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Source: *Studies in Family Planning*, Vol. 22, No. 6 (Nov. - Dec., 1991), pp. 384-390
Published by: [Population Council](#)
Stable URL: <http://www.jstor.org/stable/1966452>
Accessed: 04/06/2013 15:51

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Does Choice Make a Difference to Contraceptive Use? Evidence from East Java

Siti Pariani, David M. Heer, and Maurice D. Van Arsdol, Jr.

This study investigates sustained use of contraceptives among women in East Java, Indonesia. Interest is focused on the effect of whether the client's choice of contraceptive method was granted or denied, and the interaction between whether choice was granted or denied and husband-wife concurrence concerning method choice. Data were collected twice in a panel survey. The first round was conducted in family planning clinics among women initiating contraceptive use; the second was a follow-up household survey carried out 12 months later. Whether the user was granted her choice of method was found to be a very important determinant of sustained use of contraceptives. The interaction between whether choice was granted and whether there was husband-wife concurrence on method choice was also important. The highest rate of discontinuation occurred when method choice was denied in the presence of husband-wife agreement on method choice, and the lowest rate occurred when method choice was granted in the presence of such concurrence. The results imply that contraceptive continuation can be enhanced either when family planning workers pay more attention to the stated desires of their clients, or when policy is instituted allowing clients to use their method of choice. (STUDIES IN FAMILY PLANNING 1991; 22,6: 384-390)

Despite increasing rates of contraceptive acceptance, high rates of contraceptive discontinuation continue to plague third world countries (Rogers, 1973: 301; Jain, 1989; Bruce, 1990). Although many studies have examined the reasons for contraceptive discontinuation in developing nations, there remains a need to explain the influence of the quality of family planning services (Bruce, 1990), and particularly of actors other than individual contraceptive users, on discontinuation (Mauldin and Segal, 1988; Zeidenstein, 1980).

A retrospective study of the impact of client-family planning worker interactions on contraceptive discontinuation among 617 married women attending family planning clinics in Surabaya, Indonesia in 1981 (Pariani et al., 1987), found that 12 months after receiving contraceptive services, 25 percent of the women stated that they had been denied their first contraceptive choice. Of these women, 85 percent reported they had ceased practicing contraception. Among the 75 percent of women who stated that they had been granted their choice of contra-

ceptives, only 25 percent discontinued use. The authors concluded that giving clients their choice of method had the potential to increase overall one-year continuation rates, and that actors other than users affected contraceptive continuation. Family planning program quality could perhaps be enhanced if contraceptive users were provided more freedom to choose their own contraceptive method, according to the authors.

The study, however, had limitations; namely, the measurement of whether the client's choice of method had been granted or denied was retrospective. It is possible that many of the women who decided to discontinue contraceptive use had rationalized their decision by falsely remembering that their choice of method had been denied. Furthermore, only three contraceptive methods (the pill, the IUD, and the condom) were considered, the number of women studied was relatively small, and all the respondents were from a small geographic area. Finally, the effect of husband-wife interactions regarding contraceptive choice was not considered. Consequently, a new prospective study was in order.

Bruce (1990) has specified that quality of care may be assessed by (1) the choice of contraceptive methods offered; (2) the amount and quality of information given to clients; (3) the technical competence of providers; (4) interpersonal relations between providers and clients; (5) the mechanisms instituted to encourage contraceptive continuity; and (6) the appropriateness of services rendered. Our study, conducted among women of child-

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bearing age living in East Java, Indonesia in the late 1980s, deals with method choice, information given to clients, and the interpersonal relations between clients and family planning workers and between clients and husbands.

We have two specific concerns. First, to what extent is sustained contraceptive use a product of the ability of women to choose their preferred method? Second, does concurrence in method choice between husbands and wives affect continuation?

Previous Studies of Contraceptive Discontinuation

Numerous studies of contraceptive discontinuation have been conducted in third world nations with government-sponsored family planning programs. These studies provide guidance on the variables that may be expected to influence whether a given woman does or does not continue to use contraceptives. The Taichung IUD Medical Follow-up Study, conducted among IUD acceptors in Taichung, Taiwan in 1962 and 1963, is the classic study of contraceptive discontinuation (Potter et al., 1969). Other studies include one on the Matlab Family Planning-Health Services Project in Bangladesh (Bhatia et al., 1980), a study of the family planning program in the Dominican Republic (Porter, 1984), a study of oral contraceptive users in Sri Lanka (Basnayake et al., 1984), and a study by Laing (1985) on the Philippines.

