headship of the household were inversely but not significantly related to earliness in intention to adopt family planning. The younger and more educated considered practising family planning at

an early stage of the program.

Of the communication indices media exposure, message exposure, message approval, and message discussion were significantly related to earliness in intention, the correlations being .478, .205, .211, and .198, respectively. There was no significant relation with knowledge of sources. Apparently, change agents did not establish contact with the elderly persons who were less likely to adopt family planning in the early stages of the program.

3. Characteristics of Early Adoption

More important than awareness and intention, for practical purposes, is the practice of family planning. The statement about the time when the respondent first used a birth control method was categorized on innovativeness. This measure of innovativeness was correlated with the characteristics and the communication indices. The coefficients are shown in column 3 of Table 5. Correlations with urbanity, respondent's education, wife's education, other sources of income, and headship of household were above .10. Since the degrees of freedom in these cases is only 114, only income and education were statistically significant.

Media exposure and knowledge of information sources were both significantly correlated with innovativeness; the other correlations were not significant.

It seems that educated persons with educated wives and who are better-off financially are early in adoption of family planning. They are the persons who use mass media and know the sources of information supplies and services. They were early in awareness, decision making,

and practice.

Even though highly relevant to older persons and those with high parity, family planning does not seem to have its first impact on them. The mobile and the educated who have been identified as more modern are first to internalize the practice of birth control. Family planning, therefore, seems to be an indicator of modernization. Those who are more amenable to discarding traditional behavior are more likely to adopt family planning.

However, as shown in Table 6, if we take into consideration only the adoption of family planning innovations, regardless of the time of first use, and compare adopters with non-adopters, parity becomes significantly correlated with practice, the value of r in this case is .276. But correlation with respondent's education, wife's education, and media exposure become statistically insignificant.

It seems that after the more modern members of the community accept the innovation, family planning, due to its relevance to the high parity couples, is more acceptable to persons with a larger number of living children. The new scheme with its emphasis on clinical contraceptives, intensive interpersonal communication, and availability of supplies and services cheaply and conveniently, has greater appeal for such persons.

Selection of Contraceptive for Adoption

Problems associated with the use of methods of contraception are significant factors in the adoption and diffusion of family planning practices, due to socio-cultural as well as medical factors.

Table 6. Correlations between characteristics and adoption behavior

Characteristics	Awareness	Adoption
Urbanity	.030	.071
Age	.007	.003
Parity	.068	.276**
Occupation	-.018	-.045
Other Income	.076	.073
Education	.213**	.154
Education of Wife	.116**	.140
Membership in Organization	-.087	.011
Position in house	.001	.058
Indices		
Media Exposure	.251**	.152
Message Exposure	.233**	.308**
Knowledge of Information Sources	.322**	.275**
Message Approval	.294**	.279**
Message Discussion	.195**	.257**

** Significant at .05 level, for 114 degrees of freedom.

The nature of birth control devices set limitations on their acceptance.

In this study, those who said they were practising family planning were asked to mention the method used. Table 7 shows the correlates

Table 7. Correlation between respondent characteristics and method used.

Characteristic	Condom	Foam	IUD	Sterilization	Others
Urbanity	.085	.028	-.165	.136	.196*
Age	-.134	-.218	.103	.147	-.038
Parity	-.057	-.039	.147	-.044	.114
Occupation	-.032	-.059	-.102	-.139	.125
Other Income	.059	.057	-.194*	.051	-.018
Education	.006	-.017	-.273*	-.079	.277*
Education of Wife	.110	.055	-.038	.154	.240*
Membership in Organization	.174	-.062	-.123	.042	-.058
Head of Household	.010	.007	.215*	.048	-.258*
Indices					
Media Exposure	.064	.111	-.249*	.019	.219*
Message Exposure	.045	.103	-.201*	-.086	.154
Knowledge of Information Sources	.087	.132	-.055	-.211*	-.108
Message Approval	.039	.020	-.192*	-.033	.089
Message Discussion	-.055	.080	-.105	-.044	.173

* Significant at .05 level for 114 degrees of freedom.

of the adoption of selected methods. To avoid the numbersomeness of the table, the correlation with some of the variables mentioned in the text is not shown in the table.

Use of condoms was related to membership in the organization and to no other characteristics of the respondents. Neither was it related to any of the communication indices. It was, however, related to individual items of the communication indices. For example, although not significantly correlated with the knowledge of information sources index, it was significantly correlated ($r = .345$) with knowledge of the motivator. Similarly, though there was no significant correlation with media exposure, the use of condom as a contraceptive was significantly correlated with use of newspaper ($r = .191$) and radio ($r = .182$).

Acceptance of IUD seem to show a different syndrome. It is negatively but significantly correlated with media exposure ($r = -.249$), with message exposure ($r = -.201$) and message approval ($r = -.192$). Correlation with other communication indices was negative but not significant. Status characteristics, education, occupation, membership in the organization, and ownership of radio all had negative correlation. But the correlation was significant only for education.

Foam preparations were used by persons in the status categories. Use of this birth control method was negatively but significantly related to age ($r = -.218$), and positively but insignificantly related to media exposure (.111), message exposure (.103), and knowledge of sources (.132).

The use of other methods was significantly correlated with education ($r = .277$), with wife's education ($r = .240$), knowledge of family planning officer ($r = .223$), knowledge of doctor ($r = .270$). Of the communication indices, media exposure was correlated significantly with the use of such methods ($r = .219$).

Apparently, younger and higher status people like to use condoms

and oral pills, which are safe and convenient methods without much side-effects. But for lower status people higher parity older couples in rural areas IUD offers greater promise. The rumors about the side-effects of IUD may prevent higher status persons from using it.

