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Contraceptive Methods Choice in Pakistan: Determined or Predetermined

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INTRODUCTION

Service providers and users are two key players in the efforts to regulate fertility in a society. Government policies and programmes ensure provision of services through increased coverage and adopting selective methods or a "cafeteria" approach. The objective for programme managers remains to bring adequate fertility impact without sacrificing pattern of use–continuation and overall efficiency of contraception. In contrast are the users, display another range of factors like preferences, motivation, ability to purchase and their stage of family building determining their participation in the fertility regulation behaviour. In this regard, the availability and accessibility to contraceptive methods referred to as the supply aspects of a system, outline the choice parameters for a user.

Understanding use pattern and choice of method is important for policy-makers and programme managers to create dynamism in the supply system to match the need and necessities of users. Successful achievement of family planning programme is not simply the establishment of 'cafeteria approach' but it encompasses programme manager's adequate understanding of the factors that lead users to shift, make selection of methods or abandon the use of contraception. Such an understanding is essential for managers in evolving strategies to tackle high fertility behaviour at local levels. Prior research of contraceptive method choice decision in developing countries show a different set of variables influencing contraceptive adoption as against use continuation and method selection. There is a complete absence of research on Pakistan in this aspect of contraceptive use behaviour which this paper intends to contribute towards. The significance of such research is salient especially when the government's family planning programme focuses on multi-method supply approach supported by an aggressive motivational campaign.

In societies where governments have instituted a "cafeteria approach" strong motivational and promotional campaign needs to be supplemented to

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Author's Note: Comments to improve the content of the paper are welcome.

persuade users for continuous use or appeal potential users to initiate use at early ages of their reproductive career. The reason is obvious that more effective methods used by a small group of couples would have greater demographic impacts than a large group using less efficient methods [Sheps and Perrin (1963)]. It is the user's perspective that has growingly been accepted by programme managers to increase contraceptives options by enchancing access to wide-ranging preferences. This exercise tries to bring out the user's perspective in Pakistan by looking at contraceptive use and method choice decisions. The importance of such an analysis lies in examining how users make their choices within whatever is made available to them to reduce their chances of getting pregnant. Prior studies done on Pakistan focus on comparison of data from two or more surveys but ignore the internal dynamics of shift and continuity of use at an individual level. This analysis tries to fill in this gap.

The objectives of this exercise is to bring out user's perspectives by identifying various factors that have bearing on the choice of method selected in Pakistan. The analysis tries to address factors effecting ever and current use; illuminate the dynamics of continuity and shifting of methods or dropping out; and method selection. Family building stages stay central to our analysis to examine its importance because of various expected shifts in the selection of specific methods.

There are a number of interrelated questions that are addressed in this analysis: (a) do the same set of factors influence contraceptive adoption as against use continuation or method choice behaviours; (b) to what extent does demographic factors continue to influence method continuity or drop-out; and (c) has family building stage gained prominence in selection of method to fulfil their fertility desires?

DATA AND METHODS

This paper uses data from the Pakistan demographic and Health Survey conducted during 1990-91. The survey utilised a two-stage stratified random sample representative for Pakistan, urban and rural areas, and for provinces. The survey design involved over sampling of smaller and less populated provinces like NWFP and Balochistan and over sampling of certain urban areas to capture the heretogeneity of various social strata. The data were weighted to bring the final sample representative to national distribution of population. Household questionnaires were used to identify eligible women (ever married, age 15–49), who were later interviewed using individual questionnaires to obtain wide-ranging information on fertility, family planning, marriage, breast-feeding, child health, pregnancies

and respondent's work participation. Information on contraception included: knowledge, ever use, current and first method used, cost, source and accessibly were sought from all eligible women.

The present analysis focuses on 6364 currently married women between ages 15–49 at the time of the survey. The current analysis undertakes three sets of analysis: (a) ever use and current use of contraceptive behaviour; (b) continuity, shifting or dropping out behaviour; and (c) finally, examine specific combination of methods comparing modern methods with traditional methods, sterilisation with other modern methods, conventional female methods with traditional methods and with condoms.

Logistic regression analysis is used in the analysis because of the binary nature of various comparisons of contraceptive use and method choice variables. The results include presentation of regression coefficients and their predicted probabilities. Separate set of variables are used for various comparisons to capture the differences in reproductive stage. Multinomial logistic analysis would be more appropriate for this analysis, but due to non-availability of the software, simple logistic regressions were executed for each comparison.

Most literature uses the 'choice' of method with the assumption that the acceptance of a method involves some consideration by the user. This paper initially takes a critical look at various factors that inhibit the 'choice' of contraceptive method in countries like Pakistan. Low contraceptive use rate in Pakistan may be argued to be related to limited choice of methods available to couples. These constraints have been identified as evolving from the ignorance of local needs based on socio-economic and cultural conditions.

This is followed by a section illuminating the status of contraceptive use in Pakistan before spelling out the actual 'choice' of methods practiced by Pakistani women.

CHOICE OF METHODS: PREDETERMINED OR DETERMINED

The answer to whether the method used by a couple is the one they really wanted to use, is not so simple as it seems from a number of studies focusing on determinants of contraceptive method choice. Reasons that inhibit choice vary and include religio-cultural aspects, social arguments, policy and programme management issues, donor and research aspects, gender biases, etc. Before discussing these let me examine what does 'choice of method' really mean.