Among the major findings from these studies are: (1) the rate of discontinuation varies inversely with age and with the number of previous births, and directly with educational attainment; (2) the rate of discontinuation is lower for IUD users than for users of other methods, for women who want no more children than for those who want more children, for previous users than for new users, for those who experience no side effects than for those who do experience side effects, and for those who receive favorable communications concerning contraception from persons they consider experts than for those who do not receive such communications.

Choice Granted or Denied and Husband-Wife Concurrence

A key to the relationship between contraceptive choice and subsequent contraceptive continuation may lie in the interaction between family planning workers and their clients. In East Java, for example, female contraceptive users are often in a dependent relationship with family planning clinic workers, who are not bound to follow their clients' contraceptive choices; in fact, workers often

expect users to practice the methods encouraged by the National Family Planning Coordinating Board (NFPCB) (Warwick, 1986: 481). Prior clinical observations by Pariani, however, suggest that many East Javanese women choose a contraceptive method before they attend family planning clinics. The relationship between health workers and their clients can mitigate against the sustained use of a contraceptive method, particularly if the clients' preferences are unclear to the health worker. Clients frequently avoid open disagreement with health workers, but, nevertheless, will not practice a method that is not their own first choice. Contraceptive discontinuation as a reaction to having one's preferred method of contraception denied is a behavior that accords with the more general concepts of reactance theory¹ (Brehm, 1966).

Another key to the relationship between contraceptive choice and contraceptive continuation may be the relationship between husband and wife. Miller (1986) showed that among a sample of married women in the San Francisco Bay area, contraceptive nonuse increased if the husband disliked the wife's method. From this finding, one might infer that in Indonesia, husband-wife concurrence on method choice might be positively associated with contraceptive continuation. Alternatively, husband-wife concurrence and whether method choice is granted or denied may interact in their effect on contraceptive discontinuation. Specifically, when choice is granted, husband-wife concurrence may reduce the rate of discontinuation. On the other hand, when choice is denied, husband-wife concurrence may increase the rate of discontinuation.

Our study is based on two hypotheses: (1) denial of the method choice by the family planning worker has a positive effect on contraceptive discontinuation, and (2) either there is a negative main effect of husband-wife concurrence on contraceptive discontinuation or there is an interaction between husband-wife concurrence and denial of method choice, such that husband-wife agreement reduces discontinuation when method choice is granted, but increases discontinuation when method choice is denied.

Methods

We describe the contraceptive experience of a sample of first-time government family planning program clients drawn from six East Java regencies (Blitar, Jombang, Magetan, Malang, Pamekasan, and Pasuruan) and the city of Surabaya. These areas included rural, suburban, urban, and slum areas. In East Java, the predominant contraceptive methods are highly variable across regencies. To control for such variation, we selected a purpo-

sive sampling of areas in which the IUD, the pill, or injection was the most popular method.²

The sample consisted of all new National Family Planning Board clients who visited these clinics for the first time during July 1987. The first round of interviews was conducted by a midwife or her assistants in each of the selected family planning clinics. Before receiving a family planning method, respondents were interviewed regarding their sociodemographic characteristics and their preferred method of contraception. Immediately after being introduced to a method, respondents were asked again about the methods suggested and the method that they intended to use.

The second round of interviews was a house-to-house survey of the respondents from the first round; these interviews were carried out in July 1988 by 60 Airlangga University medical students to determine whether or not contraceptive practice had continued. If respondents reported that they had discontinued use of the suggested method, they were asked to give the date they had stopped; discontinuers were then asked whether they had stopped using all contraceptive methods or whether they had switched to another method. Finally, respondents were asked if they were currently using contraceptives.