CHAPTER V

FINDINGS II: RELATIVE EFFECTS OF CHANNELS

It was beyond the scope of the study to exercise control over the content or the form of the messages of family planning carried through various channels of communication. For the purpose of this study, it will be assumed that the best use of the channels was made and that the messages were comparable in broad outline. In view of the limitations and the constraints of media use, percentages will be used for comparisons. Hence comparisons will be made between the proportions or percentage of persons exposed to family planning messages to those who were exposed to the particular medium. Similarly those approving or discussing the topic to those who were exposed to it will be compared.

Relative Exposure to Messages over Channels

Table 8 describes the differential use of various communication channels. Figures in column 1 and 2 show the number and percent of the sample who were exposed to the medium. Thus 309 (64 per cent) listen to radio, 199 (41 per cent) read the newspaper or it was read to them, 460 (95 per cent) travel in a bus, and 194 (40 per cent) have seen cinema films. Aside from bus riding, which is almost universally used as public transport, radio seems to be most commonly available channel as a medium of publicity. No measure could be obtained of the possibility of exposure to other media used for spread of family planning message. For example, it cannot be known how many persons could see the posters or

Table 8. Relative exposure to family planning messages through various channels.

Channel	Media Exposure N	Media Exposure %	Message Exposure N	Message Exposure %	Relative Effectiveness % of Media Exposure
Radio	309	63.5	160	32.9	52.3
Newspaper	199	40.9			
Articles***			131	26.9	65.8
Advertising			158	32.4	79.4
Bus Panel	460	94.4	69	14.2	14.8
Cinema	194	39.8			
Advertising			125	25.7	63.1
Slides			122	25.0	61.6
Films**			39	8.0	9.8
Poster			375	77.0	
Pamphlet			169	34.7	
Attending Meeting			297	61.1	
Contact with Change Agent*	367	74.3	158	32.4	43.1

* Awareness of a person who induces people to adopt family planning.
** Does not necessarily mean that the films were watched in a cinema house.
*** Could be any informative material.

billboards displayed in market place, public buildings, highways, etc.

Not all persons with access to a communication medium would be exposed to content related to family planning. Possibly, some areas did not utilize a particular medium for program publicity. There might, for example, be districts which did not put out any bus panels. Films have not been exhibited in most of the areas, due to non-availability of audio-

visual vans. The number of respondents who said that they heard a message on family planning over a channel can be viewed as a percentage of the total sample, or the percentage of those exposed to the medium concerned.

Both frequencies and percentages are shown for each medium. In Table 8 the largest percentage of the sample (77 per cent) had been exposed to posters (the local term includes billsboards in the category). Next was the percentage of people who had attended a meeting where family planning was the topic. The interview schedule did not allow for probes, but judging from the experiences of the program, it is not likely that group discussions have become so widespread. Most probably these meetings were mass gatherings where some officials or public representatives made a plea for the adoption of family planning. The president of Pakistan has urged government officials to include the topic in their public utterances. The smallest percentage of the sample (8 per cent) saw a film on family planning. Radio, newspapers, advertisements, and pamphlets reached about 30 per cent of the sample.

When measured as the proportion of those who had access to the medium concerned, the adjusted percentage shifts in favor of the newspaper, as 66 per cent of those using newspaper had heard or read family planning content in them. Advertisements in the newspaper reached 63 per cent of the readers. Cinema slides and cinema advertisements were seen by 62 per cent and 63 per cent, respectively. Bus panels and cinema films remain at the bottom of the list, since 15 per cent of the travelers and 10 per cent of the cinema-goers were exposed to family planning theme.

A tentative generalization is that posters and mass meetings have been most instrumental in creating awareness. But for those who have access to the electronic and print media, these channels have great potentiality for creating awareness.

Media Overlap

The overlap between segments of the population exposed to different media should not be ignored. In Table 9, the zero order intercorrelations between exposure to various media are presented as indicators of overlap.

Meeting with a family planning worker is negatively correlated with listening to radio, seeing an advertisement in the cinema, and watching a slide on the screen. No other negative correlations were found. These media are more common in urban areas, while contact with the change agent is more characteristic of rural life. In general, there is low correlation between interpersonal communication and the mass media.

A notable exception to the above finding is the correlation between seeing a pamphlet and attending meetings. The correlation coefficient in this case is .346. Probably the general practice of handing out pamphlets at meetings could account for this correlation. There is also the likelihood of the operation of selective factors as the more educated and prominent members of the community receive pamphlets and attend meetings.

Correlations between the mass communication media were in the neighborhood of .30, which is not very high. This low correlation in-

Table 9. Intercorrelation between message exposure from channels.

Channels	1	2	3	4	5	6	7	8	9	10	11
1. Motivator											
2. Meeting	.209										
3. Radio	-.146	.177									
4. Newspaper	.146	.109	.296								
5. Advertisement	.074	.141	.307	.458							
6. Poster	.098	.172	.249	.087	.297						
7. Pamphlet	.141	.346	.306	.266	.350	.288					
8. Bus Panel	.108	.053	.111	.170	.304	.164	.135				
9. Cinema Advertisement	-.222	.103	.369	.143	.216	.272	.263	.065			
10. Slides	-.236	.097	.278	.225	.261	.262	.267	.032	.602		
11. Film	.008	.101	.140	.139	.125	.125	.158	.079	.025	.039	
Media Exposure Index	.377	.297	.370	.624	.695	.575	.658	.441	.539	.585	.317

r = .09 is significant at .05 level for 485 degrees of freedom.

dicate selective factors. There could be a common factor contributing to the variances in all the channels. An indication of this possibility is the high correlation of all the mass media with pamphlet exposure, and of the media exposure index as well (.658).

The two interpersonal channels, meeting the family planning worker (motivator) and attending meetings, were not highly correlated (.209). This seems to indicate that these meetings were not called by the motivators.

