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Socio-Biological Determinants of Contraceptive Practice in A District of West Bengal, India: An Appraisal

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Abstract:

Background: Contraceptive practice is said to be associated with socio-economic status, education & many other factors prevailed in the areas. Population stabilization and reduction of population growth are the basic aims behind contraceptive practices.**Objectives**: To assess current status of contraceptive practice among eligible couples &determine its social correlates. **Material & Methods:**A community based cross-sectional study was carried out in Paschim Midnapur district of West Bengal in 2009. Multistage random sampling method was followed. Total 16 areas were selected for study purpose and from each area 125 married women were interviewed to cover 2000 eligible couples.**Results:** 67.4%

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contraceptive prevalence rate and 62.6% couple protection rate were observed in the study with a finding that contraceptive use directly proportional with literacy status and social class. The contribution of tubectomy was highest (61.9%) in couple protection. Area wise variation (46% to 76%) in couple protection rate also detected. **Conclusion:**Strengthening of Behavior change Communication Campaign needed for awareness generation in promotion of spacing methods.

Key words: Eligible couple, couple protection rate, contraceptive,BCC

Introduction:

It is now universally accepted that family planning services are essential to promoting birth spacing to reduce maternal and infant mortality.[1]It has been estimated that if family planning services were more widely available,up to 42% of maternal deaths could be averted in developing countries.[2]In demographic transition, the two concepts namely "population stabilization or zero growth" and "replacement level fertility or low growth momentum" are important. Both concepts match if the annual growth (CBR-CDR) is below 1 percent and children ever born (CEB) to women in 15-49 ages is about 2.1.[3]Although India has the distinction of initiating an official family planning programme way back in 1952,but most couples in India adopt a terminal method after they have had three or more children, and current family planning users are by and large, those who have achieved their desired family size and do not want any additional children.Further due to emphasis on sterilization, spacing methods have not been actively promoted nor are they easily available to those who are willing to adopt them.[4]Two thirds of French women used some of the contraception in 1994 but both male and female sterilization remain rare.[5] The use of different contraceptive methods was studied in 5 western European countries, along with knowledge of fertility,motives for choice and perceptions held by women.[6]Studies in the Philippines showed perceptions of couples and practice were important for the fulfillment of desired family planning objectives.[7]The knowledge, attitude and practice (KAP)survey in a Mexican community revealed a wide gap between women's fertility desires and their actual fertility pattern.[8]Covert use of family planning methods was studied in Kenya[9] which accounted for 6-20% of all contraceptive

use and was more widespread if contraceptive use was low. So with the above perspective the present study was undertaken to assess the current status of contraceptive practice among the eligible couples and to determine the relevant factors influencing it,also to recommend suggestive measures for promotion of contraceptive acceptance.

Materials and Methods:

Community based cross-sectional observational study was carried out in 3 blocks and 2 Municipality areas of the Paschim Midnapur District in West Bengal in India.

The study was conducted for a period of 6 months .

Sampling technique: Stratified Multi stage random sampling.

Out of the total 19 districts in West Bengal, PaschimMidnapur District wasselected forthe study purpose.

Out of total 29 blocks in the district, 3 blocks had been selected.

From each rural block 2 sub-centers and from each sub centre area, 2 villages had been selected randomly.

Out of total municipalities of the district, 2 municipality areas were selected. From each municipality, 2 wards had been selected randomly.

So total 12 villages (4 villages from each block) and 4 wards (2wards from one municipality) had been chosen for study purpose.

So total 16 areas had been selected throughout one district (3 blocks X 4 villages + 2 wards X 2 municipalities = 16).

Sample size: Based on present CPR (49.5%) of West Bengal, the minimum sample size comes to be 1735 (approx) considering allowable error 5%

Here, P = 49.5, Q = 51.5, Allowable error 5%

So, $n = 4PQ/L^2 = 1735$ (approx)

Therefore, the sample size used in the study was 2000. From each village/ ward 125 eligible couples were selected to obtain a total sample size of 2,000.

Data collection Technique:

The data were collected using a predesigned, pretested questionnaire, interviewing the female partner of all couples in a house to house survey using standard random techniques. Faculty members of the Dept of Community medicine of Calcutta National Medical College, also the faculties from other Medical Colleges were participated in the survey.

Study variables were age, age at marriage, literacy, occupation, per-capita income, socio-economic condition, age at first pregnancy, no of living children, current use of contraception, ever use of contraception etc.

Socio-Economic status of the families was determined from per capita monthly income.[10]

Final data for all parameters were analyzed both manually and by computer using Microsoft Excel 8.0, Epi info 3.4.3,SPSS 16 and Winpepi 3.8.

