

Poverty and Use of Contraceptive Methods

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Introduction

The search for explanations for the high rate of fertility in India has led many to theorize the link between poverty and fertility. Several micro-studies have affirmed the hypothesis of positive association between poverty and fertility [1] [2] [3]. Whereas this positive association has seldom been disputed, contraceptive practice in relation to poverty has rarely been ascertained through a comprehensive micro-empirical test. This paper reports the prevalence of contraceptive practice among women of poor and rich households with the objective of examining the influence of poverty on the use of contraceptive methods, and relating it to socio-demographic variables affecting family planning acceptance.

Data and Methods

The analysis is based on survey data of 643 households selected by two-stage stratified random sampling in a group of five villages and a town in South Arcot District of Tamil Nadu. The former constituted the rural sample, while the latter formed the urban sample. The group of five villages was chosen from two panchayat unions in Chidambaram taluk of South Arcot district. Two wards were chosen from Chidambaram Town, the Taluk headquarters of Chidambaram Taluk. About 35 per cent of the households were surveyed from among the total number of households with eligible couples in the study area. Poverty was measured using per capita monthly consumer expenditure profiles of the households collected during the survey.

The households were classified into dear categories of poor and rich using the household profiles of per capita monthly consumer expenditure. A per capita consumer expenditure of Rs. 15 for the rural area and Rs. 20 for the urban area for a period of 30 days at 1960-61 prices was chosen to constitute the poverty line for the study as propounded by Dandekar and Rath [4]. The poverty line was updated for the study period (1987) using appropriate price deflators, that is, Consumer Price Index of Agricultural Laborers for the rural, and Consumer Price Index of Industrial Workers for the urban area following the expert opinion of Ahluwalia [5] and Bardhan [6].

Results and Discussion

Knowledge of Contraceptive Methods

The level of knowledge of any contraceptive method in the study population, as has been generally found in recent surveys, was nearly 100 per cent irrespective of economic status or place of residence. The most popularly known methods were conventional tubectomy, laparoscopy, and vasectomy with about 97 per cent of the respondents spontaneously reporting as being aware of these methods. Awareness was nearly 100 per cent for the urban rich.

The other methods which the respondents were widely aware of were the condom, IUD and pill, with 76.0 per cent, 63.8 per cent and 63.5 per cent respondents respectively reporting spontaneous awareness, and 16.0 per cent, 22.0 per cent and 25.3 per cent respectively reporting awareness following probing. The respondents were reminded to check their knowledge of methods such as abstinence and withdrawal. Very few respondents were aware of methods such as rhythm, jelly/cream, foam tablets and douche. Interestingly, a few respondents said that they were also aware of certain new contraceptive methods which were not listed in the schedule; important among them were Norplant and certain newly developed IUDs.

It was further observed that 89.3 per cent of the respondents had a favorable attitude towards the use of contraceptive methods. The proportion disapproving contraceptive use was larger among the poor, rural respondents as compared to those who were rich and lived in urban areas. The proportion of respondents disapproving the use of contraceptive methods was 15.5 per cent, 10.1 per cent, 9.0 per cent and 2.2 per cent respectively for the rural poor, rural rich, urban poor and urban rich categories.

Contraceptive Use

The level of use contraceptive methods is one of the proximate variables affecting fertility. Table 1 shows the distribution of respondents of respondents by per cent ever users of any contraceptive method, and of different methods of contraception. Overall, 43.3 per cent of the respondents reported that they (either the wife or husband or both) had used a contraceptive prior to the survey. It may be noted that in the same household either the husband or wife or both can be

users. The overall percentage of ever users relates to the household unit, and therefore even if both spouses are users, ever use at the household level is represented as one.