Over a woman's reproductive career, starting from her marriage consummation with husband, occurrences of births play important role in determining her chances of social mobility within her family. At an individual level, the transition from the role of a wife to motherhood is smooth but increasingly adds responsibilities widening from reproductive to productive activities that still maintain the overall umbrella of family welfare. Birth spacing and limiting take varying priority over reproductive career. Considering women's ever burdening reproductive role and mothering combined with poor nutritional status, the linkage between her reproductive pattern, health status and productive capacities places her life and survival priorities very close to her social status. As such, reproductive pattern here may be argued as the main contender and tension builder in a woman's life. Possible interventions that could release her tensions or miseries include postponement of births, enhancement of health and provision of poverty alleviation opportunities. The choice of contraceptive methods thus falls within this realm basically as a tool to assist in birth placements in her reproductive career, thereby creating spaces for health and actualisation of productive capacities. In the same context a contraceptive method that may satisfy her birth spacing or limiting needs but does not alleviate her health problems are not choice methods. Choice of method in Pakistani society would, therefore, entail a fine mix that ensures adequate transformation to motherhood role, besides properly complementing her productive capacities. On the whole, the choice thus focuses much beyond simple provision of contraceptives, but engulfs reproductive health and overall well-being of the family. It is this perspective that has now evolved into 'rights' to access and gain functional knowledge so that externalities impinging use and choice of contraception may be reduced.

Contraceptive use behaviour is complex and is much more than just the desire for more children and attitude towards family size and use of specific methods. Prior research indicates users to be educated, employed, lesser of them desiring more children, and aware about more methods [Akhter and Ahmed (1990) and Anonymous (1991)]. In this regard, distance to the source is reported to be negatively influencing use [Anonymous (1991)] and quality of service accompanying increased accessibility and better staff-client interaction plays important role in enhancing family planning use [Reynes (1988)]. As for method selection is concerned, oral pills, IUDs and injectables were found to be preferred by younger women in Bangladesh (1) and by rural women (5). Though use rate is more prominent among older women mostly focusing on the use of condoms, sterilisation and traditional methods which reflect basically birth limiting behaviour and with

greater involvement of husbands. In summary, demographic factors are found primarily influencing choice of methods [Malhotra and Thapa (1990); Khan *et al.* (1989)]. This is attributed to relatively limited social barriers to access different methods in countries like Sri Lanka.

Research on complexity of use behaviour usually has ignored factors that are too macro to choice and selection process. Few factors need to be illuminated that seriously impinge user's choices. These aspects include factors that are beyond one's control and restricts available options, be it religious aspects, programme management issues, gender biases in contraceptive technology and donor preferences. Rather, these factors tend to predetermine the use pattern of contraceptive method use. A brief understanding of each element is described below.

Religio-culture Aspects

Women in different societies and in different times have been using various methods accessible to them to avert pregnancies. It was only in South Korea that excessive use of abortion, though not accepted medically, was considered as serious contraceptive method. In contrast, are muslim societies (and to some extent certain catholic societies) that opt not to allow surgical options as a part of choice methods, even though other methods are intensively persued. Contraceptive surgery including abortion is permitted to only those having legal protection or valid health needs, but still induced abortions remain an illegal activity. Pakistan takes a middle course in favour of surgery, whereby programme offers it as an option but to only those who are interested and seek it. In a religio-cultural context this provision is a liberal step, but in reality given the family building norms and values in Pakistan, it is no more a viable option. Even though religious authorities in Pakistan are converging gradually and silently towards family planning options, yet they restrict it to traditional/modern temporary methods only.

Donor Preferences and International Research

Absence of research in developing countries to evolve traditional medicines and newer methods of contraception and to certain extent suppression of such research efforts by multinational pharmaceutical companies to maintain their monopoly has lead the population control programmes to be basically driven by donor agencies. The total failure of inundation scheme, during 1973–77 is a well known donor driven idea which had no local roots socially or administratively. The emphasis and desirability on greater intervention especially by the US in 60s and 70s to slow down population growth in developing countries was part of elite policy

maker's advocacy campaign [Wilmoth and Ball (1992)]. The institutionalisation of population programmes in developing countries and massive production and introduction of select contraceptive methods by the West was acclaimed as a 'major victory', to which most developing countries fell trapped. More recently, agencies like international population NGOs, UN agencies and the World Bank have taken over the agenda and pursuit of old rhetoric. But the voices of concern now focus both on the dependence on donor community for modern methods and the absence of *real* choice of methods thus infringing developing countries women rights. Even though IUD is being pushed vehemently by donor agencies and readily accepted by countries like Pakistan as a major modern method, indepth research has found this method to be declared as 'highly invasive birth control procedures' [Dayal and Haq (1993)]. The choice thus seems to be predetermined while local methods including breast-feeding, or other herbal methods are on the way to extinction, thanks to a number of local and international agencies. The most recent technological development now has strengthened selection process of preferred sex, and as such has increased sex specific abortion rate in developing countries.

Gender Bias in Contraceptive Technology

Absence of an equal number of male contraceptive methods and concentration of methods focusing on 'femail only' has been noted as an outcome of historical bias against women traced in Western tradition. Be it policy formulation or research on contraceptive technology, the prominence of female as the target to control fertility points toward evasion of responsibility in family building process. This gender bias is clearly understood as a manipulation of choice of methods and is now under heated discussion at all international forums including ICPD at Cairo (Sept. 1994) thus paving way for 'men to take responsible position as fathers in building the well-being of families and communitie'. It is the freedom of choice that is pointed out to bring men and women as equal partners in family planning ensuring greater rights to women on reproductive health. What is entails is a shift beyond simply acknowledgment of woman's rights to information and accessibility to quality services but involves a change in male attitude towards woman's health needs, strengthening their role in decision-making especially, in the timing, number, and spacing of births; unleashing their productive capacities and enhancing their skills for enterprise development. Such a shift would help women bear the reproductive burden and men to share the control aspects with responsibility.