Relative Approval of Messages Through Channels

In addition to the comparison among exposures, relative effectiveness or potentiality can be judged from the proportion of the audience who approve of the messages through different channels. This is shown in Table 10 which gives the percentages of persons who said they were favorable, unfavorable to the message, or expressed no opinion. It is somewhat observed that, as a matter of courtesy, people do not express unfavorable opinions to the interviewer if he belongs to the organizers. Rather they take a neutral position even if they are mildly unfavorable.

Ninety percent of those attending meetings approved of the discussion. If we assume, as was discussed earlier, that these meetings were not sponsored by the family planning organization, there is less likelihood of selective attendance.

Approval of the content of the posters and the advertisements were next in getting approval with 78 per cent and 72 per cent of those seeing them indicating approval. But when asked about psoters as a medium of publicity, only 24 per cent approved and the rest took a

Table 10. Opinion of family planning messages heard through various media channels.

Channel	Number	Favorable	No Opinion	Unfavorable
Radio	208	67.3%	32.7%	--%
Newspaper	199	58.3	39.7	2.0
Advertisement	164	72.0	28.0	--
Poster	375			
Content		77.7	21.3	6.7
Method		23.6	72.4	4.0
Bus Panel	109	33.0	52.3	14.7
Slides	122	56.1	45.9	--
Films	39	71.8	28.2	--
Meetings	186	90.9	9.1	--

neutral position. Although only a small number (39) had seen film, 72 per cent approved it. Least approved was the bus panel as only 36 per cent of those who saw one approved it.

A large percentage of favorable responses and very few firm disapprovals can be seen as a demonstration of generally favorable climate of opinion existing in the country in regard to family planning publicity.

Relative Persuasive Effect of Messages Through Channels

An item was included to tap behavior subsequent to exposure. The reliability of such responses cannot be judged. However, it does provide

a crude measure of the differences. Table 11 presents the stated responses of the people to the items. To facilitate visual comparison, percentages of people are given by the type of action supposedly taken. In most of the cases the action involved expressing interest or visiting a functionary of family planning.

Least action was reported after watching a cinema slide. Only two persons (1.6 per cent) mentioned some action; otherwise 98.4 per cent were not influenced at all. Similarly about 90 per cent did not take any action after exposure to poster. Most action was reported after seeing an advertisement in newspaper, 22 per cent only expressed interest, 30 per cent visited some functionary, and 2 per cent even started the practice. Newspaper articles aroused interest in 42 per cent and 5 per cent went beyond this stage. Meetings do not seem to be very effective in this respect, probably because family planning was incidentally mentioned and not the theme of the meeting.

Without consideration of statistical significance, it can be inferred that radio and newspaper are most likely to lead to some action in comparison to other media. Posters, which were so often mentioned for exposure, do not lead to action. Bus panels and cinema slides also seem to be less influential for action.

Interpersonal communication was not comparable to other channels of communication in this respect, as the schedule did not contain comparable items. Meetings were not conducted specifically for the purpose of discussing family planning, and individual contacts were not probed about action and approval. The indirect evidence from opinion leadership points out the importance of interpersonal contacts of a multi-

Table 11. Action subsequent to exposure to message over channels.

Channel	Number	No Action	Expressed Interest	Visited Functionary	Visited Clinic	Started Practice
Radio	213	68.5%	12.7%	17.8%	.5%	2.5%
Newspaper	199	53.5	41.5	--	4.5	.5
Advertisement	163	47.9	22.1	29.5	--	1.6
Poster	375	90.4	7.2	2.1	--	.3
Bus Panel	69	83.3	16.7	--	--	--
Cinema Slides	122	98.4	.6	--	--	--
Films	64	81.3	10.9	4.7	1.6	1.6
Meeting	186	73.0	27.0	--	--	--

step nature.

Opinion Leadership

Even though the schedule composition precluded a firm finding regarding the effect of interpersonal communication on the adoption of family planning, analyses of certain items show the persuasive effect of personal contact. The two-step flow of communication hypothesis asserts that mass media messages pass through opinion leaders to followers and have little direct persuasive effect. The role of opinion leaders in persuasive communication is given high consideration in diffusion research.

There are several techniques that have been used to identify opinion leaders. The scope of the present study permitted only self-designation as a measure of opinion leadership. The subjects were simply asked to mention if they were sought out for advice by some other members of the social system. An affirmative answer designated the respondent as opinion leader. They were also asked if they sought advice from others; if so, they were considered followers for the purpose of the analysis. The schedule did not include any probe items, or any other device to check the reliability of their responses. It could not be possible to ascertain the name or identity of the persons contacted. Hence those who sought advice would be called followers, while those respondents from whom opinion was sought will be labeled opinion leaders.

Of the 116 respondents who were practising birth control, 50 (34 per cent) claimed to have been sought out for advice by others, while only half the number, 25 (17 per cent) sought advice. Probably in

a traditional society where advice-giving is considered prestigious but seeking it not a matter of pride, the former might be inflated and the latter might be deflated.

As shown in Table 12 none of the demographic characteristics were significantly correlated with opinion leadership. Urbanity, education, and wife's education were positively correlated, and age and occupation were negatively correlated with opinion leadership with values of r above .10, not statistically significant.

Three of the five communication indices, media exposure, message exposure, and message discussion, were significantly correlated with advice-giving. Information source awareness was not related to opinion leadership. Message approval was correlated but not significantly ($r = .161$).

Followership

Like the question on advice-giving, an advice-seeking item was also used in interviewing the practitioners only, even though the possibility of communication of opinions without leading to adoption cannot be ruled out. However, in this study non-adopting leaders or followers were neglected.

Education of the wife was the only characteristic haiving significant correlation with followership ($r = .224$). It could signify that educated women urge their husbands to consult others before adopting the practice.

The same three indices which were significantly correlated with opinion leadership (namely, media exposure, message exposure, and

Table 12. Correlates of opinion leadership and followership.

