FERTILITY, FERTILITY INHIBITING EFFECTS AND CONTRACEPTIVE USE AMONG INDIGENOUS WOMEN IN BANGLADESH

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Abstract

This paper examines fertility, fertility inhibiting effects and contraceptive use among indigenous women in Bangladesh. A sound methodology was adopted to estimate the sample size and subjects. Information regarding fertility, contraceptive, socio-demographics etc. was elicited through a self-administered survey on 865 currently married women belonged to four major indigenous groups in 2006. To estimate the total fertility rate and fertility inhibiting effects we applied Bongaarts' model. The estimated TFR was found to be 2.30 births per woman and CPR was 68.9%. The four major proximate determinants: marriage, contraception, postpartum amenorrhea and induced abortion conjointly inhibited 13.00 births per woman distributed as 23.97%, 47.54%, 14.93% and13.56% respectfully. The results of multivariate logistic regression suggest that place of residence, husband-wife interaction on family planning and door-step service delivery of modern methods by the family planning workers were the most important determinants of contraceptive use among indigenous women in Bangladesh.

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Introduction:

Ethnic variations in reproductive outcomes have recently captured a lot of research interests among scholars and policy makers. This is partly because, societies are structured among other characteristics, by ethnic groups from which individuals derive their fundamental identities and values regarding themselves and their roles in life (Kreager, 1997). The cultural attachment and identity to the collective to which one belongs in a non-trivial way, often determines one's behavioral characteristics including reproduction.

Human reproduction is a complex process and usually at a level below their fecundity or biological capacity. In addition to the biological limits, several social, economic, psychological as well as environmental and political factors can affect it. The effect of these factors on fertility varies within and between populations and is assumed to be mediated by the factors which have a direct impact on fertility. The biological and behavioral characteristics through which socioeconomic, cultural and environmental factors influence fertility are called intermediate variables or proximate determinants of fertility.

Bangladesh, the most densely populated country in the world, has experienced a significant decline in fertility over the last three decades due to an effective family planning program. The family planning program is testified as a 'success in a challenging environment' (Cleland et al, 1994). This is because total fertility rate (TFR) declined surprisingly from a high level of 6.3 children in 1975 to 3.4 children in 1993-1994. Such dramatic transition in fertility occurred during this period despite social, economic and institutional circumstances were unfavorable to reproductive change (Cleland et al, 1994). From the beginning to the end of 1990s the TFR was almost static at 3.3 children. However, after plateauing for a decade long duration, the TFR has again started to decrease and reached at 2.7 births per woman in 2007 and CPR has increased at 55.8% (NIPORT et al, 2009).

Factors influencing fertility can be classified mainly into two groups: (i) intermediate variables or, proximate determinants; and (ii) socioeconomic, cultural, psychological and environmental factors. The former group of variables is consisted of a set of biological and behavioral mechanism through which social, economic and cultural situations can affect fertility. In absence of the proximate determinants, human TFR may reach theoretically to the maximum of total fecundity (TF), approximately 15.3 births per woman. Thus, differentials of fertility can be assessed through the study of the proximate determinants of fertility.

Bongaarts (1978) developed a sophisticated mathematical model to quantify the effects of the proximate determinants of fertility (Bongaarts, 1978). Using the model, Bongaarts and Potter (1983) found that 96% of the cross-country variation in fertility could be explained by four major proximate determinants: marriage, contraceptive use, postpartum infecundity and abortion (Bongaarts and Potter, 1983). The applications of Bongaarts' model to different survey data in Bangladesh suggest that, the effect of marriage pattern on fertility has not been substantially changed over time. However, among the fertility inhibiting effects, contraception played the most effective role to fertility decline in Bangladesh, followed by postpartum infecundity, marriage and abortion (Kamal et al, 2005; Kabir and Chowdhury, 2004; Islam et al, 2004).

Although numerous studies have been conducted on the determinants of fertility in Bangladesh, however, those are limited to national level data. Little attention has been paid to understand fertility behavior of the ethnic communities, called the tribes or indigenous. The

tribes belong to distinctive culture and beliefs, and are isolated from the mainstream way of life. To understand the demographic transition of the population in a country, the study on the ethnic communities is of great importance for bringing out policy. This study attempts to estimate the level of fertility, to quantify fertility inhibiting effects and to investigate the factors affecting contraceptive use among the indigenous women of Bangladesh.