What it also involves is a concentration of research in newer or rather more traditional male contraceptive technology in developing societies, besides

strengthening of advocacy and propagation campaign for increasing men's involvement toward a constructive social change. In this case pioneering efforts to involve men in family planning through 'Hujra project' in NWFP is worth mentioning where a local NGO has been able to penetrate the so-called 'orthodox' society. Decline in the distribution of condoms and almost complete absence of vesactomy in Pakistan calls for a serious effort especially by NGOs both in terms of advocacy and opening of welfare centers for males through out Pakistan to build up the choice element.

Given these externalities, choice of contraceptive method in Pakistan needs serious thinking not only to ensure family planning programme's success but also to fulfil unmet women needs. The centrality of 'choice', therefore has to be seen in a holistic manner which builds responsible roles for both men and women in the overall population and development perspective rather on fertility control only. The prominence of predetermined nature of contraceptive methods leaves little manoeuvrability for women, basically to satisfy high demand for children pressures, adjust and compromise with hostile conditions aggravated by administrative structures and inappropriate institutionalisation of family building/planning process.

The remaining of the exercise takes up this aspects by examining contraceptive use, continuity, dropout and method choice in Pakistan.

CHANGING STATUS OF CONTRACEPTIVE CHOICE

Absence of a persistent contraceptive supply line and a consistent programme approach, marred programme coverage, while major differences exist in service statistics and survey data regarding contraceptive distribution and usage. Since 1965, Pakistan's family planning service delivery has increased both in coverage and quality. Most field surveys exhibit a steady rise in contraceptive use is indicative of this progress (Table 1) but at a very slow pace i.e. the ever use of contraception doubled in more than fifteen years. A comparison of ever use of various contraceptive methods across various years indicate that condom (the only male method) has remained the most popular among users in recent years. Female sterilisation depict a steady rise but did not become as popular as pills and condoms. This is clear indicative of programme efforts to popularise pills and condoms in 1970s and 80s. Sterilisation, though exhibit highest practice in 1990-91, is more common with older women, who has higher parity are less educated and mostly urban residents. Female sterilisation would have been much higher if the procedure to acquire it is simplified and coverage increased to other smaller cities. The use of IUDs depict a fluctuating trend, while injectables even through introduced

Table 2

Number of Contraceptive Methods Used and Current Practices by First Method

First Method Used	Only One Method Used	No. of Other Methods Used				Cases	Ever Users–Current Method		Dropped Out No Current Use
		1	2	3	4		Same as First	Diff. than First	
Modern Methods									
Pills	43.5	32.1	13.3	9.4	1.6	**227**	17.4	34.5	48.1
IUDs	62.8	25.0	6.0	5.2	0.8	**134**	35.6	18.0	46.4
Injections	56.2	27.3	9.7	4.8	2.0	**134**	20.6	16.7	62.7
Diaphram	7.7	72.2	9.6	10.5	–	**10**	12.5	20.6	67.9
Condoms	52.6	27.4	12.7	4.1	3.2	**348**	39.6	19.2	41.2
Sterilisation	93.3	6.6	0.1	–	–	**152**	98.4	–	1.6
Traditional Methods									
Periodic Abstinence	66.1	29.8	3.8	0.3	–	**151**	37.6	8.2	54.2
Withdrawal	66.8	16.0	9.7	6.3	1.2	**91**	58.3	17.2	24.0
Other Traditional*	81.1	15.0	0.5	2.3	–	**87**	15.1	3.5	81.4
Total	61.1	24.7	8.4	4.4	1.5	**1333**			

*Includes breast-feeding, herbs, local methods.

