

Psycho-social Determinants of Contraceptive Initiation in India

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Introduction

India's efforts to promote family planning have produced a significant increase in the couple protection rate (CPR) which has increased by about 33 percent during the last 22 years—from 10.4 percent in 1970 to 43.5 in 1992. However, the quantum of increase has not produced a matching decline in the country's crude birth rate, which registered a decline of only about 5 percentage points during 1970 to 1988 [1]. One of the reasons for this gap is the overemphasis on the sterilisation programme, which has failed to motivate couples of lower ages and parity to plan their families. Further, there has been a substantial increase in the proportion of women in the reproductive ages, which is unfavourable to a decline in the birth rate. It is estimated that this upward trend in the proportion of women in the reproductive ages is likely to continue till the end of the century [2].

In order to offset the stalling effect of the rising proportion of women in the childbearing ages on the birth rate, the effective use of contraceptive methods needs to be enhanced significantly. The young age structure of the growing population, therefore, demands a greater emphasis on the promotion of spacing methods, particularly in the early stages of marital life. Since first-time acceptance of a method or contraceptive initiation is largely dependent upon psychosocial factors, which are internal to individuals, any effective intervention to promote early acceptance will depend upon these individuals. While very few studies have examined the psycho-social factors associated with early acceptance, they support the fact that some acceptors start using a method earlier than others, and that the factors associated with early acceptance are different from those associated with late acceptances [3], [4]. In view of these observations, an attempt has been made in the present paper to examine the psychosocial factors associated with contraceptive initiation.

Theoretical considerations

Theoretically, it is plausible to assume that the earlier in married life a couple decides to accept family planning, the stronger will be their desire to have a planned family. Early acceptance not only helps achieve the desired gap between

births but also contributes substantially to reducing subsequent fertility because fecundability during the early reproductive years would be higher than in the later years. A woman who accepts a family planning method early in her married life is expected to possess a characteristic pattern of behaviour, which is different from that possessed by a late acceptor.

When early adoption is the result of planning or purposeful behaviour, individuals may differ with regard to their motivational pattern and attitudes towards various aspects of life in general, and family planning behaviour in particular. While socio-economic characteristics are closely associated with psychological characteristics, behaviour has very often been shown to be independently affected by psychological characteristics. An individual's behaviour is determined by a set of psychological factors, which operate in a holistic manner. Broadly, two types of psychological dimensions can be viewed as affecting contraceptive behaviour.

1. Personality traits of an individual: these are considered as the innermost traits or structures, which organise a person's behaviour into a basic pattern and are relatively stable throughout the individual's lifetime's [5]. From the viewpoint of acceptance of family planning, the following personality traits, measured in terms of needs, have been shown to be important: Achievement(n-Ach), Order(n-Ord), Autonomy(n-Aut), Nurturance(n-Nur), Change(n-Cha), Endurance(n-End) and Aggression(n-Agg)[3], [4], [6-9]. It is expected that women with higher needs of these personality dimensions, except the need for aggression will be more likely to accept a method earlier than those with lower needs. In the case of Aggression, the reverse is expected.

2. Attitudinal and perceptual dimensions: these are time and context specific and are likely to be modified over time [10]. Attitude towards family planning, knowledge about family planning methods, ideal family size, and husband-wife communication are considered important attitudinal and perceptual dimensions which affect early and late acceptance. Early acceptors as compared to late acceptors are likely to have more favourable attitudes towards family planning, higher knowledge of family planning methods, a small ideal family size and better interspousal communication.

Sample and Methodology

The data for the present paper was collected as a part of a study on the determinants of contraceptive choice conducted in an industrial township located in Greater Bombay during May-August 1991. This public limited organisation employed about 7,000 workers and maintained a township consisting of 5,962 households. The rationale for choosing this area for the study

was that it provided a heterogenous sample of urban service class respondents who were expected not only to have a high level of contraceptive use but also a wider choice of contraceptives.