Characteristics	Opinion Leadership r	Followership r
Urbanity	.152	.167
Age	-.158	-.058
Occupation	-.120	-.046
Education	.105	.162
Education of Wife	.164	.224*
Indices		
Media Exposure	.227*	.216*
Message Exposure	.247*	.228*
Knowledge of Information Sources	--	.164
Message Approval	.161	.184
Message Discussion	.220*	.220*

* Significant at .05 level for 114 degrees of freedom.

message discussion were significantly correlated with followership as well. The other two were correlated above .15, but did not attain a level of statistical significance.

It seems difficult to identify a characteristic which could differentiate between the opinion leaders and the followers, at least so far as the self-designated label is used in this study. Those who had sought advice from others and whose wives are educated should be more competent and hence sought after by others.

Advice Sources

Of the small number of persons who said they sought advice from others before the adoption of family planning, one sought advice from a family planning organizer (Dai), one from a doctor, three from employees, three from some relatives, while 17 (65 per cent) referred to some friends or neighbors. Even with such small numbers, this finding concurs with other studies on diffusion of innovations, which show that people seek advice from their close confidees.

It seems safe to conclude from this study that there are no distinctive characteristics of opinion leaders of family planning, compared with early followers. However opinion seeking is from close confidees.

CHAPTER VI

SUMMARY AND CONCLUSIONS

Summary

Studies on diffusion have demonstrated the need and importance of the development of middle range theories as well as the value of such theories for organizing a program of gradual and directed social change. The program of family planning in Pakistan has been assigned a very high priority among its development plans in recognition of the role of the rate of population growth in economic development. The program under the new scheme was started in late 1965. After a year of implementation, a need was felt to assess the impact of communication strategy. The present investigation is an outcome of such a venture by the National Research Institute of Family Planning at Karachi, under the sponsorship of the Central Family Planning Council.

A stratified sample of 487 married males, up to the age of sixty years from six of the program districts in four regions of West Pakistan, was randomly drawn and interviewed by a team of specially recruited and appropriately trained interviewers on a structured interview schedule in the middle of 1967. The schedule included items on demographic characteristics of the respondents, their communication behavior, their exposure to family planning information, their awareness of the workers, and awareness, intention, to adopt and adoption of family planning

practices. Some of the data from the study were used to explore the application of the diffusion framework in the adoption of birth control practices.

Statistical treatment of the data included calculation of percentages, means, standard deviations, and product-moment coefficients of correlation. For composite scores on six variables, indices were constructed by summating scores on individual items on particular aspects of behavior. The indices were exposure to mass media, exposure to messages on family planning received through the channels, approval of messages, and actions following exposure. Another index related to knowledge of sources of information, supplies, and services.

Characteristics of the sample do not indicate any serious bias in respect to education, occupation, social status, age, and parity, although some contamination would normally be expected in such studies where individuals are selected on a loosely defined criterion and a priori listing does not exist.

If the assumptions of randomness and representative character of the sample are accepted, the data show a very high level of awareness about family planning program in Pakistan. About three-fourths of the respondents were aware of family planning workers. Although the theme of family planning has presumably been carried over the mass media only for about a year, those who have had access to media show a substantial amount of exposure to the subject.

Hearing about family planning was reported by about 95 per cent of the respondents, overwhelmingly since the introduction of the new scheme. About 25 per cent of the subjects were, at the time of the

interview, practising some method for pregnancy prevention. There must be a certain percentage of the population who had tried and discontinued the practice for some personal reasons, which would mean that a substantial proportion of the population has already been induced to use contraceptive methods. In view of the target of inducing all fertile couples to practice family planning during the five-year period, this achievement is certainly flattering. The initial period in all development programs is characterized by slow acceptance. In terms of the diffusion model, the period has been reached when the majority will adopt, leading to acceleration of the acceptance rate.

Demographic characteristics associated with media exposure, innovativeness, and opinion leadership were urbanity, education of the respondents, wife's education, and to a lesser degree, membership in formal organizations. The same characteristics have generally been recognized as indicators of modernity in other studies. Family planning, therefore, can justifiably be considered as an index of modernization of rural and less developed countries. All the indices constructed for the purpose of this study were correlated with urbanity, respondent's education, and wife's education.

Age, parity, and occupation were either not significantly correlated, or correlated negatively, with the communication indices as well as with the cognitive, attitudinal, and action component of communication and adoption behavior.

Early hearing of the innovation was related to education, and membership in the organizations, urbanity, education, wife's education, and supplementary sources of income were correlated with early intention

to practice as well as early use of contraceptives. Early practitioners were exposed to mass media, but did not know the family planning workers; probably the category did not exist at that time.

More persons designated themselves as opinion leaders whom others consulted for advice, than the number who were labeled as followers and sought others' advice prior to adoption. Both groups were similar in demographic characteristics; better education, educated wife and urban residence. They were exposed to mass media, received family planning messages through several channels and talked about them with others. It was probably a two-way communication between them, within the existing network of communication relationship. Advice was generally sought from friends and neighbors rather than from relations or change agents.

More than three-fourths of the subjects had seen family planning posters, and more than sixty percent attended a meeting where the matter was discussed, but most likely not under the sponsorship of the organization. Films were watched least, and bus panels were seen by a small proportion of the sample. Those reporting meeting with a worker were less likely to be exposed to mass media. Most of the respondents either approved of the family planning messages or remained neutral.

Action following exposure to messages was mostly confined to expression of interest and, to some extent, visiting the change agent, probably for additional information. Most influential in this regard were newspapers, and least effective, cinema slides and posters. There was an overlap in channel exposure as judged by the intercorrelations, pamphlet exposure seemed to be most commonly related to others.

Selection of specific methods of contraception was related to

the characteristics of the individuals, even though statistical significance was not attained due to the small number of practitioners. Use of condoms was associated with membership in organizations, knowledge of middle level worker, and exposure to the mass media. It was negatively correlated with age and the education of wife.

Rural residents who were less educated, and lower in social status and power were more likely to use IUD. They tend to be older, of high parity, and likely the head of the household.