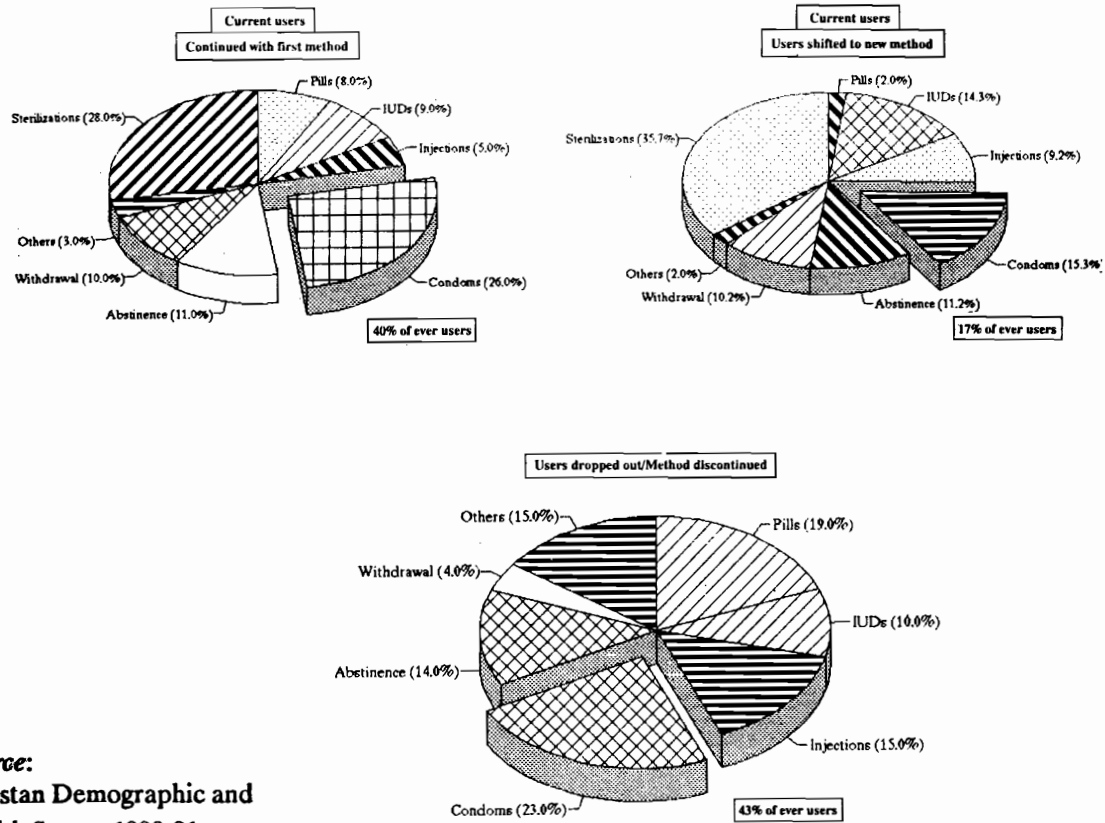
From the current users perspective condoms and sterilisation emerge prominent methods among continues users of first method, while among those who switched to new methods (17 percent of ever users) surgery, condoms and IUDs are found to be prominent methods (Figure 1). In contrast, the dropouts (43 percent of ever users) mostly used pills, injections and condoms as their first method. These three groups emerge to have distinct responses to fertility motives and regulation, and would be analysed further latter. There is high activity of contraceptive use once a specific method is initiated implying serious fertility regulation desires. The shift towards more efficient methods points to greater consciousness to reduce chances of future pregnancy while dropouts mostly justify or seek additional births, or complain of side effects. With 43 percent ever users dropping-out and discontinuing use of pills, condoms and injections points towards serious efforts needed to enhance supply efficiency, and effective counselling to pills and condom users to switch to other methods to ensure some impact of their continued use. Given the seriousness of lost impact on fertility reduction due to heavy dropout, the users switching to new methods especially those adopting pills, condoms to traditional methods (23.40 percent) points towards the need for strengthening of counselling services. Two issues have been pointed out here as key to increasing effective use are: counselling and supply efficiency. The practical experience of Bangladesh in adopting service delivery system to cultural realities which includes patriarchal social structure and limited female mobility, is worth examining and learning. The greater use of community based supply outlets, intensive and strong follow-up, effective supervision, complemented by radio advertisements and staff outreach and counselling are specific aspects that a number of development and population NGOs in Pakistan have already instituted to widen the range of method choice and consistency in contraceptive supplies. Networking with commercial supply agencies has also been tested as effective partners in increasing contraceptive supply efficiency.

The next section examines a number of determinants that affect use of various contraceptive methods. The following analysis uses a variety of factors to capture various aspects facilitating or putting constants to use or switching of methods. these sets of covariates are mostly indirect measures of Bulatao's framework (1989). The following are used in the analysis:

Contraceptive goals:

number of living children
desire for more children
marriage to a cousin
age of the respondent

Fig . 1. Distribution of Ever Users of Contraception by their Current Status and First Methods Used.



***Source*:**
Pakistan Demographic and Health Survey 1990-91.

Contraceptive competence:

Husband's and wife's education

Contraceptive evaluation:

Watch television and/or listen radio once a week.

Contraceptive access:

Place of residence

Respondent could visit a health clinic by herself.

Influence of television and radio messages is considered as contraceptive evaluation as promotion of programme activities and to persuade couples to use a method to reduce chances of future pregnancy. Therefore, radio listen TV viewers are expected to be users of efficient methods, besides an element of persuasion to continue using effective methods.

A limitation of this analysis needs to be acknowledge here. The covariates used relates to current status of respondent while the decision to initiate contraception, continue a specific method or dropping out may be related to past context. Therefore, the current covariates are assumed to refer to these decisions in the past, especially when we are examining the ever use of a method. Though most decisions about contraceptive use are not current, the duration of initiation, except for some cases of sterilisation, is not very long indicating recency of these events. We may expect not much difference in the conditions or the factors considered in this analysis. The analysis is set in three steps: first, comparison of ever use and current use among currently married women; second, examination of continuation or dropping out process; and finally, combination of various methods. A logistic regression at step 1 includes all variables, while step 2 includes only those covariates that show significant coefficients in first analysis. Each analysis involves logistic estimates followed by probability estimation for each category of all the factors.

Ever Use and Current Use

The results presented in Tables 3 and 4 bring out new dimensions of our analysis. The association of coefficients with respect to age, education, visit to clinic, number of living children, and place of residence seem in the expected direction. The results for watching television or listening to radio (at least once a week) and marriage to a cousin all show unexpected direction of coefficients for both ever use and current use. Marriage to a cousin and husband's education did not depict significant coefficients. Use of contraception rises rapidly even with slight shift in wife's education, among those with more than four living children,

Table 3

Logistic Regression Coefficients for Ever Use and Current Use of Contraception (Currently Married Women)