The final sample included only those respondents for whom survey data were complete for both July 1987 and July 1988. Of the 2,501 respondents who completed initial interviews, 1,945 were reinterviewed at their homes a year later, for a reinterview rate of 77.8 percent. Reasons for nonresponse in 1988 were categorized as follows: (1) an inability to locate interviewees (11.9 percent of the women first interviewed in 1987); (2) interviewees had moved out of the area by the time of the 1988 survey (7.0 percent); (3) interviewees were absent from their residence at the time of the survey (2.1 percent); and (4) other reasons (1.2 percent). There was considerable variation between areas in the proportion of women who were reinterviewed: The lowest proportion reinterviewed, 68 percent, was in the city of Surabaya; the highest proportion reinterviewed, 90 percent, was in Magetan, a small rural regency in the mountains. Areas where a low proportion of women were reinterviewed had a relatively high proportion of women who simply could not be located.

Definition of Terms

The Dependent Variable

For the results reported here, discontinuation was defined to occur when a woman reported not using any method of contraception at the end of the 12-month period. According to this definition, there were 341 discontinuers among the 1,945 women surveyed in the second round.

Women who became pregnant during the 12-month period but were using contraceptives at the end of the 12-month period were not considered discontinuers. This definition of discontinuation did not take into account whether the pregnancy was wanted or unwanted, thus departing from the practice of many researchers who include as discontinuers women who became accidentally pregnant, but exclude as discontinuers women who discontinued contraception because they wanted to become pregnant (Grady et al., 1988).

Choice Granted or Denied

"Choice granted" refers to women who reported that the contraceptive method they had been given by the health worker was identical to their own prior personal choice. Women granted their first choice can be subdivided into those who were encouraged by the family planning worker to use their own preferred contraceptive method, and those who were granted their first choice even when that choice differed from the health worker's initial suggestion. "Choice denied" refers to women who reported that they had been given a contraceptive method that differed from their own prior first choice. Women denied their first choice can be subdivided into those who were given a method that coincided with the health worker's first suggestion, and those who received a different method.

Because the impact on contraceptive discontinuation of whether choice was granted or denied might depend on the contraceptive method used initially, three interaction terms were defined. The first was a term for the joint occurrence of choice being granted and use of the pill; the second was for the joint occurrence of choice being granted and use of the condom; the third was for the joint occurrence of choice being granted and use of injection.

In the current study, only 13.7 percent of the 1,945 women surveyed in the second round were in the "choice denied" category: This proportion is less than one-half the proportion of women who had retrospectively reported in the earlier study that their choice of method was denied (Pariani et al., 1987). The difference in proportions may be due to several causes, such as false reporting in the earlier study, the fact that only clinic patients in the city of Surabaya were included in the earlier study, or the possibility that the second round of the current study suffers from selection bias.

With respect to investigating the possibility of selectivity of follow-up, the records for persons interviewed in the first round who could not be interviewed in the second round were not coded and the original records of the first round have since been destroyed. Accordingly, we cannot test the possibility of selectivity of follow-up. Nevertheless, the difference in proportions reporting

choice denied between the earlier study and the current study is unlikely to be significantly affected by the selectivity of nonrespondents following the first round of the current study. Selectivity is most likely to occur among women who refuse to be interviewed in the second round. Although about 22 percent of all respondents in the first round were not interviewed in the second round, only about 10 percent of the nonrespondents were refusals, and the remainder simply could not be located.

Table 1 shows the relationship between the method desired by the client and the method actually used. Somewhat surprisingly, the marginal distributions for the desired contraceptive method are almost identical to the marginal distributions for the contraceptive used.

The percentage distribution of the method actually used by the method initially suggested by the health worker is shown in Table 2. There appears to be a large difference between the extent to which the IUD was the initial choice of the health worker (70.9 percent) and the extent to which it was actually used (32.8 percent). Conversely, the proportions of women using the pill and injection (33.6 percent and 30.9 percent, respectively), were much higher than the proportions of women for whom the health worker suggested such methods (8.4 percent and 14.7 percent, respectively).

Table 3 shows the method adopted by the woman, according to whether her choice of method was granted or denied, and whether the method adopted coincided

Table 1 Percentage distribution of contraceptive method used, by contraceptive desired, East Java, Indonesia, 1988

Contraceptive used	Contraceptive desired						Total
	Pill	IUD	Condom	Injection	Implant	Sterilization	
Pill	28.1	0.5	1.4	3.1	0.4	0.0	33.6
IUD	1.7	29.3	0.1	1.4	0.2	0.1	32.8
Condom	0.2	0.1	1.8	0.3	0.0	0.0	2.4
Injection	3.8	0.3	0.1	26.7	0.1	0.0	30.9
Implant	0.0	0.0	0.0	0.0	0.2	0.0	0.2
Sterilization	0.0	0.0	0.0	0.0	0.0	0.3	0.3
Total	33.8	30.1	3.3	31.6	0.8	0.4	100

Notes: In this and following tables, N = 1,945. All percentages are independently rounded.