3. Data and Methodology:

Data for the study have been gathered through a field survey conducted during January to March, 2006 in Rangamati Hill District, located in the southeastern part of Bangladesh. Four major tribal communities: the *Chakma*, *Marma*, *Tanchangya* and *Tripura* were selected purposively. A multistage sampling procedure was adopted to estimate the sample size and subjects. Step by step three upazillas, ten unions and thirty villages were randomly selected. 900 households were randomly selected using probability of proportion of the number of households of the selected villages. Finally, 865 currently married women of reproductive age were successfully interviewed from 897 households, which are the basis of the present study.

A standard questionnaire was used to gather information from eligible women. The questionnaire included information on various socioeconomic and demographic characteristics such as: couples current age, education, basic amenities of household, water, sanitation, birth history of children, number of living children, age at marriage and age at first birth, ever and current use of contraceptives, method type of contraceptives, abortion, duration of breastfeeding, duration of postpartum amenorrhea etc.

To estimate the total fertility rate we applied Bongaarts' model (Bongaarts and Potter, 1983). Mathematically, Bongaarts model can be expressed by the following formula:

$$TFR = C_m \times C_c \times C_a \times C_i \times TF$$

where, $TFR =$ total fertility rate;
$C_m =$ index of marriage;
$C_c =$ index of contraception;
$C_a =$ index of abortion;
$C_i =$ index of postpartum amenorrhea; and
$TF =$ total fecundity.

The total fecundity is the average number of live births that a woman, who is married, does not use contraception, does not have any abortion and does not breastfeed their children during her entire reproductive life. However, total fecundity of women varies in different cultures and societies and moderately stables at 13 to 17 with the standard value being 13.5. The each of the indices can only take values between 0 and 1. The higher the index value, the lower is its fertility inhibiting effect. When there is no fertility inhibiting effect, the corresponding value of a given index equals to 1 and if the inhibiting effect is complete, the index equals to 0. The details of the model including the measures of indices are described elsewhere (Bongaarts and Potter, 1983).

Bongaarts model was developed not only to estimate the TFR, it may be used also to estimate the fertility reducing effects of the proximate determinants. The total fertility-inhibiting effect was prorated by the proportion of the logarithm of each of index of the proximate

determinants to the sum of the logarithm of all indices (Wang et al, 1987). For example, the fertility inhibiting effect of the marriage was obtained by the formula:

$$[\{TF - TFR\,(estimated)\} \times \log C_m] \div \log (C_m \times C_c \times C_i \times C_a) \quad \ldots\ldots\ldots \quad \text{(vi)}$$

Similarly, the fertility reducing effect of the other proximate determinants was obtained. In addition, to investigate the effect of socio-demographic factors on contraceptive use of the study women we used binary logistic regression analysis. The results of the regression analysis have been shown by odds ratios with 95% confidence interval (CI). The statistical technique was performed by SPSS version 11.5 software.

Research setting

Rangamati Hill District – a land of unique and scenic beauty is interspersed with lake and mountains, is located at the southeastern part of Bangladesh. The total population of the district was 525,100 in 2001. Ten different tribal groups constituted about 55% of its total population. The major tribal groups: *Chakma*, *Marma*, *Tanchangya* and *Tripura* constituted 98% of the total tribes and 54% of the total population of the district. The district has 10 *Upazillas*, 48 Unions and 1,353 villages. The total area of the district is 6,116.13 sq. km of which 53.54 sq. km is riverine and 4,824.63 sq. km is under forest. The population density of the district was 86/sq. km and the literary rate was about 42% in 2001 (RHDC, 2005).

Results

Marriage pattern and age specific fertility rate (ASFR)

In societies where child births are confined to marital union, age at first marriage plays a pivotal role in determining total fertility rate. This section provides basic descriptive information of the marriage patterns of the study indigenous women. Table 1 presents the distribution of marital status and mean age at first marriage by five-year age groups. Marriage patterns of the study women were characterized by four basic features: (i) a very small proportion (16.8%) of the teenagers (aged 15-19) were married (ii) near universal marriage by age 30; (iii) moderate level of mean age at first marriage (18.7 years); (iv) very low levels of marital disruption due to widowhood or divorce or separation (3.3%). The age specific fertility rates were found higher among women of age groups 20-24 and 25-30. However, the index value for marriage was estimated to be 0.63.