Indicators	Ever Use	(SE)	Current Use	(SE)
Age of the Respondent	–0.0270	(.006)***	–0.0236	(.008)***
Woman's Education				
None	–1.1292	(.147)***	–1.2126	(.164)***
Primary	–0.5571	(.162)***	–0.7139	(.179)***
Middle	–0.2331	(.182)	–0.1595	(.194)
[Secondary]				
Husband's Education				
None	–0.5212	(.172)***	–0.5553	(.194)***
Grades 1–8	–0.2169	(.170)	–0.2011	(.187)
Grades 9–10	–0.1340	(.160)	–0.1865	(.171)
[Grade 11 +]				
Visit to Health Clinic				
Could Go Alone	0.4493	(.186)***	0.6356	(.230)***
Need a Company	–0.4541	(.181)***	–0.1035	(.227)
[Depends]				
No. of Living Children	0-2570	(.021)***	0.2483	(.025)***
Want more Children				
Yes	–1.0123	(.107)***	–0.9392	(.139)***
Allah Knows	0.0230	(.095)	0.8179	(.107)***
[No]				
Married to a Cousin	–0.0259	(.077)	0.0861	(.092)
Place of Residence				
Major Urban	0.9437	(.104)***	0.7894	(.124)***
Other Urban	0.4881	(.108)***	0.4487	(.132)***
[Rural]				
Watch Television	–0.6696	(.097)***	–0.7716	(.120)***
Listen to Radio	–0.2666	(.086)***	–0.0277	(.132)
Constant	0.4516	(.312)	–1.0105	(.365)**

Note: *** Coeff. significant at < .01 percent level.
** Coeff. significant at < .05 percent level.
* Coeff. significant at < .10 percent level.
Categories in [ ] are omitted categories.

Table 4

Probability Estimates for Ever Use and Current Use of any Contraception (Currently Married Women)

Indicators		Ever Users vs Never Users	Current Users vs Not Using
Age of the Respondent			
	19	27.5	12.6
	24	24.9	11.3
	29	22.5	10.2
	34	20.2	9.2
	39	18.1	8.2
	44	16.2	7.4
Woman's Education			
None		18.1	8.0
Primary		28.2	12.6
Middle		35.2	20.0
Secondary		40.6	22.7
Visit to Health Clinic			
Could Go Alone		34.0	15.7
Need a Company		17.3	8.2
Depends		24.8	8.9
No. of Living Children			
	2	15.6	6.7
	4	23.6	10.8
	6	34.0	16.6
	8	46.3	24.6
Want More Children			
Yes		12.9	4.8
Allah Knows		29.5	22.7
No		29.0	11.5
Place of Residence			
Major Urban		32.4	14.7
Other Urban		23.3	10.9
Rural		15.7	7.2
Watch Television			
Yes		15.2	6.2
No		25.9	12.6
Listen to Radio			
Yes		18.5	9.6
No		22.8	9.7
On average		21.5	9.8

Note: Probability estimates for significant variables in Table 3 only.

among residents of major cities, among those who could visit a clinic alone, and among those who are not sure or do not want more children. Education of wife seems to be the most important factor in current use of contraception followed by the ability to go to a clinic alone and the desire to discontinue reproduction. Interestingly, the negative coefficient with radio listening and TV viewing imply higher use rate among women who do not watch TV or listen to radio even once a week. These results point toward the use of specific methods by women in lower economic status. The results start making sense when poor women are observed within their limited access to contraceptive services and who could not go to a health clinic alone, but sill acquire some method, especially sterilisation. These results points towards several issues:

(a) Use of electronic media to promote family planning may not fetch the desired results because of its limited outreach and impact.

(b) Women not able to access health facilities themselves need to be attend by adopting programmes outreach to cater to their specific needs. The probability to use is higher among women age less than 30. On the other hand, high probability among women with 4 or more children imply strong desire to curtail fertility at that stage.

What we observe from this analysis is that although individual characteristics play an important role in achieving contraceptive use, stringent programme design may not fulfil the dynamic needs of women in different socioeconomic strata. It is the flexibility and adaptability of family planning programme that would address changing needs of women. In Pakistan, although demographic changes within the family may be quite important in determining contraceptive use, programme outreach and women economic status too emerge as important indicators of ever or current use status.

Continuity vs Shifting vs Dropping-out

Results of logistic regression reveal different set of factors explaining the three states of current use. Continuing use of first method is basically determined by the desire to limit future births, while contraceptive switching by age, number of living children and women's life style/economic status as indicated by her TV viewing habits. Women's education enhances probability of continuous use while it shows no significant impact on those who switch methods. Contraceptive continuity though strongly influenced by the desire for limiting reproduction, high education complements this process.

Switching methods is found to be a significant process, even if all factors are held constant. Women opt to shift methods which increased number of living children, especially when they belong to lower socioeconomic strata. Higher probability of switching methods at younger ages is indicative of rapid method adjustment toward more effective ones. This is expected because of initial stages of reproductive behaviour and increased desire to space or limit future pregnancies. Ability to fetch own methods from a clinic positively effects the chances to switch methods, but not significantly (Table 5).

Completely dropping-out depicts an independent phenomenon. Dropping-out seems to be an attitudinal issue and indicated by their desirability or indecisiveness toward having more children. Probability of dropping-out is much stronger in the illiterate and less educated women, among those with less than four living children, and strange enough, women who do report watching TV once a week. High probability of dropping-out among women desiring more children is understandable, but equally high chances for women not desiring more children points towards a serious deficiency in counselling or method specific knowledge among such women. The issue takes a different dimension for poorer women (indicated by lower probability of dropping-out among women who listen to radio). Inadequate motivation and inappropriate information about methods could be attributed to dissatisfaction among users. This dimension points towards the inability of the system to reach-out the needy women in remote areas. Flexibility of supply system and greater counselling (through greater staff-client interaction) and education of the users regarding various methods emerge as the need of the hour (Table 6).

Choice of Current Method

What determine the use of specific methods? Previous studies in Sri Lanka and India have showed important role of socioeconomic and demographic factors in determining choice of method [Malhotra and Thapa (1991)]. Our analysis points toward various aspects that go beyond demographic and socioeconomic factors. Accessibility and the impact of electronic media is visually apparent in Tables 7 and 8.