TABLE 1: Percent ever users of contraceptive methods

| Method used | Rural | | Urban | | Total |
|--|-------------|-------------|-------------|-------------|-------------|
| | Poor | Rich | Poor | Rich | |
| Any method by one or both spouses | 47.7 (74) | 33.0 (62) | 45.2 (75) | 54.8 (74) | 44.3 (285) |
| Pill | 1.3 (2) | 2.1 (4) | 0.7 (1) | 3.7 (5) | 1.9 (12) |
| IUD | - (0) | 0.5 (1) | 1.2 (2) | 5.2 (7) | 1.6 (10) |
| Tubectomy | 24.5 (38) | 18.6 (35) | 23.5 (39) | 23.5 (32) | 22.4 (144) |
| Laparascopy | 14.8 (23) | 4.8 (9) | 16.9 (28) | 0.7 (1) | 9.5 (61) |
| Foam tablets/Jelly cream | - (0) | - (0) | - (0) | 0.7 (1) | 9.5 (61) |
| Rhythm | - (0) | - (0) | - (0) | 1.5 (2) | 0.3 (2) |
| Condom | 1.3 (2) | 2.1 (4) | 1.2 (2) | 10.4 (14) | 3.4 (22) |
| Withdrawal | - (0) | 0.5 (1) | - (0) | - (0) | 0.2 (1) |
| Vasectomy | 4.5 (7) | 8.0 (15) | 5.4 (9) | 12.7 (17) | 2.5 (48) |
| Abstinence | 1.3 (2) | 5.9 (11) | 1.2 (2) | 9.7 (13) | 4.4 (28) |
| Other | - (0) | - (0) | 1.8 (3) | 9.7 (1) | 0.6 (4) |
| (N) | 155 | 188 | 166 | 134 | 643 |
| Mean number of children ever born | 4.37 | 2.90 | 3.92 | 2.68 | 3.47 |

Figures in brackets represent the actual number of ever users of the particular contraceptive method.

The percentage of ever users varied extensively by poverty and place of residence, but with a striking difference nevertheless. Whereas in the urban sample, the percentage of ever users was lower among the poor as compared to the rich as would be normally expected, the trend was reversed in the rural area, where acceptance was higher among the poor than among the rich. The rural acceptance rate was 47.7 percent and 33.0 per cent among poor and rich couples respectively, while in the urban sample, the corresponding rates were 45.2 per cent and 55.2 per cent, indicating a slightly higher acceptance among the poor as compared to the rich, for the rural-urban combined sample. This is very surprising especially since the finding in regard to the relation between poverty and fertility has been affirmed positive as hypothesized (Table 4).

Table 1 also indicates that the mean number of children ever born to the rural poor was 4.37 as compared to 3.92 to the urban poor. This decreased sharply to 2.92 and 2.68 among the rural and urban rich respondents respectively, showing a striking difference of 1.45 births in the rural area and 1.24 births in the urban area between the poor and rich categories. The question that arises then is: why is the acceptance rate higher among the poor as compared to the rich ?

A number of explanations are possible. One obvious reason may be traced to the substantial monetary incentives offered by the official family planning program to acceptors which is a very good amount for the rural poor. This reason seems more valid in light of the observation that most of the respondents had accepted family planning after getting four or five children. The causal reason could be the intensive sterilization camps targeted towards the poor in the rural areas by the local official family planning program. Other studies have also corroborated this view. Among them, the illustration provided by Zachariah [7] in a study of Kerala is worth noting. He observes: "We attribute this higher sterilization among the lower strata of society to the official family planning program especially with its economic incentives".

Contraceptive Use by Method

Table 1 also indicates that the majority of the users, that is nearly four-fifths, had adopted a terminal method of contraception namely conventional tubectomy, laparoscopy or vasectomy. The most widely adopted method was conventional tubectomy (22.4 per cent), followed by laparoscopy (9.5 per cent) and vasectomy (7.5 per cent), which are

considered highly efficient methods of contraception. The other methods such as the condom, pill, IUD and abstinence were used respectively by 3.4 per cent, 1.9 per cent, 1.6 per cent and 4.4 per cent of the respondents. Further, the majority of the users were women.

Poverty and Contraceptive Use

While tubectomy was popular among all categories from the rural poor to the urban rich, laparoscopy was the next popular method among the poor and vasectomy among the rich. Non-terminal methods like the pill, IUD and condom were popular mainly among the rich urban respondents; their use was infrequent among the respondents of the other three categories.