Contraception

Table 2 shows the contraceptive use status of the women, while Table 3 demonstrates use rates of contraceptives by method mix and use effectiveness of the corresponding method. Overall, the current CPR was 68.9%, with reporting modern method was 60.1% and traditional method was 8.8%. It was reported that 80.2% of the currently married women ever used any contraception for birth control. Contraception practice was more frequent among women aged 30-44 than women of other ages. The most preferred method was oral pill (39.4%), followed by injectables (12.1%) and safe period (7.5%). The computed index value of contraception was found 0.40.

Postpartum amenorrhea

Studies have established a direct relationship between the length and intensity of breastfeeding and the duration of postpartum amenorrhea (Bongaarts and Potter, 1983). Postpartum abstinence refers to the period of voluntary sexual abstinence that follows childbirth. The length of postpartum abstinence is strongly influenced by cultural norms and prescriptions that vary across ethnic and religious groups regarding the appropriate waiting period before resuming sexual relations. Postpartum infecundity due to postpartum amenorrhea and postpartum abstinence lengthens the time of the next childbirth and thereby reduces the number of births that a woman eventually has.

There has been a long tradition of universal breastfeeding in all societies and communities in Bangladesh. Almost all babies are breastfed for sometimes after their births. The tribal mothers feed their babies 'breast milk' even during agricultural or homestead activities, which is a natural scene in the hilly regions. Our survey reveals that, with a very few exception of background characteristics of the child or mother, 99.77% babies sucked their mothers' breast for some period of time after their birth. Table 4 represents the mean duration of breastfeeding and the median duration of postpartum amenorrhea in months of the tribal women by their current age. The findings reveal that the mean duration of breastfeeding was 30.05 months and median duration of postpartum amenorrhea was 9.2 months. The estimated index value of the postpartum amenorrhea was found to be 0.72.

Induced abortion

Induced abortion plays its practical role as a direct fertility inhibiting factor. Induced abortion in Bangladesh is still illegal unless it is intended to save mother's life. But pregnancy termination is not unusual in Bangladesh. For legal constraints and to escape from social criticism most of all abortions are accomplished by the name of menstrual regulation (MR), which has social and legal permission. In the remote zone, most of the tribal women do not have knowledge on MR and its facility providers. Moreover, most of the women are unaware of the time-frame of safe abortion. In addition, access to legal MR services is rare in the hilly areas and hence the tribal women often use ethno-medicine to abort pregnancy, which is risky and sometimes brings even death to the mother. Nevertheless, desired family size, unwanted and mistimed pregnancy, discontinuation of contraceptive methods and method failure often lead the tribal or non-tribal women to go for pregnancy termination.

Our field survey reveals that 4.62% currently married indigenous women of reproductive age had had terminated pregnancy in the last twelve months prior to the survey date. The termination of pregnancy among the hilly women showed an inverted U-shaped pattern. The pregnancy termination was recorded the highest for the age group 30-34 and none of aged 45-49 aborted during the period. However, the total abortion rate among the study women was estimated as 1.04 and the index value of induced abortion for the study women was estimated to be 0.81.

Fertility and fertility inhibiting effects of the proximate determinants

Applying the Bongaarts model the TFR of the indigenous women was estimated to be 2.30 births per woman (Table 6). Table 6 represents the inhibiting effects accounted for each of the four principal proximate determinants. The findings suggest that, the set of four principal proximate determinants inhibited 13.00 births of the tribal women during the last twelve

months prior to the survey. Among the reduced births, 3.12 births (23.97%) were reduced due to non-marriage, 6.18 births (47.54%) due to contraceptive use, 1.94 births (14.93%) due to postpartum infecundity and 1.76 births (13.56%) by induced abortion. The results apparently suggest that contraception practice played the key role to inhibit the fertility of the tribal women, following by non-marriage or delayed marriage, postpartum amenorrhea and abortion.

Determinants of contraceptive use

The effect of various socio-demographic factors on current use of contraceptive estimated by logistic regression analysis has been presented in Table 7. A set of twelve independent variables were included in the model. After controlling over other factors women's education, women's work status and experience of child mortality was appeared to have no significant effect on contraceptive use. The variables identified to have net effect on contraceptive use were tribal identity, current place of residence, husband's education and occupation, electricity connection in the household, visitations of family planning worker (FPW), husband-wife discussion on family planning (FP) and husband's approval on FP.