Modern vs Traditional Method

Use of any modern method is found to be prominent among older, less educated and urban residence. Users ability to go to a clinic by herself or with a company emerges as an important factors enabling women to use modern method.

Table 5

Logistic Regression Coefficients Comparing Women who Continued the Same Method, or Shifted to Other Methods, and those who Completely Dropped Out

Indicators	Continued First Method vs Shifted + Dropped Out	Shifted to a New Method vs Continued an Old One	Dropped Out vs Continued Using
Age	0.003	–0.0303**	0.0120
Education			
None	–0.3925***	–0.2524	0.7428***
Primary	–0.3197	–0.2793	0.6341***
Middle	–0.2630	0.4103	0.0020***
[Secondary +]			
Visit to a Health Clinic			
Could Go Alone	0.0341	0.7207	–0.4075
Depends	0.0749	0.3689	–0.3252
[Need a Company]			
No. of Living Children	–0.0345	0.2069***	–0.0722***
Place of Residence			
Major Cities	0.0417	0.1889	–0.1069
Other Urban	–0.1870	0.5125	–0.0410
[Rural]			
Desire for More Children			
Yes	–0.3311**	0.0511	0.3423**
Allah Knows	0.8102***	0.2670	–1.6635***
[No]			
Watch Television	0.0786	–0.5967***	0.2900*
Listen to Radio	0.1207	0.0652	–0.2556**
Constant	–0.2669	–1.4238***	–0.1734

Note: * Coefficient significant at < .10 level.
** Coefficient significant at < .05 level.
*** Coefficient significant at < .01 level.
Indicators in [ ] are refernce categories.

Table 6

Probability Estimates for Continuing Old Method, Using a Different Method and Dropping Out

Indicators		Continuing Old Method	Shifting to a New Method	Dropping Out Completely
Age of the Respondent				
	19	40.7	34.8	38.2
	24	41.1	31.4	39.6
	29	41.5	28.3	41.1
	34	42.6	25.3	42.6
	39	44.0	22.5	44.0
	44	45.5	20.0	45.5
Woman's Education				
None		39.0	22.8	48.9
Primary		40.8	22.3	46.2
Middle		42.1	36.4	31.3
Secondary		48.6	27.5	31.3
Visit to Health Clinic				
Could Go Alone		41.4	28.9	40.8
Need a Company		42.4	22.1	42.8
Depends		40.6	16.4	50.9
No. of Living Children				
	2	44.1	15.8	47.2
	4	42.4	22.1	43.6
	6	40.7	30.0	40.1
	8	39.0	39.3	36.7
Want More Children				
Yes		31.0	24.5	59.3
Allah Knows		58.5	28.8	16.4
No		38.5	23.6	50.8
Place of Residence				
Major Urban		43.3	24.6	41.4
Other Urban		37.8	31.1	43.0
Rural		42.3	21.3	44.0
Watch Television				
Yes		40.5	22.2	44.6
No		42.4	34.2	37.6
Listen to Radio				
Yes		40.4	26.0	39.0
No		43.4	24.8	45.3
On Average		41.8	25.3	42.3

Table 7

Logistic Regression Coefficients for Choice of Current Method Used

Indicators	All Modern Methods vs Tradtnal Methods	Sterilisation vs Oth. Modern Methods	Conv. Female Methods vs Trad. Methods	Conv. Female Methods vs Condom Use
Age of the Respondent	0.0232	0.1225***	–0.0543***	–.0461**
Woman's Education				
None	0.4107*	0.2710***	0.2842	0.4327
Primary	0.4424	0.5703	0.4126	0.2798
Middle	0.2825	1.0254***	0.3498	–0.1374
[Secondary]				
Visit to Health Clinic				
Could Go Alone	0.6695*	–0.2298	0.7742	0.1895
Need a Company	0.4465	0.3208	0.9185	0.7870
[Depends]				
No. of Living Children	0.0157	0.0706	0.1376*	0.2132***
Place of Residence				
Major Urban	–0.5653*	0.4549*	–1.1212***	–0.6486**
Other Urban	–0.4599*	0.5502**	–0.6164*	–0.0290
[Rural]				
Watch Television	–0.1763	–0.1287	–0.0399*	0.5934*
Listen to Radio	0.2700	–0.0994	0.4589*	0.0255
Constant	–0.2418	–5.9063	0.3721	–0.0617

Note: *** Coefficient significant at < .01 level.
** Coefficient significant at < .05 level.
* Coefficient significant at < .10 level.
Categories in [ ] are omitted categories.

Table 8

Probability Estimates for Using Various Combinations of Methods

Indicators		All Modern vs Trad. Methods	Sterilisation vs Other Modern Methods	Conv. Female vs Trad. Methods	Conv. Female vs Use of Condoms
Age of the Respondent					
	19	66.2	7.0	59.5	61.6
	24	68.8	11.7	52.0	56.1
	29	71.2	19.6	45.8	50.3
	34	73.5	31.3	39.2	44.6
	39	75.7	45.4	32.9	39
	44	77.8	60.5	27.2	33.7
Woman's Education					
None		75.7	30.5	42.8	52.7
Primary		76.3	37.2	45.9	48.8
Middle		73.3	48.3	44.4	38.6
Secondary		67.4	25.1	36.0	41.9
Visit to Health Clinic					
Could Go Alone		76.0	26.7	44.5	44.2
Need a Company		71.7	38.7	48.0	59.1
Depends		61.9	31.4	27.0	39.6
No. of Living Children					
	2	72.6	27.4	32.9	34.7
	4	73.2	30.3	39.2	44.8
	6	73.9	33.3	45.9	55.4
Place of Residence					
Major Urban		80.9	33.4	33.9	39.7
Other Urban		72.8	35.6	45.9	55.1
Rural		60.4	24.2	60.1	55.7
Watch Television					
Yes		72.6	30.8	41.0	54.9
No		75.8	33.7	42.0	40.2
Listen to Radio					
Yes		76.2	30.6	45.0	47.3
No		71.0	32.7	34.1	46.6
On Average		73.5	31.8	41.5	47.1