**Eligible Couple*– Couples with wives aged between 15-49 years who will need F.P. services are referred to as eligible couples.[11]

*Couple protection Rate – Percentage of eligible couples effectively protected against child birth by one or the other approved methods of family planning.[11]

*Contraceptive prevalence rate-the percentage of eligible couples who used to practice any family planning method(modern or traditional).[11]

Results:

The total study population was 2000 eligible couples. Outof total respondents, majority (1/3rd) was in the age group of 24-29 years. Majority (46.9%) of the respondents belonged to illiterate and just literate group (Table-I).

Table-1: Age and Literacy Status of Respondents (N=2000)

Characteristics	No.	%
Current Age		
< 18 yrs	23	1.2
18-23 yrs	452	22.6
24-29 yrs	630	31.5
30-35 yrs	526	26.3
36 and above	369	18.4
Total	2000	100.00
Literacy Status		
Illiterate	588	29.5
Just Literate	351	17.5
Primary	436	21.8
Secondary	568	28.4
Graduate And Above	57	2.8
Total	2000	100.00

Out of the total study population, 67.4% were practicing any method (modern or traditional) of contraception. Out of total contraceptive users, 38.8% had undergone ligation followed by Oral ContraceptivePill(19.4%) then 4.8%,3%, 1.3% used to practice traditional methods, Condom, CU-T respectively and only 0.1%adopted male sterilization (Fig-1).

Fig 1: Practicing of Different FP Methods by Study Population (N-2000)

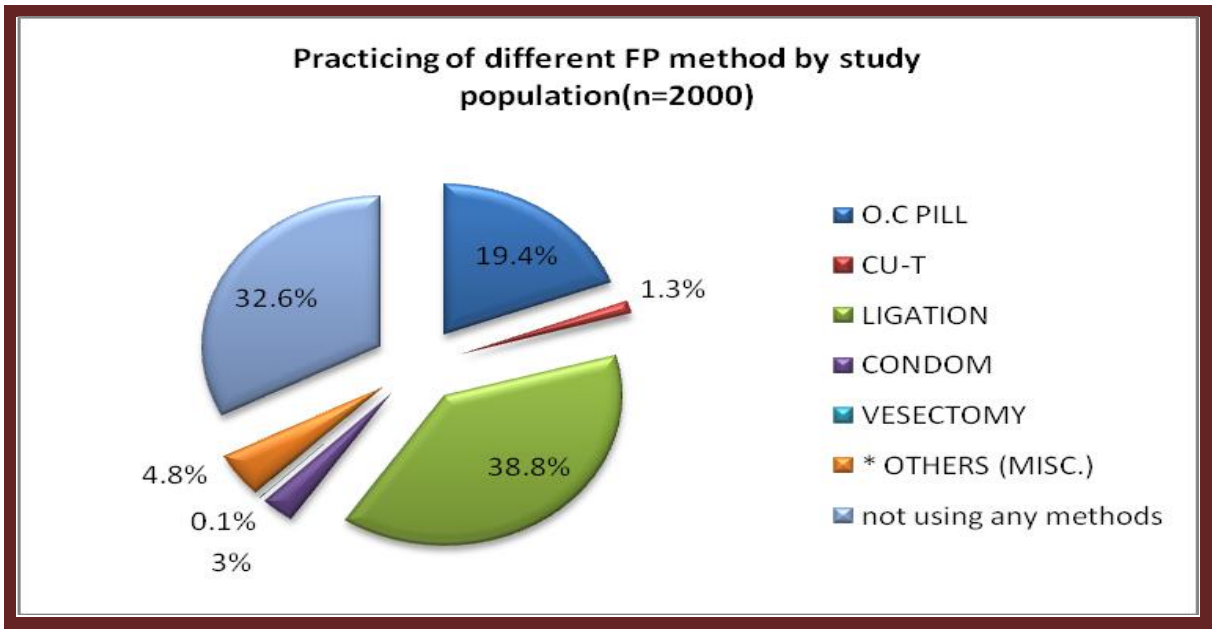


Table 2reflected the contribution of different modern methods in Couple protection rate. C.P.R (Couple protection rate) was 62.6% in the district of Paschim Midnapur. Out ofthe total modern method users, 62.1% had undergone ligation or vasectomy, 30.9%,4.9% and 2.1% of the respondents used to practice oral contraceptive pill, condom and Copper-T respectively.

Table 2: Contribution of Modern Family Planning Methods in Couple Protection Rate (N=1252)

Different Methods	Practice	
	No	%
O.C Pill	387	30.9
Cu-T	27	2.1
Ligation	775	61.9
Condom	61	4.9
Vasectomy	2	0.2
Total	1252	100.00

The contraceptive practice was higher (77.5%) among higher age groups (36 and above) and lowest (30.4%) below 18 years age group and the difference was statistically significant. Contraceptive use was also more (71.1%) in nuclear families than joint families (27.7%) and the difference was also statistically significant ($p<0.05$). Contraceptive practice was highest (77.1%) among the couples who had two children followed by 76.1%, 71.6%, 53% and 37.4% among those who had 3, 4 +, one child and no child respectively.The significant difference also observed.