Foam preparations were used by comparatively younger persons who were exposed to mass media as well as interpersonal channels. The oral pill, in the miscellaneous methods, seemed to be popular with higher status persons in urban areas.

Limitations of the Study

The findings of the study are only tentative and indicative. The limited time and resources at the disposal of the researcher did not allow more intensive investigation or sophisticated analyses.

The linguistic diversities, the differential implementation of the provisions of the program by the districts, and the variations in the interviewing conditions might have reflected regional bias which when merged together might have influenced the findings. Non-inclusion of women in the sample due to problems of interviewing must place limitation to the generality of the findings in view of the relevance of family planning to females as well as males.

The scales were constructed without any valid data from the local areas and reflected Western experiences with assumed similarity.

Indices were constructed on assumptions, and the validity or propriety of summation and equal weights to individual items cannot be defended. However, intercorrelations seem to justify the step on internal consistency grounds.

Self-designated opinion leadership without probe can hardly be trusted in traditional societies. The scope of the study could not permit deeper probe, nor was there any other way of seeking reliability of the response.

Interpersonal communications could probably be more thoroughly investigated, in the absence of which comparison of channel effectiveness has some shortcomings.

There were no measures of reliability. How much trust can be placed in the interviewers in regard to their field work, or the accuracy of their record of response after translation, or how accurate the respondents were in making responses can hardly be judged. Absence of any post survey reinterviewing gave no alternative but to accept the recorded responses.

The study was designed for a different purpose and the use of data was made to fit another framework. This restricted the thoroughness of the investigation and broadened the scope of the study. Generally the sampling frame of diffusion research is different from the present one. How much the sample can be considered representative of the communities is not known.

Recommendations for Action

A few suggestions for outlining a communication strategy stemming from the findings of this study can be made for the promoters of

family planning programs.

1. The awareness of the program and of the functionaries has reached a satisfactory level. The focus of communication should be shifted from creation of awareness, legitimization, and creation of favorable climate of opinion. An intensive program of education and motivation should be the avowed aim of communication.

2. Localite sources seem to have been overlooked. Communication networks existing in the local communities should be utilized. The aim should be to develop a state of informal exchanges between the villagers. Local leadership and voluntary groups should share greater responsibilities for giving popularity to the program.

3. It seems that the functionaries of the department have not established contacts with opinion leaders of the communities. They should be able to identify them and use them to their purpose.

4. Those channels of communication should be employed which can give more intensive coverage. Radio and newspapers can be utilized for education, rather than display materials like posters, billboards, and bus panels which have served their purpose. Of course, in new districts there is a place for these media.

5. There is a need of a greater amount of policy direction on the use of communication channels. Experimentations should be made in combining, in a judicious way, various channels of interpersonal and mass communication.

6. The middle segment of the population, i.e., the early and late majority, should be the target of communication messages. Users of contraceptives should be taken into confidence for diffusion of the

practice.

7. For success of continued adoption and internalization of the practice, a mechanism to provide reinforcement to the users should be developed. Follow-ups and continuing contacts with the adopters are necessary.

8. The functionaries involved should receive intensive training and periodic refresher courses to outline and decide communication strategies appropriate for the communities and the period.

Needed Future Research

1. Family planning research seems to be catching more and more the fancy of the researchers belonging to a wide variety of traditions and disciplines and having varied experiences. For a social scientist, communication aspects of the program seem to offer a fertile ground. This study points out the need of more intensive and focussed investigations.

2. The data deserve more careful, sophisticated and multivariate analyses which could not be pursued due to lack of time and resources.

3. Confirmations of the findings should be obtained through more standardized research designs and sampling techniques. For this purpose, the scope and the objectives could be limited but more focussed; intensive interviewing with measures to check reliabilities are needed.

4. Greater care should be taken to investigate interpersonal communication, their nature, scope, and effectiveness. It should be conducted in such a way as to find out the network of communications existing in the local communities with a view to making use of them for

diffusion of innovations.

5. Comparative studies of males and females (more appropriately, a husband and wife pair) should be made. Besides providing a check for reliability of responses, this can help in studying the communication on family planning and decision making between husband and wife. Little is known, though guesses are abundant, about such behavior in less modernized societies.

6. Studies on opinion leadership, the concept of homophily in opinion leadership, and the monomorphy of the leadership is needed. We should attempt to develop a more valid measure of opinion leadership. It is to be conclusively established under what conditions the same persons are opinion leaders on a wide variety of innovations and under what conditions they are particularistic.

7. This study could not find a confirmation of correlates of innovativeness found in other studies. Future studies can confirm the universality of such generalizations over cultures and over innovations.

8. Comparative studies on communities at different stages of modernization can be made to relate the system variables to individual variables.

9. The perception by the members of the social system about family planning as an idea and about individual contraceptives should be studied in future studies as variables accelerating or retarding the process of change.

10. Studies could be conducted to seek the level of frank discussions about the subject of family planning in the communities as a whole, between the sexes (not husband and wife), between the age-groups,

between different status persons, between relatives and friends, and with the change agent.

11. Research on feedback and reinforcement for continued use, for discontinuance, and continuation after a period of discontinuation, is urgently needed. A change agent is seldom found interested in maintaining contacts after initial adoption.

12. The consequences of adoption of family planning by the social system and by the individuals need investigation. How the change in the reproductive behavior will influence adjustments in other spheres of life should be considered.

13. Experimental studies under field condtions should be started, controlling variables by design. Family planning offers most promise in this respect, especially in underdeveloped and transitional societies where supplies, services, and information are under substantial control of the authorities.

14. Influence of message and source variability should be investigated in field or in laboratory experiments.

Conclusions

This study was conducted to apply the diffusion of innovation model to family planning communication in Pakistan. The sampling procedure followed was not the one traditionally followed in diffusion research. The findings have been reported at various places. It seems that the model was not applicable in detail if the findings of the study can be relied upon.