Sterilisation vs Other Modern Methods

This comparison tries to capture birth limiting vs spacing choices opted by women in Pakistan. Probability to practice sterilisation increases with age, especially in 30s, primary and middle educated women, and among urban women more so living in smaller town. Number of living children does not appear to play an important role when we compare birth limiting vs modern birth spacing option. It appears here that age of women and availability of services (mostly concentrating in urban areas) are two major factors that make it important over other modern methods. Who makes the real choice: woman or the service provider? The Family Welfare Counsellors and Family Welfare Workers seem to play important motivating role to convince and recruit women for sterilisation purposes. The lowering of age at sterilisation over the last decade also (as reported in the main PDHS report) is supported by this argument.

Conventional Female Spacing Methods vs Traditional Methods

The use of pills, IUD, injectable and foam is found to be prominent among younger women residents of rural and smaller town, and those with more than four living children. The positive significant coefficient associated with radio listening implies higher probability of use of such spacing method. These life style factor may be taken as an indicator of middle class women who tend to adopt modern method over traditional ones to space birth.

Conventional Female Spacing Methods vs Condoms

If a spacing birth is the objective, then is it the female or male method that is preferred? Women who are younger, higher parity, residents of rural areas and smaller towns, and those depicting modern life style (watching TV) emerge as supporter of conventional female methods. In contrast, women with lower parity, residents of major city and those not watching TV even once a week are found to prefer use of condoms over female conventional methods. It shows increased involvement of husbands in contraceptive use among women age 30 and above, with less than 3 living children, and an urban environment. This involvement by husbands encompasses a number of matters including purchase of method which relieves women of fetching other methods from other sources, and its use relieves women of side effects of other methods. The rural-urban differential is indicative of supply differential, i.e. family welfare centres (government or NGOs) basically focus and dispense IUDs and injectables as the most effective methods to women. The placement of these centres is thus influencing their selection of method.

On the whole, our analysis reveals a variety of factors effecting use of various methods:

- Age of women appears to be more important factor than the number of living children in the selection of methods by women. Number of children appears significant only when condom is compare with conventional female methods.
- Continuity of contraceptive use tends to be of an attitudinal matter geared by fertility desires. This is in contrast to the shifting behaviour which implies determination to curtail fertility and is driven by actual fertility of women. This may be taken as indicative of search of better and effective methods or a shift from spacing to limiting methods to avoid any further unwanted pregnancies. Discontinuation of use, on the other hand, is influenced by socioeconomic and demographic factors and life style indicators.
- Life style of women becomes important only when female conventional methods are considered. TV has been extensively used to promote small family norm and enhance awareness about family planning. Women viewing TV at least once a week are found to have little probability to use conventional spacing method.
- Greater provision and accessibility to various methods increases the probability of major urban women to practice sterilisation while increased programme coverage seems to have increased the chances for women in small urban areas to practice either sterilisation or other conventional female methods.
- Interestingly, conventional female methods when compared with traditional methods or condoms, rural women show higher probability to adopt modern methods as against urban women. These results may be taken as a serious opportunity to strengthen these services in such areas.
- Ability to go to a clinic alone is important only when we compared modern methods in general with traditional method. Its insignificant coefficient in Table 7 implies method choice is not much effected by such a condition. In other words, once a women realises the necessity to regulate fertility, it is basically her ability to go to a clinic that increases her probability to use a modern methods as against a traditional one. Conversely, a woman using a traditional method or even condoms is not expected to visit a clinic to fetch these methods.

In summary following may be said about various aggregates of methods: use of *sterilisation* rises among older women, those in urban areas, and those with some education (but not among highly educated or completely uneducated); and probability to use *conventional female method* is high among women with higher parity, younger in age, residents of rural and small town, and those who watch TV at least once a week; and the use of *condoms* rises prominently in women from major urban areas, with low parity and from middle age cohorts. In general, though current use and ever use of contraception is influenced by socio-demographic and life style factors, the continuity and method selection is effected by either demographic or sociocultural factors.

What do we learn from this analysis to present users perspectives for incorporation in the population programme? This analysis is quite limited in its generalisability of its results because of restricted focus on contraceptive use. Underreporting of contraception, limited availability of select methods to users, supply indequacies, selection and use of methods by ill-informed women, etc. all inhibit bringing out the real choice of methods and its determinants. Anyway, with limited information and analysis based on it, we found age of women as more important factor in method specific use while number of living children because important only when male method is considered. Education of wife plays important role in the initiation of contraceptive use, continuity in use and also a resistant factor to dropping-out, Education does not emerge as an important factor in method selection process, except that illiterate seem more prone to practice sterilisation, which may be more because of the way motivation is undertaken in the programme. Parity and age illuminate the method shift aspect of contraceptive behaviour, while strong desire for more children explain dropping-out behaviour. Besides, woman's inability to overcome side effects and supply line bottlenecks may also be attributed to heavy dropping-out behaviour.

