

The Effect of Sex Preference on Contraceptive Use in Bangladesh

Ahmad Kabir, Rahmat Ali and Mohammad Shahidul Islam

Department of Statistics, Shahjalal University of Science and Technology, Sylhet, Bangladesh

Abstract: Using the data derived from the three national surveys, this article attempts to find the effect of sex preference on the use of contraception. The findings show that in the absence of sex preference, there would have been an increase in the contraceptive prevalence rate indicating that sex preference is still prevalent in Bangladesh. But this effect has been weakened with increase in contraceptive prevalence rate. Analysis of variance suggests that son preference is an important determinant of contraceptive use.

Key words: Contraceptive, sex preference, analysis of variance, determinant

Introduction

The widespread occurrence of preference for sons over daughters in Bangladesh, India and Pakistan and its underlying reasons are well known (Williamson, 1976; Amin and Mariam, 1987; Vlassoff, 1990). The reasons for gender preference are deeply rooted in the social, cultural and religious tradition of the region. Research conducted in Bangladesh (Amin and Mariam, 1987; Rahman and Da Vanzo, 1993) has shown son preference is partially responsible for parent's desire for additional children. When parents already have one son or more among their offspring, they are more likely to use contraceptive in order to delay or stop childbearing (Chaudhury, 1979; Bairagi and Langstan, 1986; Das, 1987). Bairagi and Langsten (Anonymous, 1986) have estimated the effect of sex preference on fertility by analyzing the data obtained from a cross-sectional survey (1976) and a three-year longitudinal study (1976-79) of vital events for 860 married women of childbearing age in Companiganj, Bangladesh. Their findings showed that the effect of son preference on fertility will be more pronounced in a population where contraceptive use is high than in a population where contraceptive use is low. Sheps (1963) demonstrated that if all couples desired a minimum of two sons, the families would have an average of 3.9 children, whereas if all couples desired at least one son and one daughter the average would be 3.00 children in a perfectly contraceptive society. The objective of this study is to investigate the effect of gender preference on contraceptive use and its trend over time.

Materials and Methods

This study utilizes data derived from the 1989 Bangladesh Fertility Survey (Anonymous, 1989), the 1993-94 Bangladesh Demographic and Health survey (Anonymous, 1993-94) and the 1996-97 Bangladesh Demographic and Health survey (Anonymous, 1996-97) which, are nationally representative two-stage sample surveys. To assess the effect of sex preference on contraceptive use, Arnold (1985) has derived a method that compares actual contraceptive prevalence among women of each parity and sex composition of living children with the corresponding hypothetical estimate of prevalence derived on the assumption of no effect of sex preference on contraceptive use. If the sex of varying is assumed to be of no importance then all couples with varying composition of living children at any parity are expected to use contraception at the same rate as those couples at the same parity who are currently most satisfied with the sex composition of their children. The measure is defined as:

$$\frac{\sum C_i * P_i}{\sum P_i}$$

where C equals the maximum contraceptive use rate at each parity I, P equals the number of persons at each parity I. Chowdhury and Bairagi (1990) showed that this index underestimate the effect of sex preference on fertility if heterogeneity of sex preference is present. He also argued that in

Bangladesh where homogeneity of sex preference is dominant the index should work quite well. By using the Bangladesh Fertility survey data on contraceptive use, Arnold (1987) found that, on the assumption of total absence of sex preference, the percentage of women using contraception would be 11.2 compared to the actual estimate of 9.6. Similarly by using Korian National Fertility survey data Arnold (1985) found that, on the assumption of total absence of sex preference, the percentage of women using contraception would be 54.8 compared to the actual estimate of 45.8. Analysis of variance (ANOVA) was also applied to ascertain the statistical significance and association between the current use of contraception and the set of socio-economic factors when some demographic factors are controlled. The selected fertility variables are the number of living sons and the number of living daughters. The selected socio-economic variables are: respondents education, residential area, employment status, ownership of agricultural land, ownership of radio, religion and watch television every week. Current age of the respondents were taken as covariate.