Findings show that significantly the *Tanchangya* were more likely and the *Marma* were less likely to use contraceptives than the *Chakma*. However, the difference of likelihood of contraceptive use between the *Tripura* and the *Chakma* was not found to be significant. The urban women were more tended to use contraceptives than their rural counterparts. The women whose husbands had primary level of education were significantly more likely to use contraceptives compared to women whose husbands had no formal education.

The occupational class of husbands showed that the women with husbands engaged in fishing and business were more likely to use contraceptive method than women with husbands engaged in agriculture. The other occupational categories did not show to have significant effect. The women who had electricity connection in their households were more likely to use contraceptives than those who had no this facility in their households. The women with highest income category were tended to use more family planning methods compared to the women of reference category.

Findings reveal that the risk of contraceptive use increased if a woman was visited by a FPW in the last three months than a woman who was not visited. Husband-wife discussion on FP appeared to be the most single significant determinant of current use of contraceptives. The women who discussed FP with their husbands were 3.37 times more likely to use contraceptives than those who never discussed on the issue with their husbands. The likelihood of contraceptive use was more among women whose husbands approved family planning than those who were not approved to use contraceptive method by their husbands.

Discussion and conclusion

This paper attempts to estimate the fertility and fertility inhibiting effects of the indigenous women in Bangladesh. In addition to these, the study also investigates the factors affecting current practice of contraception. The observed TFR was 2.41 births per woman. The estimated TFR of the study women was found to be 2.30 births, which is very close to the replacement level of fertility and to that of the observed TFR. The current TFR in the national level was 2.70 births per women (NIPORT et al, 2009). Thus, the TFR was substantially lower by 0.30 children per woman among indigenous community than the national level. The

four major proximate determinants conjointly inhibited 13.00 births of the study women in the last twelve months prior to the survey.

The findings reveal that the fertility inhibiting effect of the contraception was by far the most significant proximate determinants, followed by marriage, postpartum amenorrhea and abortion. Our findings are consistent with those conducted on nationally representative BDHS data (Kamal et al, 2005; Kabir and Chowdhury, 2004; Islam et al, 1998). Earlier studies showed that, until 1975 delayed marriage played dominant role in fertility inhibiting effect. In 1989, contraception appeared as the most important proximate determinant as fertility inhibiting factor (Islam and Islam, 1993).

As reasons of lower fertility among indigenous women compared to the national level may be partly attributed to their delayed marriage, higher use rate of contraception and longer duration of postpartum amenorrhea. For instance, according to the latest BDHS report (NIPORT et al, 2009), the median age at first marriage of women in national level was reported to be 15.3 years, whereas the mean age at marriage of the study indigenous women was found to be 18.7 years. This finding indicates that, a tribal woman gets marry, on an average, 3.5 years later than a woman in national level. The CPR in national level was 55.8% in 2007, while the corresponding figure for the study women was 68.9% in 2006. Despite being underprivileged community, the use rate of modern methods was found higher by 12.6% among the tribal women than national level (60.1% vs. 47.5%). Duration of postpartum amenorrhea of the indigenous women was also found longer than that of women of national level (9.20 months vs. 5.8 months).

Since induced abortion in Bangladesh is still illegal, reliable and sufficient data on abortion status in Bangladesh is not available from government sources. But several studies including our survey reveal that abortion in Bangladesh is not rare and it emerged as a key factor in fertility reduction in recent decades. Akhter (1988) reports that, among the unwanted pregnancies due to contraceptive failure, 31% undergo for MR, 4.9% seek for induced abortion. The study conducted by Ahmed and others (1998) mentioned that, during the period 1982-1991, there were 20 induced abortions per 1000 live births in the treatment area and 33 per 1,000 in the comparison area of Matlab region, an observation locality of ICDDRB for demographic research. In another study Sing and others (1997) mentioned that, the induced abortion rate in Bangladesh is within the range of 26-30 per 1,000 women aged 15-49. Our findings reveal that, 46 per 1,000 women went for induced abortion in the last 12 months prior to the survey, indicates higher incidence of induced abortion among indigenous women than national level.