Current Users

A distribution of the respondents by the proportion of current users, among spouses separately, is presented in Table 2. The results show a significant variation in the pattern of use between the husbands and wives. For example, the proportion of current users among husbands was the highest among the urban rich, while on the other hand, the highest proportion of current users among wives was observed among the rural poor, followed by the urban poor. This suggests that among the rich, men are more likely to use contraceptives than women whereas among the poor, more women than men are likely to do so.

A distribution of respondents by their opinion about future use of contraception provided another important insight about the prospects for future acceptance.

TABLE 2: Current users of contraceptive methods

| Use of contraceptive methods | Rural | | Urban | | Total |
|------------------------------|-------|------|-------|------|-------|
| | Poor | Rich | Poor | Rich | |
| A. Husband | | | | | |
| Currently using | 12 | 19 | 10 | 69 | 69 |

| | | | | | |
|----------------------------|------------------------------|------------------------------|------------------------------|------------------------------|------------------------------|
| | (7.7) | (10.1) | (6.1) | (20.9) | (10.7) |
| Currently not using | 143 (92.3) | 169 (89.9) | 156 (94.0) | 106 (79.0) | 374 (89.3) |
| Total | 155 (100.0) | 188 (100.0) | 166 (100.0) | 134 (100.0) | 64 (100.0) |
| B. Wives | | | | | |
| Currently using | 64 (41.3) | 50 (26.6) | 66 (39.8) | 41 (30.6) | 221 (34.4) |
| Currently not using | 91 (58.7) | 138 (73.4) | 100 (60.2) | 93 (69.4) | 422 (65.6) |
| Total | 155 (100.0) | 188 (100.0) | 166 (100.0) | 134 (100.0) | 643 (100.0) |

Figures in brackets represent percentages.

Disregarding those who had been sterilized, infertile or were out of the reproductive age group, 11.0 per cent of the respondents intended to use a contraceptive method in future. These respondents were by and large younger and had yet to achieve their desired number and sex composition of children.

Poverty and Contraceptive Practice by Socio-demographic Variables

The differential use of contraception observed among the rich and poor respondents was analyzed in relation to selected socio-demographic variables such as the number of children ever born and the age of the mother. The influence of these variables on contraceptive use was examined after cross-sectioning by economic category-rich and poor-and by place of residence-urban and rural; the findings are presented in [Table 3](#).

TABLE 3: Poverty and contraceptive practice by demographic variables

| | Rural | | Urban | | Total |
|-------------------------------|-------------|-------------|-------------|-------------|-------------|
| | Poor | Rich | Poor | Rich | |
| A. Children ever born | | | | | |
| None | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 1 - 3 | 37.0 | 29.0 | 36.5 | 59.1 | 40.1 |
| 4 - 5 | 54.5 | 66.7 | 54.5 | 60.0 | 58.1 |
| 5 + | 53.3 | 30.4 | 63.4 | 83.3 | 53.9 |
| Total | 47.7 | 33.0 | 45.2 | 55.2 | 44.3 |
| B. Age of wife (years) | | | | | |
| 15 - 19 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 20 - 24 | 15.8 | 7.1 | 14.3 | 10.0 | 11.8 |
| 25 - 29 | 59.0 | 27.7 | 54.5 | 63.0 | 48.6 |
| 30 - 34 | 47.2 | 58.3 | 59.3 | 70.4 | 57.9 |
| 35 - 39 | 48.3 | 39.4 | 58.3 | 61.3 | 52.0 |
| 40 - 49 | 58.6 | 35.1 | 45.9 | 47.3 | 46.1 |
| Total | 47.7 | 33.0 | 45.2 | 55.2 | 44.3 |

Table 3 indicates that contraceptive acceptance varied positively with children ever born. This was confirmed by the findings presented [Table 4](#), which indicate that the number of children ever born to acceptors far exceeds those born to non-acceptors. These results obviously confirm that contraceptive methods are accepted after attaining the desired family size. Table 3 also shows that acceptance increases with the age of the wife to peak at age 30-34, and declines steadily thereafter. This pattern was uniformly observed for all categories except the rural poor, among whom acceptance was fairly high in all the age groups after age 25. The decline in acceptance especially after 40, may be attributed to the belief among older women that they have become sterile, or because they have completed their family size and have less sexual desire. However, during the interviews, it was generally observed that irrespective of the economic status, younger

mothers appeared to be well informed of the need for family planning. This is indeed a promising feature for the success of the family planning program.