Results and Discussion

Table 1 reveals a strong preference for sons. For the first parity use of contraception is higher for the families having a son than the families who have a daughter. The result holds good for each time period. By the second parity, women without a son are by far less likely to take contraception. Use of contraception is maximum among the women who have one child of each sex, indicating that they are most satisfied with their current family composition if they have one child of each sex. By the third parity, use of contraception increases steadily as the number of sons increases up to the two sons and then decreases. The pattern of differentials is the same for women having four children. The proportion of women using contraception increases rapidly up to three sons, but declines for women with all sons. This reveals that many women do have an interest in having one daughter among their children. The Anonymous (1989) suggest that, on the assumption of total absence of sex preference, the percentage of women using contraception would be 34.02 compared to the actual estimate of 31.0. Similarly it would be 47.15 compared to the actual estimate of 44.6 in 1993-94 and it would be 52.03 compared to the actual estimate of 49.2 in 1996-97. The percent change between the actual estimate and the estimate in the absence of sex preference in the three surveys are 8.88, 5.41 and 5.44 respectively.

The analysis of variance (Table 2) shows that raw regression coefficients of the demographic covariate are positive. The covariates account for about 16% of the total explained variation in each period.

Among the demographic and socio-economic variables, number of living sons accounts for about 36 % of the main effects on use of contraception in 1989. The comparable percentages are 50 and 45 % in 1993-94 and 1996-97 respectively. The analysis also shows that number of living daughters accounts for about 11 % of the main effects on the use of contraception in 1989 as

Table 1: The effect of sex preference on contraceptive use

Number and sex of children	BFS(1989)		BDHS(1993-94)		BDHS(1996-97)	
	Percent currently using contraception	No. of cases	Percent currently using contraception	No. of cases	Percent currently using contraception	No. of cases
No. children	9.8	1434	14.3	1149	16.4	1006
One child						
One girl	22.9	925	32.5	773	38.9	797
One boy	24.8	1012	36.4	831	45.5	834
Two children						
Two girls	26.9	395	37.8	373	47.5	355
One girl, One boy	38.4	946	53.3	932	61.0	996
Two boys	38.0	538	53.1	515	59.9	452
Three children						
Three girls	18.9	190	43.6	156	49.9	158
Two girls, one boy	37.7	621	56.0	568	58.7	548
One girl, two boys	46.4	671	62.0	579	64.6	553
Three boys	37.3	201	60.0	199	54.0	164
Four children						
Four girls	26.0	72	38.2	47	43.0	56
Three girls, one boy	39.2	322	49.9	267	58.8	254
Two girls, three boys	44.4	493	60.2	426	60.8	426
One girl, three boys	46.3	367	60.7	300	64.2	275
Four boys	42.9	91	57.7	56	58.7	65
Five or more children						
Son > daughter	33.3	1204	47.1	829	51.6	683
Son = daughter	34.9	302	49.6	202	45.8	171
Son < daughter	36.7	1124	50.8	777	51.0	659
Total	31.0	10907	44.6	8980	49.2	8450
Total in the absence of sex preference	34.02		47.15		52.03	
% difference	8.88		5.41		5.44	

BFS (1989) = Bangladesh Fertility Survey, BDHS (1993-94), (1996-97) = Bangladesh Demographic and Health Survey

Table 2: Analysis of variance of the current use of contraception according to number of living sons, number of living girls and selected characteristic of currently married women

Source of variation	1989 BFS					1993-94 BDHS					1996-97 BDHS				
	Sum of squares	df	Means square	F	Sig. of F	Sum of squares	df	Mean squares	F	Sig. of F	Sum of squares	df	Mean squares	F	Sig. of F
Covariate (Age of the respondent)	36.69	1	36.69	188.72	0.00	38.35	1	38.35	173.98	0.00	33.84	1	33.84	150.88	0.00
Main effects	196.06	18	10.89	56.02	0.00	204.76	18	11.38	51.60	0.00	186.02	18	10.33	46.08	0.00
Number of living sons	69.60	5	13.92	71.60	0.00	102.05	5	20.41	92.58	0.00	82.85	5	16.57	73.88	0.00
Number of living daughters	22.14	5	4.43	22.77	0.00	36.18	5	7.24	32.82	0.00	39.59	5	7.92	35.31	0.00
Education	28.32	2	14.16	72.81	0.00	35.03	2	17.51	79.44	0.00	10.78	2	5.39	24.02	0.00
Residence	22.36	1	22.36	115.00	0.00	1.51	1	1.51	6.86	0.00	4.71	1	4.71	21.00	0.00
Ownership of agricultural land	2.62	1	2.62	13.45	0.00	0.42	1	0.42	1.92	0.00	0.32	1	0.32	1.44	0.00
Ownership of radio	22.18	1	22.18	114.09	0.00	1.39	1	1.39	6.29	0.00	2.05	1	2.05	9.12	0.00
Work status	10.15	1	10.15	52.21	0.00	18.25	1	18.25	82.76	0.00	13.16	1	13.16	58.69	0.00
Religion	6.79	1	6.79	34.93	0.00	5.08	1	5.08	23.06	0.00	4.13	1	4.13	18.42	0.00
Watch TV every week	11.90	1	11.90	61.19	0.00	4.87	1	4.87	22.07	0.00	28.42	1	28.42	126.72	0.00
Explained	232.75	9	12.25	63.00	0.00	243.12	19	12.80	58.04	0.00	219.86	19	11.57	51.59	0.00
Residual	2116.95	10888	0.19			1974.87	8958	0.22			1878.40	8375	0.22		
Total	2349.70	10907	0.22			2217.98	8977	0.25			2098.25	8394	0.25		
Raw regression coefficient of the covariate			0.006					0.007					0.007		