Contraceptive practice was highest (>70%) among higher educated groupand lowest among illiterate and just literate groups and the difference was statistically significant (Table-3).

Table 3: Practicing of F.P. Method according to Age, Type of Family, Number of Living Children and Literacy Status of Respondents (N = 2000)

	No. of Acceptors	%	Test of significance
Age of Wives			
< 18 yrs(n=23)	7	30.4	$\chi^2 = 160.27$ $p = < 0.001$
18-23 yrs(n=452)	202	44.7	
24-29 yrs(n=630)	456	72.4	
30-35 yrs(n=526)	397	75.5	
≥ 36 yrs(n=369)	286	77.5	
Type of Family			

Nuclear (n-1394)	959	71.1	$\chi^2 = 4.33$ P = < 0.05
Joint (583)	373	27.7	
Others(n=23)	16	1.2	
No of Living Children			
No Child (n – 171)	64	37.4	$\chi^2 = 162.7$ P = 0.000
One (n = 466)	247	53	
Two (n = 808)	623	77.1	
Three (n =372)	283	76	
Four and above (n = 183)	131	71.6	
Literacy Status			
Illiterate (n = 588)	391	66.5	$\chi 2 = 10.27$ p = < 0.05
Just literate(n = 351)	218	62.1	
Primary(n = 436)	287	65.8	
Secondary(n = 568)	412	72.5	
Graduate & above(n = 57)	40	70.1	

Those who belonged to upper high and high socio economic status (S-E-S) group 90% used to practice contraceptive methods.76.1%, 71.1% and 66.8% practiced contraceptive methods by upper middle, lower and poor groups respectively(Fig-2).

Fig 2: Practice of F.P Methods according to S-E-S

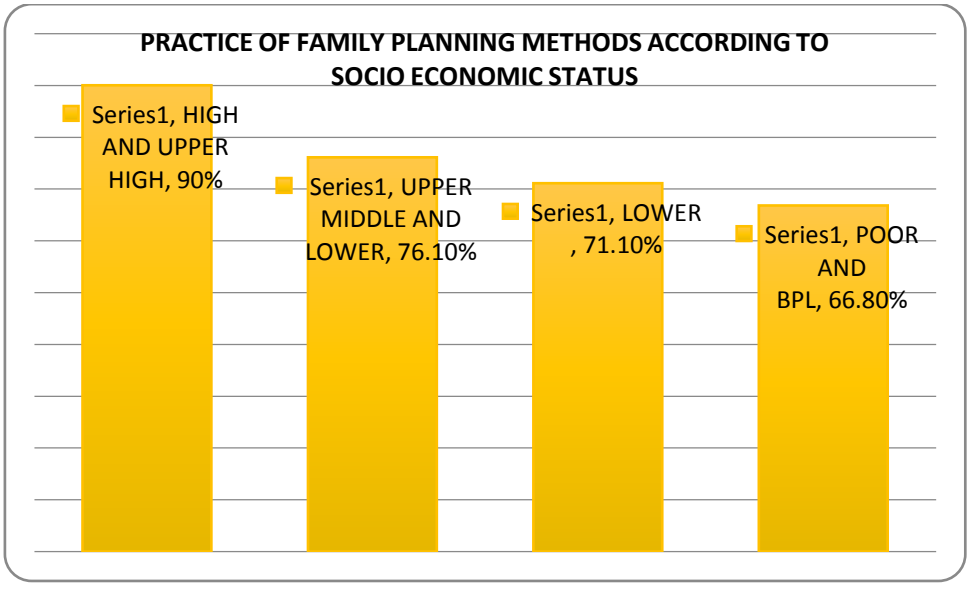
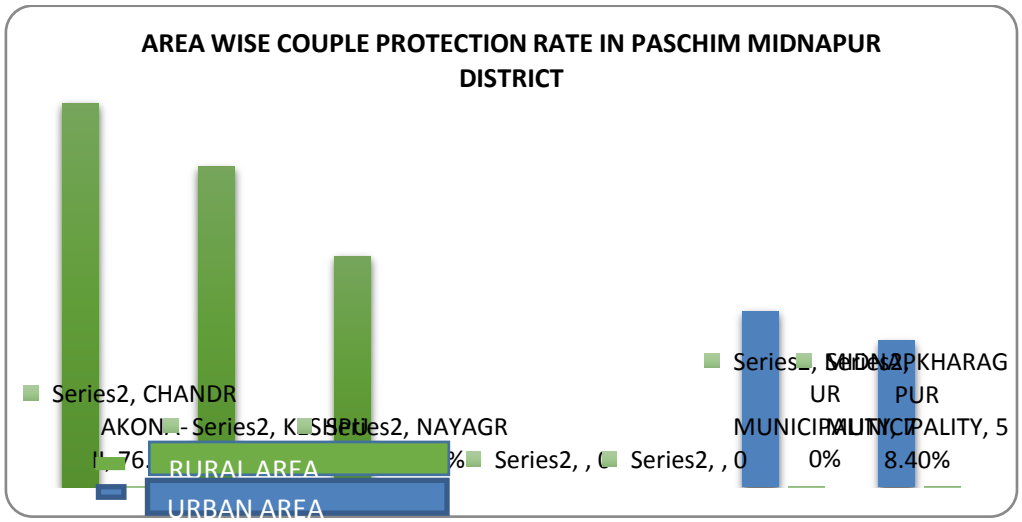