Five different occupational categories were identified in the township. On the basis of a complete enumeration of eligible couples from available office records, a list of eligible couples was prepared for each of the five strata. The total number of eligible women in all the five strata was 4,571. Adopting the technique of stratified random sampling with proportional allocations for the five strata, a 10 percent sample of eligible women was drawn. A sampling interval for each stratum was calculated on the basis of size, and the sample size was fixed for that particular stratum. A number for the sampling interval was randomly selected for a random start. Exactly 10 percent of the total number of households with eligible women i.e. 457 could not be achieved either due to non-availability (locked household) or the woman being pregnant at the time of the interviewer's visit. As a result, 412 currently married non-pregnant women in the age group of 15-44 years were interviewed. Of these, there were 347 (84.2 percent) ever users, which included 317 current users.

The questionnaire for the interview included items on household and background information of the respondents, pregnancy history, fertility preferences, and a detailed of contraceptive behaviour. It also included a Family Planning Attitude Scale (FPAS) comprising of 22 items, which were addressed to measure the behavioural component of the attitude system. The scale yielded a high reliability coefficient ($r = 0.85$) as per the split-half method. Since the items for the scale were drawn from the universe relating to family planning methods, the scale can be said to have content validity. In addition, a Personal Preference Schedule (PPS) which was developed on the basis of Edwards' Personal Preference Schedule (EPPS) and Tripathi's Personal Preference Schedule (TPPS) [11] was utilised to measure the personality characteristics of the respondents.

Results

In the present paper, contraceptive initiation has been defined in terms of early and late acceptance. An early acceptor is one who has used any family planning method prior to the second pregnancy whereas a late acceptor is one who has used a method after the second pregnancy. The analysis has been restricted to current users who were first-time acceptors. This has been done in view of the conceptual framework, which considers attitudinal and perceptual variables as important predictors of the timing of acceptance. Since these variables are time and context specific and are likely to modify or change over a period of time, it would not have been possible to obtain reliable information about them from past acceptors. It was found that among the total current users, 191 respondents

were first-time acceptors. Of the current first-time acceptors, 51 (26.7 percent) were early acceptors and 140 (73.3 percent) were late acceptors.

It is evident from Table 1 that early and late acceptors are different from each other in terms of their background characteristics. Early acceptors had attained a higher level of education ($Z = 10.91$; $p > 0.01$ level) as compared to late acceptors, and had a higher average age at marriage ($Z = 7.88$; $p > 0.01$). A large proportion of the early acceptors (60.8 percent) as compared to late acceptors (37.1 percent) were Hindu and belonged to the high-income group.

Table 1 : Background characteristics of early and late acceptors

Characteristics	Early acceptors (N = 51)	Late acceptors (N = 140)	Significance value
Average number of years of schooling of wife Mean S.D.	13.73 (2.86)	7.24 (5.19)	$Z = 10.91^*$
Average age at marriage of Wife (years) Mean S.D.	21.80 (2.99)	17.49 (4.16)	$Z = 7.88^*$
Percentage ST/ST OBC FC	13.7 25.5 60.8	32.9 30.0 37.1	$X = 10^*$
Percentage with income Up to Rs. 2000 Rs. 2001 - 3000 Rs. 3001 +	21.6 35.3 43.1	39.3 32.1 21.4	$X = 12.66^*$

SC/ST = Scheduled Caste/Scheduled Tribe; OBC = Other Backward Caste; FC = Forward Caste.

* = Values significant at 0.01 level.

Table 2 compares the attitudinal and perceptual characteristics of early and late acceptors. It suggests greater interspousal communication with respect to family planning among early acceptors as compared to late acceptors. Also, on average, the former showed a preference for small family size ideals, knew a greater number of contraceptive methods, and held a more favourable attitude to family planning than the latter.

Table 2 : Attitudinal and perceptual characteristics of early and late acceptors

Characteristics	Early acceptors (N = 51)	Late acceptors (N = 140)	Significance value
% couples reporting interspousal communication	100.00	76.4	X = 12.66*
Ideal family size Mean S.D.	1.67 (0.48)	2.13 (0.43)	Z = -6.02*
Average number of F. P. methods known Mean S.D.	5.53 (0.54)	4.40 (1.69)	Z = 6.99*
Average Attitude Score Mean S.D.	94.84 (7.95)	90.63 (9.26)	Z = 3.09*

* = Values significant at 0.01 level.

The means and standard deviations (SD) for the various personality variables of early and late acceptors are presented in Table 3. On the basis of the t-test computed to establish the initial differences between early and late acceptors on seven personality variables, it was found that the two groups differed significantly only in the case of two personality dimensions i.e. n-Order and n-Aggression.