opposed to 18 and 21 % in 1993-94 and in 1996-97 respectively. The use of contraception with varied number and sex composition of living children have been examined and a contraception index of sex preference (Arnold, 1985) was calculated. The data demonstrate that use of contraception is influenced by gender preference for children and it decreased with time with increase in contraceptive prevalence rate. The results of other studies (Bairagi, 1993; Chowdhury, Bairagi and Koenig, 1993) are consistent with the result of this study. The importance of sex composition of children as a determinant of contraceptive use decreases with increase in contraceptive use. This study confirms that sex preference may be a constraint in the acceptance of contraception in Bangladesh.

References

- Arnold, F., 1985. Measuring the Effect of Sex Preference on Fertility: The Case of Korea Demography., 22: 280-288.
- Arnold, F., 1987. The Effect of Sex Preference on Fertility and Family Planning: Empirical Evidence. Population Bulletin of the United Nations. No. 23/24-1987: 44-55.
- Amin, R. and A.C. Mariam, 1987. Son Preference in Bangladesh: An emerging barrier to fertility regulation. J. Biol. Sci., 19: 221-228.
- Anonymous, 1989. Bangladesh Fertility survey (BFS), 1989. National Institute of Population Research and Training, Dhaka, Bangladesh.

Kabir *et al.*: Contraceptive, sex preference, analysis of variance, determinant

- Anonymous, 1993-94. Bangladesh Demographic and Health Survey (BDHS). National Institute of Population Research and Training (NIPORT), Mitra and Associates, Dhaka, Bangladesh and Macro International Inc., Calverton, Maryland, USA, 1994.
- Anonymous, 1996-97 (BDHS). Bangladesh Demographic and Health Survey (BDHS) National Institute of Population Research and Training (NIPORT), Mitra and Associates, Dhaka, Bangladesh and Macro International Inc., Calverton, Maryland, USA, 1997.
- Bairagi, R., 1993. Is Gender Preference an Obstacle to the Success of Family Planning Programs in Rural Bangladesh. Proceedings of the 22nd General Conference of the International Union for the Scientific Studies of Population, 1: 121-132.
- Bairagi, R. and R. L. Langsten, 1986. Sex Preference for Children and its Implications for Fertility in Rural Bangladesh. Studies in Family Planning, 17: 302-307.
- Chaudhury, R. H., 1979. Socio-cultural Factors Affecting Practice of Contraception in a Metropolitan Urban Area of Bangladesh. Demography India, 8: 127-153.
- Chowdhury, M. K. and R. Bairagi, 1990. Son Preference and Fertility in Bangladesh. Population and Development Review, 16: 749-757.
- Chowdhury, A. I., Radheshyam Bairagi and M. A. Koenig, 1993. Effects of Family Sex Composition on Fertility Preference and Behavior in Rural Bangladesh. J. Biol. Sci., 25: 455-464.
- Das, N., 1987. Sex Preference and Fertility Behaviour: A Study of Recent Indian Data. Demography., 24, 4: 517-530.
- Rahman, M. and J. DaVanzo, 1993. Gender Preference and Birth Spacing in Matlab, Bangladesh. Demography, 3: 315-332.
- Sheps, M.C., 1963. Effects on Family Size and Sex Ratio of Preferences Regarding the Sex of Children. Population Studies, 1: 66-72.
- Vlassoff, C., 1990. The Value of Sons in an Indian Village: How Widows See it. Population Studies, 44: 5-20.
- Williamson, N. E., 1976. Sons or Daughters: A Cross-cultural Survey of Parental Preferences. Beverly Hills: Sage Publications.