Determinants of Contraceptive Practices Among Eligible Couples of Urban Slum in Bankura District, West Bengal

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Abstract

Background: Primary care physicians should be aware of the alarming population growth in the developing countries including India. Objectives: To find couple protection rate (CPR) and risk variables that affect contraceptive practice among eligible couples in an urban slum of Bankura district. Materials and Methods: A cross-sectional observational study of 3 months was undertaken on 200 eligible couples in Bakultala urban slum, Lokepur, Bankura district, West Bengal to get relation between various factors that could affect contraceptive practices. Results: Majority of the study population (59%) was young adults (20–29 years age); 65% belonged to nuclear families; one-third were married in less than 18 years of their age. CPR was 67.50%; 49% used permanent methods. Among contraceptive users, significantly higher numbers of couples were married during 18–24 years of age (75%), belonged to nuclear family (70%), literate up to class 10 (73%), having three or more living children (77.50%), and from socioeconomic status of class II (80%). Female literacy rate was higher than national average; 92.50% wives of eligible couple were literate; and tubectomy was commonest contraceptive methods. Conclusion: CPR was high, though different factors like age at marriage, type of family, number of living children, literacy status of female partner, and socioeconomic status significantly affected contraceptive behavior of the study population.

Keywords: Contraceptive practice, couple protection rate, eligible couple

Introduction

India launched officially Family Planning Programme way back in 1952¹ and spent huge resources; and currently, is still facing serious problems resulting from huge population growth currently (according to Census 2011 decadal population growth rate of 17.64) with a crude birth rate of 21.6 and current total fertility rate (TFR) 2.68 (NFHS-3). Declining fertility in large part is due to women’s increased use of contraceptive methods. Their use of modern methods increased from 42.8 to 48.5% between NFHS-2 to NFHS-3. Contraceptive prevalence rate of India was 56.3% as per the NFHS-3 data.² Under the National Rural Health Mission (2007–2012) programme goal set for TFR was 2.1.³

Factors known to affect contraceptive use extend from the attributes of the individual, through resources of the household and community in which person lives, to sociocultural mores and institutions that affect autonomy, behavior and lifestyle, and access to healthcare services.⁴

National Family Welfare Programme which was incepted in 1951 in India, first in the world, now is going on as Reproductive Child Health-II programme under the umbrella programme NRHM. The range of contraceptive products delivered through the programme has been widened, ‘cafeteria choice’ approach has been adopted to provide contraceptives to eligible couple, and goal for couple protection rate (CPR) was fixed to 63%. The allocation of resources in terms of man, money, and material have substantially increased since the inception of the programme.⁵

Against this background of disquieting population growth in India after 4 decades of implementation of the family welfare issues at the primary care level, the present study was undertaken to determine the association of contraceptive prevalence with

Access this article online

Quick Response Code:

Website: www.jfmpc.com

DOI: 10.4103/2249-4863.148119

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various correlates that affect the contraceptive behavior among the eligible couples among marginal slum population.

Materials and Methods

A population-based, analytical, cross-sectional study was undertaken in the urban slums of Bankura, West Bengal for 3 months among eligible couples. Ward no. 15 (of Lokepur) of Bankura Municipality was randomly selected for the study with one slum (Bakultala) in the mentioned ward from the list of slums under Bankura Municipality. Bakultala slums cater a total population of 1,310. Sample size was estimated taking contraceptive prevalence of 71% with allowable error 10% at 95% confidence interval. Non respondents were considered 10%. Accordingly, estimated sample size was 180. The study was conducted among 200 eligible couples, residents of Bakultala slum for the period of 3 months.

Inclusion criteria

Consenting members of eligible couples, physically and mentally fit persons, and only residents of the surveyed locality were taken as inclusion criteria for the study population.

Exclusion criteria

Physically and mentally unfit persons, those not giving consent, and visitors in the area surveyed were the exclusion criteria of the selected population.

The data collection tool was an interview schedule that was developed at the institute with the assistance from the faculty members and other experts of Department of Community Medicine, Bankura Sammilani Medical College. The questionnaire was pretested on 20 eligible couples in the slums to check its comprehensibility and acceptability. By initial translation, back translation, re-translation followed by pilot study, the questionnaire was custom-made for the study. Before the study necessary clearance was obtained from institutional ethics committee. All the study participants were explained the purpose of the study and were ensured strict confidentiality. Written informed consents were taken from the participants prior to the study.

The principal investigator collected the data using the interview technique by house-to-house visit in study area. The study was conducted 2 days in a week, with an average of eight to nine participants per day. Then the predesigned, pretested, semistructured questionnaire was used to collect the data on sociodemographic profile of study participants, such as age of wife, religion, caste, education of both wife and husband, occupation of both wife and husband, obstetric history such as age of marriage, no of children, and also necessary questions to know details of contraceptive practice. Literacy status of both wife and husband was classified as illiterate, upto class IV, V–X, and XII and above. Occupation of wife was classified as either housewife or housemaid. Occupation of husband was subdivided into unemployed, unskilled laborer, skilled laborer, self-employed, and service. As per Minimum Wages Act, an unskilled employee is one who poses no special training and whose work involves the performance of the simple duties which requires the exercise of little or no independent judgment. Skilled employee is one who is capable of working independently and efficiently. He must be capable of reading and working on simple drawing, circuits, and process if necessary.