The study identified several variables as important determinants of contraceptive use of the indigenous women such as: tribal identity, place of current residence, husband's education and occupation, electricity connection in the household, family income, home visitations of family planning workers and husband's approval of contraception practice. Husband-wife discussion on family planning appeared as the most single determinant of contraceptive use of the study women. From a family perspective, the first step in a rational process of fertility decision making involves communication between spouses (Mott and Mott, 1985). Such communication should this be among the most important precursors of lower desired family size and increased contraceptive use (Lasee and Becker, 1997). However, the most of the findings of the contraceptive use are consistent with those conducted earlier on micro and macro level data (Kamal et al, 2006; Kamal and Sloggett, 1996; Ullah and Chakraborty, 1993).

It is revealed that the use rate of contraceptives is positively associated with household wealth status (NIPORT et al., 2009, 2005; Schoemaker, 2005). Among the study tribal groups, the prevalence of CPR was the highest in the *Tanchangya*. The higher use rate of family planning method among the *Tanchangya* compared to the *Chakma* as well as other tribal groups under study is vogue. Because, the *Chakma* is more developed in socioeconomic indicators compared to other ethnic communities in the entire CHT region (Mallick, 2001), including the study area. Thus, more studies are needed to understand the fact.

Our findings apparently reveal that tribal fertility in the CHT region is lower than that of national level. The major proximate determinants are partly attributed to lower fertility of the indigenous women. However, values of children, motivations and aspirations towards lower childbirths and higher use rate of contraceptives are yet to be unexplored. Thus, there needs rigorous investigations to understand factors for lower fertility and higher use rate of contraceptive methods in such underprivileged group where most of the literatures in developing and developed countries report higher fertility and lower use of contraceptives among indigenous women than those of the national level. On the basis of the above findings it may be recommended that husband-wife increased interaction on family planning and door-step delivery service of modern methods may further increase the CPR and thereby reduction of the TFR at the replacement level among the indigenous women in Bangladesh.

References:

Ahmed M. K., M. Rahman and J. V. Ginneken. 1998. Induced abortion in Matlab, Bangladesh: Trends and determinants. *International Family Planning Perspectives*, 24(3): 128-132.

Akhter, H. H. 1988. Bangladesh. In P. Sachdev (eds.), *International Handbook on Abortion*. New York: Greenwood Press, USA.

Bongaarts, J. 1978. A framework for analysing the proximate determinants of fertility. *Population and Development Review*, 4(1):105-132.

Bongaarts, J. and R. G. Potter. 1983. *Fertility, Biology and Behavior: An Analysis of the Proximate Determinants*. New York: Academic Press.

Cleland J., J. F. Phillips, S. Amin and G. M. Kamal. 1994. *The determinants of reproductive change in Bangladesh*. Washington: The World Bank.

Islam, M. M., N. Chakraborty and U. Rob. 2004. Regional variations in fertility. In U. Rob, M. N. Ameen and N. Piet-Pelon (eds.): *Fertility transition in Bangladesh: Evidence and implication*. Dhaka: UNFFA.

Islam M. M., A. A. Mamun and R. Bairagi. 1998. Fertility and its proximate determinants in Bangladesh: Evidence from the 1993/1994 demographic and health survey data. *Asia-Pacific Population Journal,* 13(3): 3-33.

Islam, M. N. and M. M. Islam. 1993. Biological and behavioral determinants of fertility in Bangladesh: 1975-1989. *Asia-Pacific Population Journal*, 8(1): 3-18.

Johnston, H. B. and K. H. Hill. 1996. Induced abortion in developing world: Indirect estimates. *International Family Planning Perspectives*, 22: 108-114 & 137.

Kabir, M. and M. A. A. M. Chowdhury. 2004. Plateauing fertility in Bangladesh: correlates and proximate determinants. In U. Rob, M. N. Ameen and N. Piet-Pelon (eds.): Fertility transition in Bangladesh: evidence and implication. Dhaka: UNFPA.

Kamal, N. and A. Sloggett. 1996. The effect of female family planning workers on the use of modern contraception in Bangladesh. *Asia-Pacific Population Journal*, 11(3): 15-26.

Kamal, S. M. M., M. A. Islam and M. K. Uddin. 2006. Determinants of contraceptive use and method choice in Bangladesh: Recent evidence. *The Jahangirnagar Economic Review*, 18: 79-93.