TABLE 4: Children ever born by poverty and contraceptive practice

| Contraceptive practice | Mean number of children ever born by age of the mother | | | | | | | | | | | | Total |
|------------------------|--|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|
| | 15 - 24 | | | | 25 - 34 | | | | 35 + | | | | |
| | Rural | | Urban | | Rural | | Urban | | Rural | | Urban | | |
| | Poor | Rich | Poor | Rich | Poor | Rich | Poor | Rich | Poor | Rich | Poor | Rich | |
| Ever users | 2.3* | 2.0* | 2.0* | 2.0* | 4.1 | 3.2 | 3.6 | 2.6 | 5.6 | 4.5 | 6.1 | 3.5 | 4.1 |
| Never users | 1.9 | 1.2 | 1.5 | 0.8 | 3.9 | 1.8 | 2.8 | 1.6 | 5.7 | 4.1 | 4.8 | 3.1 | 3.0 |
| Total | 2.0 | 1.3 | 1.6 | 0.9 | 4.0 | 2.4 | 3.3 | 2.3 | 5.7 | 4.3 | 5.5 | 3.3 | 3.5 |

* Indicates a sub-sample size of less than 5 (for that category).

Differentials in the ever use of conception by the influence of social variables and classified by economic status were also studied (table not shown). The percentage of ever users of contraception was found to be generally higher among forward caste communities; it was lower among backward caste communities, and still lower among the scheduled castes. However, it was observed to fluctuate when examined by economic status due to the apparently close association between caste and poor-rich status. Surprisingly, the social variable "family type" showed up as a good variant of contraceptive acceptance. The proportion ever users of contraceptive methods was larger by nearly 15 per cent in the case of nuclear families as compared to respondents from extended families, and this relationship was observed in the case of all categories except the urban rich among whom acceptance did not vary much by family type.

A close positive association was also observed between the educational status of both husbands and wives, persisting through all categories of poor and rich. Nevertheless, the commonly observed minor fluctuations, such as a slightly higher acceptance among the illiterate as compared to those with 1-5 years of schooling, were present. On the other hand,

higher rural than urban acceptance among the poor as compared to the rich continued to prevail through the cross-sectional analysis by socio-demographic variables.

Acceptors versus Non-Acceptors of Contraceptive Methods

A two group discriminant function analysis was fitted to test and measure the differential characteristics between acceptors and non-acceptors of contraceptive methods, using a set of selected socio-economic and demographic variables as predictors, separately for the rural and urban samples. The significance of the discriminant function was assessed by Mahalanobis' D^2 and Fishers F-test of significance [8]. The best set of discriminating variables was extracted by a stepwise discrimination procedure. As the summary results in Table 5 indicate, children ever born, age at marriage and educational status emerge as common variables affecting the use and non-use of contraceptive methods, in both rural and urban areas.

TABLE 5: Discriminant function analysis of the differential characteristics of acceptors and non-acceptors

| Variables-Step in the equation | Wilk's | | Minimum | | Discriminant Coefficient |
|--------------------------------|--------|--------|---------|--------|--------------------------|
| | Lamda | Sig.F | D2 | Sig.F | |
| A. Rural (N = 343) | | | | | |
| Children ever born | 0.9366 | 0.0000 | 0.2804 | 0.0000 | 0.9089 |
| Work status of woman | 0.9203 | 0.0000 | 0.3589 | 0.0000 | - 0.5334 |
| Age at marriage | 0.9132 | 0.0000 | 0.3941 | 0.0000 | 0.3268 |
| Education (husband) | 0.9072 | 0.0000 | 0.4240 | 0.0000 | 0.2868 |
| Breast-feeding | 0.9025 | 0.0000 | 0.4478 | 0.0000 | 0.2401 |