Table 2 Percentage distribution of contraceptive method used, by contraceptive suggested by health worker, East Java, Indonesia, 1988

Contraceptive used	Contraceptive suggested						Total
	Pill	IUD	Condom	Injection	Implant	Sterilization	
Pill	7.9	21.9	0.1	1.0	0.1	2.7	33.6
IUD	0.1	31.8	0.0	0.1	0.1	0.8	32.8
Condom	0.1	1.3	0.5	0.2	0.0	0.4	2.4
Injection	0.4	16.0	0.0	13.3	0.4	0.8	30.9
Implant	0.0	0.0	0.0	0.1	0.1	0.0	0.2
Sterilization	0.0	0.0	0.0	0.0	0.0	0.3	0.3
Total	8.4	70.9	0.5	14.7	0.6	4.9	100

Table 3 Percentage distribution of method used, by whether client's method choice was granted or denied, and by whether method used coincided with health worker's initial suggestion, East Java, Indonesia, 1988

Method used	Method used was suggested by health worker		
	Yes	No	Total
Pill (N = 653)			
Choice granted	10.9	72.9	83.8
Choice denied	12.7	3.5	16.2
Total	23.6	75.4	100.0
IUD (N = 638)			
Choice granted	86.1	3.1	89.2
Choice denied	10.8	0.0	10.8
Total	96.9	3.1	100.0
Condom (N = 46)			
Choice granted	0.0	73.9	73.9
Choice denied	19.6	6.5	26.1
Total	19.6	80.4	100.0
Injection (N = 600)			
Choice granted	31.7	55.2	86.8
Choice denied	11.5	1.7	13.2
Total	43.2	56.8	100.0
Implant, sterilization (N = 8)			
Choice granted	87.5	12.5	100.0
Choice denied	0.0	0.0	0.0
Total	87.5	12.5	100.0
All methods (N = 1,945)			
Choice granted	42.0	44.3	86.3
Choice denied	11.8	1.9	13.7
Total	53.8	46.2	100.0

with the method initially suggested by the health worker. It is evident that the vast majority of women who used the IUD were granted their choice, and the method coincided with the one suggested by the midwife. On the other hand, when either the pill, condom, or injection was the method used, the majority of women had been granted their choice despite the fact that the method did not accord with the initial suggestion of the health worker. Among all women granted their contraceptive choice, a very slight majority were using a method that was not initially suggested by the health worker.

Husband-Wife Concurrence

Spousal concurrence concerning method choice was defined to exist only if the husband concurred with the wife's choice of contraceptive both before initial use and 12 months later. According to this definition, 71 percent of all husbands were in concurrence with their wives. With respect to the interaction between husband-wife agreement on contraceptive choice and whether choice was granted or denied, 62.1 percent of all women fell in the category of having their choice granted and also having husband-wife concurrence; 24.3 percent were in the category of having their choice granted without husband-wife concurrence; 9.0 percent were in the category of having their choice denied despite husband-wife concur-

rence; and 4.7 percent were in the category of having their choice denied without husband-wife concurrence.

Multivariate Analyses

Control Variables

The control variables used in the multivariate analyses can be subdivided into categorical variables and interval-scale variables. Among the categorical variables were method used (subdivided into pill, IUD, injection, and other); the presence of side effects; whether the woman was a new user of contraceptives; whether the husband was a government official; and whether the woman's reason for using contraceptives was to limit births. The interval-scale variables were age, woman's education, number of living children, number of dead children, and desired number of additional children.