Kamal, S. M. M., S. Akhter and A. Islam. 2005. The role of proximate determinants of fertility transition in Bangladesh. *Yokohama Journal of Technology Management Studies*, 5: 111-123

Kreager, P. 1997. Population and identity. In I. David and F. Tom (eds.), *Anthropological Demograghy -Toward a New Synthesis*. Chicago: University of Chicago Press, pp.139-174.

Lasee, A. and S. Becker. 1985. Husband-wife communication on family planning and contraceptive use in Kenya. *International Family Planning Perspectives*, 23: 15-20 & 33.

Mott, F. L., and S. Mott. 1985. Household fertility decision in West Africa: A comparison of male and female survey results. *Studies in Family Planning*, 16: 88-99.

Mallick, D. 2001. Analysis of selected economic indicators. In M. Rafi and A. M. ER. Chowdhury (eds.): *Counting the hills: Assessing development in Chittagong Hill Tracts*. Dhaka: The University Press Limited.

National Institute of Population, Research and Training (NIPORT), Mitra and Associates and Macro International. 2009. *Bangladesh Demographic and Health Survey 2007*. Dhaka: National Institute of Population, Research and Training (NIPORT), Mitra and Associates and Maryland: Macro International.

National Institute of Population, Research and Training (NIPORT), Mitra and Associates and Macro International. 2005. *Bangladesh Demographic and Health Survey 2004*. Dhaka: National Institute of Population, Research and Training (NIPORT), Mitra and Associates and Maryland: ORC macro.

RHDC. 2005. *Rangamati Hill District Council in Brief.* Rangamati Hill District Council, Rangamati: Bangladesh.

Schoemaker, J. 2005. Contraceptive use among the poor in Indonesia. *International Family Planning Perspectives,* 31(3):106–114.

Sing, S., J. V. Cabigon, A. Hossain, H. Kamal and A. E. Perez. 1997. Estimating the level of Abortion in the Philippines and Bangladesh. *International Family Planning Perspectives*, 23: 59-67.

Ullah, M. S. and N. Chakraborty. 1993. Factors affecting the use of contraception in Bangladesh: A multivariate analysis. *Asia-Pacific Population Journal*, 8(3): 19-30.

Wang, S. X., Yu-De Cheng, H. C. Charles, R. W. Chen, L. P. Chow, R. Rochat and R. V. Rider. 1987. Proximate determinants of fertility and policy implementation in Beijing. *Studies in Family Planning*, 18: 22-228.

Table 1: Percentage of the indigenous women by marital status, mean age at first marriage, age specific fertility rate (ASFR), age specific marital fertility rate (ASMFR), Rangamati, Bangladesh, 2006

Age group	Never married	Currently married	Widowed/ Divorced/ Separated	Mean age at first marriage (in years)	ASMFR g(a)	ASMFR g(a)	$m(a) \times g(a)$
15-19	83.2	16.4	0.4	16.7	0.0420	0.18066	0.02960
20-24	36.9	63.1	0.0	18.1	0.1521	0.24088	0.15207
25-29	10.6	87.5	2.0	19.2	0.1098	0.12556	0.10980
30-34	3.3	96.1	0.7	18.8	0.0855	0.08904	0.08553
35-39	2.9	92.4	4.7	19.1	0.0526	0.05696	0.05263
40-44	2.8	86.1	11.2	18.6	0.0278	0.03226	0.02778
45-49	0.0	84.1	15.8	18.4	0.0122	0.01449	0.01220
Total	26.0	70.7	3.3	18.7	2.4101	0.73985	0.46961

Table 2: Percentage of women using contraceptives by current age

Age group	Ever used	Currently using		
		Modern	Traditional	Total
15-19	41.0	25.6	2.6	28.2
20-24	67.2	51.8	3.6	55.4
25-29	82.1	66.8	5.4	62.2
30-34	92.5	69.2	11.0	80.2
35-39	89.9	70.3	9.5	79.8
40-44	80.6	50.5	20.4	70.9
45-49	73.9	44.9	11.6	56.5
Total	80.2	60.1	8.8	68.9

Table 3: Percentage of women using contraceptives by method mix and use effectiveness of specific method

Name of specific method	% using specific method	Use-effectiveness*
Condom	2.1	0.62
Pill	39.4	0.82
IUD/Copper T	0.7	0.90
Injection	12.1	0.96
Ligation	5.1	0.99
Vasectomy	0.5	1.00
Norplant	0.2	0.99
Withdrawal	0.6	0.38
Safe Period	7.5	0.50
Abstinence	0.2	0.50
Ayurbedic	0.3	0.10
Others	0.1	0.10

* Source: Johnston and Hill (1996).