| B. Urban (N = 300) | | | | | |
|-------------------------------|--------|--------|--------|--------|---------|
| Children ever born | 0.9454 | 0.0000 | 0.2296 | 0.0000 | 0.8614 |
| Education (husband) | 0.8933 | 0.0000 | 0.4749 | 0.0000 | 0.4856 |
| Education (wife) | 0.8868 | 0.0000 | 0.5318 | 0.0000 | 0.4307 |
| Age at marriage | 0.8819 | 0.0000 | 0.5319 | 0.0000 | -0.2373 |
| Weight/height 2 (wife) | 0.8788 | 0.0000 | 0.5482 | 0.0000 | 0.1730 |

Variables rejected in the discriminant function analysis by stepwise procedure

Rural: age of the wife, children died, per capita consumer expenditure, per capita income, per capita assets holding per capita calorie intake and educational status of women.

Urban: Age of the wife, children died, per capita consumer expenditure, per capita income, per capita assets holding work status of woman and duration of breast-feeding.

Note: Education was measured as the number of years of school attended.

Weight/height ² is a standardized and efficient measure of nutritional status.

Work status of woman is a dummy variable with classification of working and non-working.

The other variables were specific to place of residence, that is whereas in the rural area, work status of the wife and duration of breast-feeding were significant discriminators, educational and nutritional status of the wife were significant variables differentiating contraceptive users from nonusers in the urban area. The canonical discriminant function coefficients indicated a positive relationship between contraceptive acceptance and children ever born, educational status of husband and wife, duration of breast-feeding, nutritional status of wife, and age at marriage of the wife respectively.

Further, the dummy variable, work status of the woman, was a significant predictor in the discriminant analysis only in the rural area. Another notable finding was that the direction of the discriminant function coefficient in respect of age at marriage changed from positive in the rural to negative in the urban area.

A close examination of the findings reveals that not only do none of the economic variables including poverty emerge as significant discriminators between acceptors and non-acceptors of contraceptive methods, but even important variables such as the number of children who died, fail to appear as significant discriminators. Even the significant socio-demographic discriminators explained a relatively very low Mahalanobis' D^2 of 0.4478 and 0.5482 for the rural and urban areas respectively.

The results of this analysis concur fairly well with the findings of another macro-level study which also found that socioeconomic factors do not satisfactorily account for the differential use of contraceptive methods in Tamil Nadu [9], thereby depicting a peculiar phenomenon. This is really a difficult phenomenon to explain by survey data of a specific nature. In all likelihood, the situation affirms the hypothesis of program effects according to which some couples who would not otherwise accept contraception do so because of the availability of user-oriented contraceptive services. That is, services that are delivered on terms that make them more attractive to users can obviate the need for personal motivation to limit fertility.

Conclusion

The above analysis reveals that the awareness of any contraceptive method in the study population was nearly universal irrespective of economic status. The overall acceptance rate was 44.3 per cent in the study population. Poverty did not significantly deter the overall acceptance of contraceptive methods despite its strong positive relation with fertility. However, the relation between poverty and use of contraceptive methods sharply varied from a positive relation in the rural area to a negative relation in the urban area. This differential actually neutralizes the effect of poverty on the whole. Nearly four-fifths of the users had adopted terminal methods of contraception and the majority of users were women. An increasing number of men had used contraceptive methods among the rich while an increasing number of women had used contraceptive methods among the poor.

An interesting finding was that the conventional tubectomy procedure was popular among all the respondents, laparoscopy was popular among the poor, and vasectomy was popular among the rich. The acceptance rate increased with age and acceptors had higher fertility than non-acceptors. Discriminant function analysis of the differential characteristics of acceptors and non-acceptors revealed the socio-demographic variables to be important predictors of family planning acceptance; poverty and other economic variables did not explain these differentials. This may well be taken as an indication that the official family planning program has played a greater role in the success of family planning acceptance in Tamil Nadu.

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