Table 3 : Personality characteristics of early and late acceptors

Characteristic	Early acceptors Mean (S.D.) (N = 51)	Late acceptors Mean (S.D.) (N = 140)	Z Score
Need Achievement (n-Ach)	5.96 (1.81)	5.52 (1.67)	0.52
Need Order (n-Ord)	6.86 (2.12)	5.65 (1.90)	3.58*
Need Autonomy (n-Aut)	5.96 (1.78)	6.47 (2.09)	-1.66
Need Endurance (n-End)	6.78 (2.27)	6.89 (2.09)	-0.30
Need Nurturance (n-Nurt)	7.24 (2.14)	6.47 (2.40)	-0.53
Need Achievement (n-Ach)	6.20 (1.72)	6.03 (1.96)	0.58
Need Agression (n-Aggr)	3.28 (1.72)	4.17 (1.99)	-3.37*

* = Values significant at 0.01 level.

Both these variables were related to the time of contraceptive acceptance, in the expected direction. It may be seen that although other personality variables such as need for achievement, need for nurturance, and need for change were not statistically related to the time of acceptance, they followed the expected direction of relationship. On the other hand, the two variables that are, the need for autonomy and the need for endurance did not exhibit the expected relationship with the time of acceptance.

Discriminant analysis

The findings presented hitherto were based on a bivariate analysis. However, the decision to accept a contraceptive at a particular time during the course of reproductive life is influenced by a combination of factors, which operate simultaneously. While some variables may appear insignificant when they are considered alone, others may, however, become significant in the presence of other variables. Therefore, it was thought appropriate to employ discriminant analysis to find out the important variables, which discriminate between the early and late adoption of family planning methods.

All the 15 variables relating to the acceptors' background, attitudinal, perceptual and personality were considered in the analysis to pinpoint important variables discriminating between the early and late acceptance. A stepwise selection procedure was employed using Wilk's criteria. The variable which minimised Wilk's lambda was selected in each step [12], [13]. The stepwise discriminant analysis picked up seven of the 15 variables. The eigen value of the function was found to be 0.6984 and the function produced a canonical correlation coefficient of 0.6413 (Table 4). This indicated a fairly good relationship between the groups and discriminant function. The function had a Wilke's lambda of 0.5887, which was found to be highly significant statistically (0.01 level) variables entered in the equation. The variables which turned out to be important in discriminating between early and late acceptors included three background variables-education of the respondent, monthly income of the couple, and age at marriage of the respondent; two attitudinal variables-ideal family size and level of knowledge about family planning methods; and two personality variables-the need for achievement and the need for order.

Table 4 : Standardised canonical discriminant function coefficient of variable selected in stepwise discriminant analysis

Variable	Coefficient
WEDU	0.5656
IFS	-0.4845
INC	-0.3109

n-ORD	0.2690
FPKNO	0.2605
WMARR	0.2156
n-ACH	0.1778

Wilke's lambda = 0.5887

Eigen value = 0.6984

Canonical correlation = 0.6413

The educational level of the respondent (WEDU) emerged as the most important discriminant variable (0.5656) followed by preference for family size ideal (IFS = 0.4845), income (INC = -0.3109), need for order (nORD = 0.2690), level of family planning knowledge (FPKNO = 0.2605), respondent's age at marriage (WMARR = 0.2156), and need for achievement (nACH = 0.1778). All the variables except income showed the expected relationship with the time of contraceptive acceptance.

The results of the classification of the discriminant analysis shown in Table 5 are an indicator of the efficiency of the discriminant function. A good function with better discrimination variables will have minimum misclassification errors. It was found that using the selected seven discriminating variables, 80.6 percent of the cases could be correctly classified. In order to elucidate the exact contribution of each of these predictors on the time of acceptance it was thought appropriate to use Multiple Classification Analysis (MCA) [14].