Univariate Associations with Contraceptive Discontinuation

Table 4 shows the percentage of women who were contraceptive discontinuers for categories of each independent variable. The very strong impact on discontinuation of whether choice was granted or denied is quite evident. Of the 1,679 women who were granted their method choice, only 8.9 percent were discontinuers. Among the 266 women who were denied their choice, 72.2 percent were discontinuers. In contrast, husband-wife concurrence on method choice had a weak impact on discontinuation. On the other hand, Table 4 shows that the interaction between whether choice was granted or denied and husband-wife concurrence was substantial. When choice is granted, husband-wife concurrence reduces discontinuation, whereas when choice is denied, husband-wife concurrence increases discontinuation. Among the other independent variables, whether the woman was a new contraceptive user appears to have the most impact, and whether the woman experienced side effects has some impact, on discontinuation. In addition, use of the IUD is related to a distinctly lower rate of discontinuation.

Logit Linear Models of Contraceptive Discontinuation

Logit linear modeling was used to analyze the determinants of the natural log of the odds of contraceptive discontinuation. The results are shown in Table 5. "Choice granted" had a strong and highly significant relationship with sustained use. Both the positive coefficient for husband-wife concurrence and the negative coefficient for the interaction between husband-wife concurrence and whether choice was granted are statistically significant. Husband-wife concurrence in conjunction with choice

Table 4 Percentage of contraceptive discontinuers, by categories of each independent variable, East Java, Indonesia

Independent variable	Percent discontinuing	(N)
Choice granted		
Yes	8.9	(1,679)
No	72.2	(266)
Concurrence between husband and wife		
Yes	17.2	(1,381)
No	18.4	(564)
Interaction of choice granted or denied and husband-wife concurrence		
Granted/concurrence	8.1	(1,207)
Granted/no concurrence	10.8	(472)
Denied/concurrence	76.4	(174)
Denied/no concurrence	64.1	(92)
Method used		
Pill	25.7	(653)
IUD	9.3	(638)
Condom	28.3	(46)
Injection	16.8	(600)
Sterilization/implant	0.0	(8)
Interaction of choice granted or denied and use of injection		
Granted/injection	8.1	(521)
Granted/not injection	9.2	(1,158)
Denied/injection	76.0	(79)
Denied/not injection	70.6	(187)
Interaction of choice granted or denied and use of pill		
Granted/pill	13.9	(547)
Granted/not pill	6.5	(1,132)
Denied/pill	85.9	(106)
Denied/not pill	63.1	(160)
Interaction of choice granted or denied and use of condom		
Granted/condom	8.8	(34)
Granted/not condom	8.9	(1,645)
Denied/condom	83.3	(12)
Denied/not condom	71.7	(254)
Side effect		
Yes	21.3	(530)
No	17.5	(1,945)
Age		
16-24	18.2	(949)
25-34	16.5	(852)
35-49	18.8	(144)
New user		
Yes	20.6	(1,421)
No	9.2	(524)
Woman's education		
Illiterate	14.2	(169)
Barely literate	19.9	(327)
Elementary school	16.7	(1,126)
Junior high school	20.1	(199)
Senior high school	19.4	(124)
Husband's occupation		
Government official	20.0	(125)
Other	17.4	(1,820)
Number of living children		
0	48.6	(37)
1-2	16.6	(1,218)
3-4	17.9	(531)
≥5	16.4	(159)
Number of dead children		
0	17.1	(1,663)
1-2	20.4	(255)
≥3	14.8	(27)
Desired number of additional children		
0	16.5	(1,010)
1-2	18.3	(776)
≥3	20.1	(159)
Use contraceptives to limit births		
Yes	14.4	(368)
No	18.3	(1,577)

Table 5 Multivariate logit-linear equation for whether users had discontinued contraceptive use by the second round of the study

Independent variable	Regression coefficient
Choice granted	-1.1625**
Husband-wife concurrence	1.8833***
Interaction between spousal concurrence and choice granted	-2.7332***
Pill	.5487
IUD	-1.2965*
Injection	-.2233
Interaction between injection and choice granted	-.6804
Interaction between pill and choice granted	-.7417
Interaction between condom and choice granted	-.7504
Side effect	.2898
Age	-.0443
New user	.9025***
Woman's education	.0610
Husband's occupation	-.0753
Number of living children	.0059
Number of dead children	.1205
Desired number of additional children	.0975
Reason was to limit births	-.0698
Constant	-.8669
R ²	.3295***
X ²	776.28***

* p<.05. ** p<.001. *** p<.0001.