Figure-3 indicated area wise couple protection rate, in rural area, the average couple protection rate was 62.1%(76.4% in Chandrakona-II to 46% in Nayagram). But

in urban areait was 64.2% (58.4% in Kharagpur to 70% in Midnapur Municipality).

Fig. 3

Fig 3: Area Specific Couple protection rate



Discussion:

The present Community based cross sectional study was conducted among 2000 eligible couplesin three rural blocks and two municipality areas in Paschim Midnapur district of West Bengal,India. The contraceptive prevalence rate (contraceptive practice by all methods) was found 67.4% in the present study which was less than NFHS-III of West Bengal (2005-06) where it was 71.2% but the rate of present study was higher than India figure(56.3%) of NFHS-III.[12]

The couple protection rate(contraceptive practice by modern methods) in the present study was higher (62.6%) than the NFHS-III of West Bengal findings of 49.5% and the National figure of 48.5%. [12,13]

Out of all methods,ligation was on the top (38.8%), when considered only modern methods, its contribution was quite high (61.9%). It may be due to adoption of permanent method after completion of family size and also male dominant nature of Indian Society which also prevailed in the study area and corroborated with the finding of the previous study. [14]

In the present study, acceptance of contraceptive methods was significantly higher among nuclear families, which did

not corroborate with the findings of earlier study[15] done in south Delhi by Singh et al.

Contraceptive practice of the eligible couples increased to some extent with higher literacy level and higher socio-economic-status group. Similar observation also reported by the earlier studies[15, 16]. The findings of the present study corroborated with the finding of the study done in Pakistan by Shah NM[17] whereby it was reported that women's education to be a significant variable,as the use increased from43% in the primary educated women to 70% in secondary and higher educated women. [17]

Kanoja also concluded that education was the main variable in the decision regarding family size and contraceptive awareness. [18]

The present study highlighted the area specific couple protection rate (46%-76%).But oral pill users more (19.4%) andleast Cu-T adopters (1.3%) as spacing methods which did not corroborate with the findings of earlier study[14] where Cu-T adopters were maximum(15.2%) and minimum(0.95 %) was Oral Contraceptive pill users.

In the present study, majority (38.9%) of couples had undergone ligation or vasectomy who had three and more children, these findings are against the small family norm (2 child norm) of India. Similar observations were noted by the earlier studies.[14]

The findings of the present study did not corroborate with the finding of the earlier study[16] done at Nepal Medical College where permanent method adopters were only 8% but in the present study it was 38.9% quite higher than earlier on. This variation may be due to the fact that the earlier onewas clinic based study but the present study was community based.

In Pakistani study only 16% of married women had used modern method and proportion of female sterilization(4.0%) was higher than male sterilization(1%). [19]

Trends in Family planning in Russia, (1994-2003) showed the use of traditional methods has remained steady[20]and the similarity in prevalence across age groups that observed is consistent with findings from another study. [21]

Prevalence of traditional methods was particularly high in the two main cities during the mid-1990s, consistent with a 1993 study from St Petersburg.[22] Overall traditional methods continue to be used much more widely in Russia than in Western Europe.[23] But in the present study4.8% of the eligible couples used to practice traditional methods which was very less than West Bengal figure (21%) according to NFHS—III.[12] Another interesting fact that in India reversible

forms of contraception(spacing methods) less used than permanent methods, regarding this issue findings of the present studycorroborated with the findings of a prospective study[24] done in Bihar showed only 6.8% of the women practiced spacing methods and tubal sterilization was the most popular method of contraception.

Conclusion:

Couple Protection rates as well asContraceptive Prevalence rate are far greater in the district of Paschim Midnapur than national averages, but due to more emphasis on permanent methods, adoption of spacing method is neglected.So area specific intervention needed for promotionof spacing and permanent methods judiciously.

Behavior change CommunicationCampaigns to be strengthened for awareness generation among the beneficiaries for utilization of services in appropriate time to achieve small family norm for population stabilization.

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