Table 5 : Classification results

Actual Group	No. of cases	Predicted Group	
		1	2
Group 1 Late acceptors	140 (75.7)	106 (24.3)	34
Group 2 Early acceptors	51 (5.9)	3 (94.1)	48

Cases correctly classified = 80.63%

Multiple Classification Analysis (MCA)

MCA was carried out for marital duration. Prior to this, the interactions among independent variables were checked using analysis of variance (ANOVA). None of the interactions were found significant. The MCA results indicated that the educational level of the respondent (WEDU), preference for family size ideal

(IFS), level of family planning knowledge (FPKNO), and respondent's age at marriage (WMARR) had a significant effect on the dependent variable.

These results indicate that about 52 percent of the variance in the initiation of contraception is by all the variables together. The grand mean was found to be 0.27. The gross effect of the educational level of the respondent was maximum (0.50), followed by the respondents age at marriage (0.48), family size ideal (0.45), income (0.26), level of family planning knowledge (0.26), need for achievement (0.11), and need for order (0.09).

It is important to note that the gross effect of the respondent's educational level (WEDU), which was the highest ($\eta = 0.50$), was lowered by almost one-third ($\beta = 0.16$) when the effect of covariates and other variables were controlled. On the other hand, the effect of family size ideals (IFS) did not decline as much as the educational level, rather it emerged as having the highest independent contribution in explaining the variance in the timing of acceptance ($\eta = 0.45$; $\beta = 0.31$). Thereafter, changes in the η -values of the level of family planning knowledge (FPKNO) and respondent's age at marriage (WMARR) were much less as compared to the change in the η value of WEDU.

Discussion

A close elimination of the MCA results reveals that the perception of the family size ideal had a substantial effect on the decision to initiate contraception. It showed that 65 percent of those respondents who preferred a one-child family were early acceptors. It is possible that women with a preference for a small family would also prefer to end their childbearing process early and therefore, start contraception earlier than those who have larger family size ideals. At the same time, these women are likely to be conscious of the health of their children "as they have planned for fewer children" and therefore tend to space the births. This explains the acceptance of spacing methods in the early stages. Bulatao [15] has reported similar findings among Filipino women; women who initiated early contraceptive use were those who showed a preference for small ideal family sizes.

The relationship between age at marriage, which emerged as a second important variable and the initiation of contraception, indicated that a higher proportion of those of who married late went for early family planning acceptance. It can be seen that 38 percent of those who married at the age of 24 years or above had accepted contraception before their second pregnancy as against those who had married before 24 years of age. Marriage in the Indian context is linked with the larger issues of the value system, where early marriages are still prevalent and signify a woman's primary role, in terms of home-making [16], [17]. Women who

marry late have a relatively smaller reproductive span during which they have to complete their childbearing. Therefore, it is likely that women marrying late possess a modern outlook towards life and so may have started to contracept earlier in order to complete the process of childbearing.

Women's education was found to have a strong association with the initiation of contraception. The higher the level of education, the earlier was the adoption of contraception. Education facilitates rational thinking of individuals in terms of a planned family. Hence, more educated people make appropriate fertility decisions well in advance in the course of their marital life and tend to go for early contraceptive adoption. This finding is in the expected direction; the association between education and timing of acceptance has also been reported earlier [18], [19] where early acceptors of family planning were found to be better educated as compared to late acceptors. Similarly, a positive association of education and early initiation of contraceptive use has been reported among Filipino women [15].

Knowledge of family planning methods was also found to have a substantial impact on contraceptive initiation. Respondents possessing higher knowledge of family planning methods were more likely to acquire correct knowledge. This would enable them to try different temporary methods. In addition, the tendency to acquire more knowledge is expected to be associated with the desire to space children and small family size preferences. For both these reasons, women with higher knowledge about family planning methods tend to use contraceptives earlier than those who have less knowledge.

The couple's income, and need for order and for achievement had a moderate to low impact on the time of contraceptive acceptance. This finding is consistent with that of earlier researchers [20].

From the point of policy implications, the findings suggest that in order to have any perceptible impact on family planning behaviour, it is essential to bring about changes in family size ideals, improve contraceptive knowledge, and increase the age at marriage. In fact, it can be said that changing these dimensions is more crucial and immediate in terms of their impact on contraceptive behaviour than enhancing the level of education per se. In other words, improvements in education will yield a desirable result if it is accompanied by concurrent changes in the value system and contraceptive knowledge status. For this purpose, the programme will have to depend heavily on communication efforts, both mass media and interpersonal.

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