Note: Of the 1,945 women in the sample, 341 discontinued using a method.

being granted decreased the proportion discontinuing, whereas husband-wife concurrence paired with choice being denied increased that proportion. One may calculate that the odds of discontinuation when choice was granted and husbands and wives concurred on a method were only .13 of the odds of discontinuation when choice was denied and husbands and wives disagreed on a method. When choice was granted and husbands and wives disagreed, the relative odds of discontinuing were .31 compared to the situation where choice was denied and husbands and wives disagreed. On the other hand, when choice was denied and there was husband-wife concurrence, the relative odds of discontinuing were 6.58 compared with the situation in which choice was denied and husbands and wives did not concur. Moreover, the impact of whether choice was granted or denied does not appear to be affected by the type of method used; none of the three interactions between whether choice was granted and the particular method used was statistically significant.

Discussion

We have demonstrated the relevance of the relationships between provider and client and between husband and wife in ensuring the sustained use of contraceptives in East Java. When the client's method choice is granted, the

contraceptive continuation rate greatly increases. Husband-wife concurrence on method choice has a significant negative effect on continuation when choice is denied. On the other hand, husband-wife concurrence has a positive effect on continuation when choice is granted.

Although the relationship between husband and wife is important to sustained contraceptive use, it is not within the immediate purview of most family planning programs. However, the relationship between health workers and their clients is an essential factor in program quality. The Javanese premium on good interpersonal relations includes expressing respect for and avoiding conflict with superiors. Javanese often sidestep difficulties with superiors by refraining from a response, or by nominally agreeing, or by disagreeing in such a refined manner that their response can be taken as agreement. Thus, if the health worker's suggested methods are not preferred, clients may accept them but never use or discontinue using them. Only 14 percent of the respondents in this study fall into the "choice denied" category; and a few women in this category were, after all, using the contraceptives provided at the end of the 12-month study period. But almost 10 percent of the entire sample were denied their method choice and subsequently discontinued contraceptive use. These women represent a considerable barrier to full acceptance of family planning in the area. If no women had been denied their method choice and if the proportion of sampled women who were granted their choice and continued to use contraceptives remained constant, then 91.1 percent of women would still be users at the end of the 12-month period instead of the actual 82.5 percent.

"Guidance/cooperation" and "mutual participation" models of professional-client relationships suggest how clients' method choices can be respected and how health workers could help their clients make decisions by providing additional information (Szasz and Hollender, 1956). Reciprocal rather than hierarchical relationships between health workers and clients would allow contraceptive acceptors to use methods of their own choosing (that they are likely to continue using). At the same time, clients' respect for the authority of health workers can also further family planning goals, provided that health workers confirm client choices.

Haryono Suyono (1988), Chairman of the National Family Planning Coordinating Board, suggests that efforts be concentrated on making sure that (Indonesian) family planning acceptors are adequately cared for, so that they will not discontinue contraception. The present research confirms the validity of the program that Suyono has promoted: "Give the people what they want." In our view, doing so involves effectively linking two sets of actors in contraception—health workers and clients, and husbands and wives. Such a strategy, which will succeed

through giving the power of decision to clients, may have the potential to improve contraceptive mix, link initial contraceptive choices to effective continuation, and increase family planning program quality in many third world nations.

Acknowledgments

This report is based on Siti Piriani's Ph.D. dissertation in Sociology at the University of Southern California, titled "Contraceptive Discontinuation in East Java, Indonesia, 1989." Mark Hayward provided crucial input for our model and data analysis. The intellectual contributions of Edward Ransford, Everett Rogers, and Herman Turk are gratefully acknowledged, as is the assistance of Amentha Dymally, Elizabeth Mathew, and Claire Peterson. Support was received through a loan from the United States Agency for International Development to the Government of Indonesia, a grant from The William and Flora Hewlett Foundation to the University of Southern California, and a grant from the Population Council to the National Family Planning Coordinating Board of Indonesia.

Notes

- 1 Reactance theory stipulates that *ego* reacts negatively to *alter's* behavior when *alter's* behavior is perceived by *ego* as harmful.
- 2 Five districts were selected in each regency and 10 were chosen in Surabaya. These districts were chosen on the basis of information provided by NFPCB local staffs, because they had the best administrative reputations in their respective regencies. Since there are only one or two family planning clinics in each district, all clinics in each district were included in the research.

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