Table 4: The mean duration of breastfeeding and the median duration of postpartum amenorrhea in months of the tribal women by their current age

Age group	Mean duration of breastfeeding in months	Median duration of postpartum amenorrhea in months
15-19	21.8	5.38
20-24	24.94	6.26
25-29	26.56	7.66
30-34	31.73	8.93
35-39	33.08	10.56
40-44	35.02	13.17
45-49	38.95	14.28
Total	30.05	9.20

Table 5: Proportion of indigenous women experienced induced abortion during the last 12 months prior to the survey cross classified by age

Age group	Total number of women		Total number of abortion	Proportion of women experienced abortion	
	All	Currently married		All women	Currently married women
15-19	238	39	1	0.00420	0.02564
20-24	217	137	5	0.02304	0.03650
25-29	255	223	15	0.05882	0.06726
30-34	152	146	11	0.07237	0.07534
35-39	171	158	7	0.04094	0.0443
40-44	108	93	1	0.00926	0.01075
45-49	82	69	0	0.00000	0.00000
Total	1223	865	40	TAR = 1.04	0.25979

Table 6: Magnitudes of the fertility inhibiting effects of each of the major proximate determinants of the indigenous women

Index of the proximate determinants	Index Value	Fertility inhibiting effects	
		Births per woman	%
Marriage (C_m)	0.63	3.12	23.97
Contraception (C_c)	0.40	6.18	47.54
Postpartum infecundity (C_i)	0.75	1.94	14.93
Abortion (C_a)	0.77	1.76	13.56
Combined effect ($C_m \times C_c \times C_a \times C_i$)	0.15		
Estimated TFR	2.30		
Total inhibited births: [15.30 – estimated TFR]		13.00	100.00

Source: Author's calculation based on field-survey data.

Table 7: Logistic regression analysis of current contraception use by selected socioeconomic, demographic, cultural and programmatic variables

Background characteristics	β	SE	Odds ratio	95% CI	
				Lower	Upper
Tribal identity					
(Chakma)[RC]	--	--	1.00	--	--
Marma	-0.699	0.230	0.497***	0.316	0.780
Tanchangya	0.492	0.248	1.635**	1.006	2.659
Tripura	-0.251	0.281	0.778	0.448	1.351
Current residence					
(Rural)[RC]	--	--	1.00	--	--
Urban	0.535	0.283	1.707**	0.980	2.974
Husband's education					
(Illiterate)[RC]					
I-V	0.462	0.239	1.587**	0.993	2.537
VI+	-0.287	0.231	0.750	0.477	1.181
Husband's occupation					
(Agriculture)[RC]	--	--	1.00	--	--
Fisherman	0.978	0.372	2.659***	1.283	5.510
Laborer	0.326	0.308	1.386	0.758	2.534
Business	0.476	0.303	1.610*	0.890	2.913
Service	0.021	0.311	1.021	0.555	1.879
Have electricity					
(No)[RC]	--	--	1.00	--	--
Yes	0.564	0.238	1.758**	1.103	2.802
Family income (in TK.)					
(<3001)[RC]	--	--	1.00	--	--
3001-4500	0.455	0.311	1.576*	0.857	2.899
4501-6000	0.379	0.305	1.461	0.804	2.655
6001+	0.704	0.302	2.022**	1.118	3.655
Visited by FPW					
(No)[RC]	--	--	1.00	--	--
Yes	0.452	0.185	1.572**	1.093	2.260
Discussion on FP					
(No)[RC]	--	--	1.00	--	--
Yes	1.213	0.169	3.365***	2.415	4.688
Husband approves FP					
(No)[RC]	--	--	1.00	--	--
Yes	0.924	0.169	2.520***	1.810	3.508

Note: *** $p < 0.01$, ** $p < 0.05$, * $p < 0.10$; [RC] Reference category.