Disinformation about contraceptives in a general environment of illiteracy and ignorance plays a major detrimental role to keep potential users away from practicing fertility control. Moreover, whatever information a woman has is basically hearsay and word of mouth. Therefore, high knowledge about family planning and contraceptives in developing countries cannot be taken as 'functional' to assist women in making contraceptive choices. Expansion of knowledge about fertility regulation and correct information about timing of greater risk to pregnancy should become essential part of family planning campaign. High dropping-out needs urgent follow-up and programme outreach to make whatever methods are available for a wider range. Method switching is an integral part of family planning

programme, it is the emphasis on timeliness of such switches that needs to be part of the promotional campaign. Continuity in use of effective methods should also become an integral part of social education and family planning promotional campaign. The question about satisfactory contraceptive method is still unanswered. High degree of dropping out and rapid switching of methods may be taken as indication of unsatisfactory method availability and limited choices and that too restricted by delivery system or religio-cultural factors.

With what we have found in this analysis, one factor still needs more practical research and pertains to ensure making availability of wider number of methods but with special emphasis on male methods. Moreover, unless limited access and restricted availability of select methods is tackled increased education about the same number of methods is expected to be a futile pursuit. Until then, all analysis about choice of contraceptive methods is a talk of predetermined choices.

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Comments on "Contraceptive Methods Choice in Pakistan: Determined or Predetermined"

Dr Tauseef Ahmed has tried to analyse a very important aspect of the dynamics of contraceptive use in Pakistan within the perspectives of the supply-side approach of the family planning programme. He argues that low prevalence was the result of the programme's "cafeteria" approach of method choice. He has outlined a number of factors responsible for the "cafeteria" policy including cultural, religious, managerial shortcomings, gender bias and policy dictates from the international agencies. Finally, he has attempted to analyse the contraceptive dynamics by the simple application of logistic regression. The paper however, has various shortcomings concerning conceptual gaps, ignorance of strengths and weaknesses of programme are strategies relating to the choice, methodological weaknesses and failure to advance pragmatic policy suggestions.

It seems to be incorrect to state that the programme was not able to provide a wide variety of modern contraceptive method choices to the acceptors. At the outset of the programme the available methods like IUDs, vasectomy and tubectomy were offered. The acceptance of IUDs appeared to be higher. However, the side effects linked with the IUDs provided a serious blow to the programme's credibility. It is said that there were long queues for the adoption of IUDs and also long queues after a few days for their removal. The vasectomy contraceptive method first of all continues to be an irreversible method and coupled with some form of coercion exercised during the early years of the programme in some parts of the country also eroded the programme's groundwork. The Pakistani programme seemingly has not recovered from the setbacks suffered at the earlier stage of the programme. The use of contraception has been for limiting purposes and only recently some minuscule signs of spacing out could be witnessed. The choice of surgical procedures especially among high parity women is meant for the limiting of their reproductive span by the most accurate long effect method with little side effects. Table 1 clearly reflects this pattern of method use that portray the safety aspects of it. The use of methods with less side effects and less protection increased for condoms, abstinence and withdrawal presumably for spacing purposes and increased female sterilisation for limiting purposes. This aspect of contraceptive

side effects and its implications were completely untouched in the paper. The Pakistani programme has been quite bold in offering a wide range of male and female methods to its clients but unfortunately until recent times there is no single modern method available that could be labelled free from side effects. Recently, the programme also considered to offer the female condom that was introduced in the USA without much success. The irrelevant mention of the gender bias has been made in the paper and the author's assertion that the programme does not offer a choice or choices is predetermined because of mostly females methods that are offered is not factual. The Pakistani programme is no doubt dependent on the Western countries for contraceptive supplies but most of the modern methods developed in those countries so far are mainly for the females. The Pakistani programme offers condoms and vasectomy alongside female methods as they are offered elsewhere. The section on gender bias reflects contradictions and misplaced emphasises. The chronic weakness of the programme has been the logistics. Therefore, the distribution and coordination of clinical supplies especially for the remote and rural areas have been less than adequate. The criticism on this aspect of the programme is genuine but the author failed to mention this crucial side altogether in his paper. The most important concern of low contraception in Pakistan is not due to the limited choice of methods as the author points out but because of the lesser knowledge of the family planning outlets among the couples. The other countries where the use rate is higher maintain a high knowledge of the sources where to obtain the methods compared to our situation in Pakistan. The Pakistani programme could safely be categorised passing through the USAID's defined stage of growth and needs to formulate viable strategic management policies to extend quality services and improve accessibility beyond the urban areas and educated couples and re-orient its communication strategies towards informing the couples about the methods and the outlets where those methods could be obtained by the perspective clients according to their choice. It is therefore, desirable to point out the local peculiarities in the analysis of the dynamics of contraceptive use. It may be pointed that whenever this type of analysis is carried out, it clearly implies an individual level dynamics of contraceptive use which embody different types of contraceptive behaviours of an individual like method switching, discontinuation and again resumption of the use of contraception. Therefore, the dependent variable in the analysis of the dynamics of contraceptive use by an individual does not remain a binary variable but becomes a polychotomous one which requires the application of a multinomial logistic model. The availability of the fire breathing microprocessors in personal computers and

the availability of software no longer provide a researcher with an excuse to choose inappropriate analytical methodologies. The application of simple logistic regression for this type of analysis is therefore, not appropriate. In the analysis of dynamics of contraceptive use by an individual, the crucial factor is to look at the status of continuation or, in other words, the analysis of risk from one type of behaviour to another one. The most appropriate method for the analysis of risk is the proportional hazard model that needs to be applied in this paper.

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