While discussing the characteristics of the adopters, it was

found that characteristics generally associated with early adopters were not corroborated in this study. Neither education, wife's education, or even urbanity were associated with the communicative and adoption behavior. But the social status characteristics, occupation, membership in organization, and headship of the household were not related. Possibly, what is true in agricultural innovations may not be true in family planning. The characteristics associated with acceptance and approval are generally indicators of modernity. We cannot conclusively establish that family planning follows or precedes modernization, but it appears to be a concomitant factor, given the information and opportunity to adopt. The specific nature of family planning innovation making it more relevant to older and high parity persons, and the restriction of free communication on the subject in a traditional society, places it at a different plane than other innovations.

The failure of the earlier programs in Pakistan for popularizing birth control could partly be accounted for by the neglect to consider the peculiarity of this practice. Hence, after an initial period of acceptance by better status persons, the persons who have larger numbers of children and are therefore likely to be older, adopt the practice, producing a curvilinear distribution and relation with characteristics, not found among the innovators.

Personal influence seems to be more significant in adoption of family planning than in other areas. The confidence placed in the user who is a trusted friend is what would be expected. But one cannot be sure to what extent such friends are identifiable as opinion leaders.

The study fails to find any distinctive characteristic for those

who claimed to have been sought for advice. It is hardly evident whether the same person was sought by several persons or only a few.

The family planning program of Pakistan presents a special feature inasmuch as the massive communication campaign being employed, including interpersonal as well as mass media, started only recently. If the adopters are plotted on a time dimension, the ogive shows a sharp rise. But the rate of monthly acceptance shows almost constant growth. There is no conclusive evidence that interaction is developing rapidly.

The role of change agent in the family planning program also assumes a different character, inasmuch as the family planning organizer belongs to the locality. She has been the confidee of village women in matters related to pregnancy and child birth. Having a competence in the area, her appeal cannot be ignored, especially in regard to the acceptance of IUD by the illiterate village women.

The general findings about mass media seem to hold true for this study. Awareness was created by mass media, but the reported effect was very small. Interpersonal influences were mentioned as effecting action. Similarly, it was found that the choice of method has its correlates. In summary it can be tentatively asserted that, with all its limitations, this study seems to indicate that family planning is a special type of innovation and is more associated with the models of modernization than the spread of an innovation isolated from the general state of the society.

The appeals for adoption would probably be more effective if they were in line with the aspirations for modernization. The scope of the study did not permit more general conclusions.

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APPENDICIES

APPENDIX A

INDEX CONSTRUCTION

The primary motive in the design and the sponsorship of the study of which the present investigation forms a part was to assess the impact of publicity campaigns pursued through the use of various media of communication. Hence a number of items identical or similar in content were included in several sections each related to a particular medium. To facilitate the analysis, to get a widespread range in the scores and to have a composite score, it was considered appropriate to develop some index of a dimension of research. The common findings of research about a correlation between various channel and message exposure justified this decision. The exploratory nature of the study did not seem to demand an assignment of weights to channels.

On examining the interview schedule, it was obvious that at least five communication indices could be constructed. They were (1) exposure to media of communication; (2) exposure to family planning messages received over all the channels; (3) knowledge of family planning workers or the source of supplies and services associated with the program; (4) opinion about the messages heard over different channels; and (5) talking to others about family planning messages when exposed to them. There were two other items for all the channels which could probably be added for construction of an index, one relating to hearing from others, and the other relating to the action component of behavior

subsequent to channel exposure. However, when considering dimension of behavior covered, the rationale behind the items, and the possible interpretation, it was not deemed appropriate to combine them. For example, what would be the meaning of the fact that a person was more often talked to about the message. Should he be considered a leader or a follower? Similarly, what of the person who more often expressed interest or visited the functionary after hearing messages from different sources?

The five communication indices so constructed are as follows:

1. Media Exposure: A score for an individual based on number of channels of communication used. The index was a composite formed by adding a person's score on seven items related to radio, newspaper, cinema, the variables number being 16 (possessing a radio that was in working condition), 22 (listening to radio at some other place), 26 (reading newspaper subscribed by him), 28 (reading newspaper at some other place), 107 (number of hours radio listened in all), 118 (frequency of reading newspaper or its being read over to him), 145 (frequency of going to watch a movie).

2. Message Exposure: The score obtained by an individual by adding his responses about hearing family planning messages over various channels. Ten items constituted the index: 52 (participation in meeting), 53 (meeting a family planning worker), 114 (listening to family planning over radio), 119 (reading family planning in newspaper), 124 (seeing a family planning advertisement), 130 (seeing a poster), 137 (seeing a

pamphlet on family planning), 140 (seeing a bus panel on the topic), 146 (seeing an advertisement in picture-house), 147 (watching a cinema slide on the topic), and 152 (watching a family planning film.

3. Knowledge of Information Sources: Scores on correct responses of knowledge of sources of information and services were added. They related to variable number 44(practitioner), 48 (motivator), 58 (organizer), 59 (Union Council Secretary), 60 (Family Planning Officer), 61 (Family Planning Doctor), 62 (Distribution Agent), and 63 (F. P. Clinic).

4. Message Approval: Scores on items relating to the favorable (2) to unfavorable (0) reaction to the messages received. There were eight such items: 117 (radio), 122 (newspaper), 128 (advertisement), 131 (poster), 135 (purpose of poster), 143 (bus panel), 148 (cinema advertisement), and 154 (films).

5. Message Discussion: A score obtained by adding positive responses regarding talking about the message. This was made up of five items relating to: 115 (radio), 121 (newspaper), 125 (newspaper advertisement), 132 (poster), and 149 (cinema advertisement).

Correlations between Index-Item are reproduced in Table 13. Table 14 shows the intercorrelations between the scores on the five indices so constructed.

Table 13. Item-total correlations of communication indices.

Media Exposure		Message Exposure		Message Approval		Message Discussion		Knowledge of Information Sources	
Variable Number*	r	Variable Number*	r	Variable Number*	r	Variable Number*	r	Variable Number*	r
16	.314	52	.297	117	.230	115	.759	44	.415
22	.547	53	.377	122	.705	121	.766	48	.556
26	.323	111	.624	128	.501	125	.703	58	.335
28	.572	124	.695	131	.437	132	.713	59	.223
107	.482	130	.575	135	.348	149	.404	60	.344
118	.672	137	.658	148	.411			61	.349
145	.611	140	.441	154	.624			62	.700
		146	.539					63	.556
		147	.585						
		152	.317						

* Radio Variables 16, 22, 107, 111, 115, 117
Newspaper Variables 26, 28, 118, 131, 122, 124, 125, 128
Cinema Variables 145, 146, 147, 148, 149, 152, 154
Bus Panel Variables 140, 143
Poster Variables 130, 131, 132, 135
Pamphlet Variables 137
Interpersonal Variables 44, 48, 52, 53, 58, 59, 60, 61, 62, 63

Table 14. Intercorrelations between the indices.

Name of Index	Media Exposure	Message Exposure	Knowledge of Information Sources	Message Approval	Message Discussion
No.	156	157	158	159	160
Media Exposure	--				
Message Exposure	.676				
Knowledge of Information Sources	.305	.518			
Message Approval	.702	.856	.463		
Message Discussion	.515	.763	.452	.783	
Mean	3.632	2.852	4.000	5.248	1.088
S.D.	2.856	2.392	2.450	3.981	1.386
N	487	487	487	487	487

APPENDIX B

INTERVIEW SCHEDULE (TRANSLATION)

National Research Institute of Family Planning, Karachi Interview Schedule for Family Planning Communication Survey

I. IDENTIFICATION:

1. Name .....
2. Father's name .....
3. Residence .....
4. Age (in years) .....
5. Are you (a) married and living with your wife?.....
   (Check one) (b) married not living with your wife?.....
   (c) widowed?.....
   (d) unmarried?.....

5A (for a, b, and c) How many of your children are living? .....

6. What is your occupation? .....
   If farmer, How much land do you farm? (number in acres).....

7. Is there any other source of your income? Yes....No.....
   If yes, What is it?.....

8. Can you read? Yes....No.....
   If yes, (i) What languages can you read?.....
   (ii) What grade in school did you complete?.....

9. Can your wife read? Yes....No.....
   If yes, (i) What languages can she read?.....
   (ii) What grade in school has she completed?.....

II. HOUSEHOLD INFORMATION:

10. Do you hold any responsible position in the village? Yes....No.....
    If yes, please name it.....

11. Are you the head of your household? Yes....No.....

If no, (i) What is your relation with head?.....
(ii) What is his occupation?.....

12. Is there a radio set in your house? Yes....No.....
If yes, ask A, if no skip to B

A If yes, (i) What kind? Transistor....Electric....Others.
(ii) Is it presently working? Yes....No.....
(iii) Do people come for listening? Yes....No.....
If yes, How many?
Less than 5....5-9....10 or more.....
What time generally? Morning....Noon.....
Evening....Night.....

B If no in 12, (9) Is there a place where people go to listening radio? Yes....No.....
If yes, (i) What is the place? An institution.....
A house.....A shop.....
(ii) Generally how many?
Less than 5....5-9....10 or more.....
(iii) Do you go there? Yes....No.....
(iv) What time do people go? Morning.....
Noon....Evening....Night.....

13. Do you regularly subscribe to a newspaper? Yes....No.....
If the answer is yes, ask A, if it is no, go to B

A (i) What is the name of the newspaper/periodical?.....
(ii) What is the language of the paper?.....
(iii) How often does it come?.....
(iv) Do you yourself read it? Yes....No.....
(v) Do you discuss the content outside your family? Yes....No.....

B (If the answer to 13 is no)
(i) Is there any place around where the newspaper comes regularly? Yes....No.....
If yes, (i) Is it an institution....Library....Shop.....
House.....
(ii) Do you read or listen there? Yes....No.....
(iii) Do people discuss the content? Yes....No.....

14. How far is this place from market? A furlong....Half mile....Mile....More.

15. How far is the bus stop from here? A furlong....Half mile....Mile....More.

16. How far is the cinema? A furlong....Half mile....Mile....More.

17. How far is railway station? A furlong....Half mile.....
Mile.....More.....

18. How far is the primary school? A furlong....Half mile.....
Mile.....More.....

19. How far is the post office? A furlong....Half mile.....
Mile.....More.....

20. How far is the Union Council? A furlong....Half mile.....
Mile.....More.....

21. Is there electricity in the area? Yes....No.....

22. Is there a government office in the locality? Yes....No.....

III. INTERPERSONAL COMMUNICATION:

23. Have you heard of family planning? Yes....No.....
(If the answer is yes, as following, if it is no go to Q. 24)
(i) When did you first hear it?.....
(ii) From whom did you hear?.....
(iii) What do you understand by it?.....

24. Do you know of a family in this neighborhood who practice family planning? Yes....No.....
If yes, What do they do for it?.....

25. Do you know of a person who motivates people in this village to adopt family planning? Yes..No.....

If yes, (i) Who is he?.....
(ii) What does he say?.....
(iii) Have you personally met him? Yes....No.....

26. Have you participated in a meeting where family planning was discussed? Yes....No.....
If yes, ask the following, if no skip to Q. 27

(i) How many times? Once....2-4 times....5-9 times...
10 or more.....
(ii) When last?.....
(iii) Where last?.....
(iv) What was the occasion?.....
(v) Who addressed?.....
(vi) What is your opinion about it?.....

(vii) What was the general opinion about it?.....
(viii) Did you talk to others after the meeting about it?.....
(ix) Did you take any action subsequently? Yes....No....
If yes, what was it?.....

IV. RADIO LISTENING:

27. Do you listen to radio? Yes....No....
If yes ask following, if no, skip to Q. 28.

(i) How many hours a day? One....2-3....4-5....5 or more.....
(ii) What time generally? Morning....Noon.....
Evening....Night.....
(iii) What programs?.....
(iv) Did you hear family planning in any of them? Yes....No....
If yes, ask following, if no skip to Q. 28.
(v) In what program?.....
(vi) What was the content?.....
(vii) Did you discuss it after listening? Yes....No....
(viii) Did you take any action subsequently? Yes....No....
If yes, what action?.....
(ix) What is your opinion about such programs?.....

V. NEWSPAPER:

28. Do you read any newspaper or periodical? Yes....No....
If the answer is yes proceed, if it is no, skip to Q. 30.

(i) Which newspaper?.....
(ii) Which periodical?.....
(iii) Have you read of family planning in any of them? Yes....No....
If yes proceed, if no, skip to Q. 29.
(iv) What was it?.....
(v) How many times was matter on family planning published in newspapers in the last six months?
1 or 2 times....3 or 4 times....5-9 times.....
10 or more.....
(vi) Did somebody talk to you about family planning in a newspaper? Yes....No....
(vii) Did you talk to someone about it? Yes....No....
(viii) What is your opinion about such contents?.....
(ix) Did you take any action subsequently? Yes....No....
If yes, what was it?.....

29. Have you seen a family planning advertisement in a newspaper? Yes....No....

If yes proceed, if no skip to Q. 30.

(i) How many times?.....
(ii) What was said in that?.....
(iii) Did you talk to others about it? Yes....No....
(iv) Did someone talk to you about it? Yes....No....
(v) Did you take any action subsequent to it? Yes....No....
If yes, what was it?.....
(vi) What is your opinion about such advertisements?.....
(vii) What is the general opinion about such advertisement?.....

VI. POSTER:

30. Have you seen any poster on family planning? Yes....No....

If yes proceed, if no skip to Q. 31.

(i) How many? 1-2....3-4....5 or more.....
(ii) What was the content?.....
(iii) When did you see it first?.....
(iv) Where did you see it?.....
(v) What was said in it about family planning?.....
(vi) What do you think about it?.....
(vii) Is it an effective method of publicity?.....
(viii) Why do you think so?.....
(ix) Did you talk about it to others?.....
(x) Did someone talk to you about it?.....
(xi) Did you take any action subsequent to it?.....
If yes, what was it?.....
(xii) What is the genetal opinion about it?.....

VII. PAMPHLETS:

31. Have the family planning workers distributed any pamphlets etc. in this area? Yes....No....

If yes proceed, if no skip to Q. 32.

(i) Where?.....
(ii) Did you see one? Yes....No....
(iii) Have you heard about them? Yes....No....
(iv) What was the theme?.....
(v) What was said about it?.....
(vi) Did it contain material about
(a) Need of family planning? Yes....No....
(b) Methods of family planning? Yes....No....
(c) Religious permissibility of family planning? Yes....No....

(d) Description of family planning workers?
Yes....No....
(e) Location of family planning services?.....

VIII. BUS PANEL:

32. How often do you travel in public bus? Daily.....
Weekly....Occasionally....Never.....
a. Have you seen a bus pannel on family planning?
Yes....No....
b. Have you heard about it from some one? Yes....No....
If answer to 32b is yes proceed, if no to both skip to Q. 33.

(i) What was the content?.....
(ii) What action did you take subsequent to it?.....
(iii) What is your opinion about such writings?.....

IX. CINEMA SLIDES:

33. Do you go to the cinema? If no skip to Q. 34.
Yes....No....
If yes (i) How often?.....
(ii) When did you see it last?.....
(iii) Where did you see it last?.....
(iv) Do you remeber any advertisements?Yes....No....
(v) Did you see any slides on family planning?
Yes....No....
If yes proceed, if no skip to Q. 34.
(vi) What was in it?.....
(vii) What is your opinion about it?.....
(viii) Did you take any action subsequent to it?
Yes....No....
If yes, what was it?.....

X. FILMS:

34. Have you seen any film on family planning? Yes....No....
a. Have you heard of such a film? Yes....No....
If yes to 34, or 34a, proceed, if no to both skip to Q. 35.

(i) What was the name of the film?.....
(ii) What is your opinion about it?.....
(iii) Did you take any action subsequent to it?
Yes....No....
If yes, what was it?.....

XI. GENERAL INFORMATION ABOUT FAMILY PLANNING:

35. Please give me the names and designations of those people who advise the residents of this area about family planning. Organizer....Union Council Secretary..... Family Planning Officer....Doctor....Others.....

36. Please tell me the places where contraceptives can be obtained.....

37. Please name the family planning clinics for the area. Number.....

38. Did any person visit your house to advise you on family planning? Yes....No....
If yes, identify him. Organizer....Secretary....Family planning Officer....Local leader....Friend.... Neighbor....Relative....Other.....

39. About what percent of families know about family planning here?.....

40. What, in your opinion, should be the method of family planning publicity?.....

41. Why, in your opinion, do people of this area accept family planning?.....

42. Do you practise family planning? Yes....No....
If the answer is yes proceed, if no go to Q. 43.

(i) Since when?.....
(ii) When did you first consider it?.....
(iii) What methods have you used?.....
(iv) Where do you get the supplies?.....
(v) Have you changed methods? Yes....No....
If yes, to what?.....
(vi) Knowing that you practise family planning, did somebody seek your advice on the subject? Yes....No....
(vii) Did you seek the advice of a practitioner before you started? Yes....No....
If yes (a) Who was he?.....
(b) Why did you ask him?.....

43. What is your opinion about Interauterine Device?.....

THANK YOU FOR YOUR COOPERATION.