Information was collected by interviewing eligible couple by home visit along with Anganwadi worker (AWW) and helper. Data also was collected by interviewing the wives of eligible couple while they attended Integrated Child Development Services (ICDS) center along with their children. Interviewing of study participants was also carried out at the end of mothers meeting session conducted in ICDS center.

Case definition

Socioeconomic status

Socioeconomic status of the study subjects was classified into Class I (≥3,239), Class II (1,620–3,239), Class III (972–1,620), Class IV (486–972), and Class V (< 486) by using modified BG Prasad Classification based on Consumer Price Index of December 2009 of 657[9] (correction factor = 32.39).

Eligible couple

Currently married couples with wives aged between 15 and 49 years who were in need of family planning services are referred to as eligible couples.[8]

CPR

It is defined as the percent of eligible couples effectively protected against childbirth by one or other approved methods of family planning, viz. sterilization, intrauterine device (IUD), condom, or oral pills.[1]

Contraceptive prevalence rate

Percent of eligible couples protected against child birth by any method of family planning (modern and traditional methods).[7]

Contraceptive methods

Contraceptive methods are defined as preventive methods to help women avoid unwanted pregnancies.[8]

Features of an idle contraceptive

Safe, effective, acceptable, inexpensive, reversible, simple to administer, independent of coitus, long lasting, and requiring little or no supervision.[1]

Statistical analysis

All information thus obtained were entered in Excel spreadsheet and coded accordingly. Data was analyzed using Med Calc Software. Percentages were calculated and $P$-value was obtained by applying Chi-square test with alpha level of 5%.
Results

Thirty-two percent of study population belonged to the age group of 20–24 years followed by 27% in 25–29 years age group, and 5% below 19 years of age [Table 1].

Sixty-five percent of study population belongs to nuclear family and 35% was from joint family. 12.50% of study population belonged to general caste, 85% to scheduled caste (SC), and 2.5% of scheduled tribe (ST).

Wife of 7.50% study population are illiterate, 39% up to class IV, 45.50% up to class X, and 8% up to class XII and above. Husband of 2.50% of study population are illiterate, 34.5% up to class IV, 49% from V to class X, 14% up to class XII and above. 34.14% of study population was housewives and 65.86% were housemaids. Five percent of study population was unemployed, 49% were unskilled laborer, 12.50% were skilled laborer, 17.50% were self-employed, and 16% were service holder. Age at marriage of 39% of eligible couple was less than 18 years and 55% was 18–24 years.

Five percent of study population had no children, 20% had one child, 50% had two children, 20% had three children, and 5% had more than three children.

According to BG Prasad's Socio-Economic Status (SES) scale, 5.50% of study population belonged to Class-I, 13% Class-II, 24% Class-III, 55% Class-IV, and 2.50% of study population was in Class-V.

Forty-nine percent of eligible couple was using permanent methods, 18.50% were using temporary contraceptives, and 32.50% were not using any. Current contraceptive practice of any approved method of study population was condoms-3%, oral contraceptive pill (OCP)-15.50%, and sterilization 49%. There was no IUD user among the eligible couples.

The age at marriage of 75% of contraceptive users belonged to 18–24 years age group. Seventy percent of contraceptive users belonged to nuclear family as compared to 62% in joint family. Sixty-seven percent of illiterate wife were not using currently any contraceptive method. Seventy-three percent of contraceptive users were literate up to class V–X. 77.50% of study population who have three or more living children are using contraceptives in comparison to 66.70% contraceptive user who have one living child and 68.70% acceptors who have two living children. Eighty percent of the population had socioeconomic status of class II were using contraceptives as compared to 33% of contraceptive user with socioeconomic status Class V [Table 2].

Discussion

The population growth is yet to be stable in India after 4 decades of implementation of the family welfare issues at the primary care level. We have attempted to find the contraceptive prevalence with various correlates that could have affected the contraceptive behavior.

Factors known to affect contraceptive use are complex and interrelated, for example, women's status has been linked to their use of contraceptives and thus their fertility. Among indicators of female status are level of education, employment, mobility, and political activity. Multiple stakeholders, nongovernmental organizations, and private sectors have been engaged in providing contraceptive services. Inspite of these efforts, several issues continue to daunt the programme and many goals remain underachieved, such as a significant proportion of pregnancies continue to be unplanned, contraceptive needs of millions of women remain unmet, and several subpopulation groups

### Table 1: Distribution of study population according to age

| Age (years) | No of eligible couple (n=200) | Percentage |
|-------------|------------------------------|------------|
| ≤19         | 10                           | 5          |
| 20-24       | 64                           | 32         |
| 25-29       | 54                           | 27         |
| 30-34       | 36                           | 18         |
| ≥35         | 36                           | 18         |

### Table 2: Correlates of contraceptive practices and different variables of study participants

| Correlates | Contraceptive use (n=200) | Total | Statistical analysis |
|------------|----------------------------|-------|----------------------|
| Age at marriage (years) | |       | | |
| Age groups | Yes | No | χ² | df | P |
| <18 | 45 (57) | 33 (43) | 78 | 2 | 0.01 |
| 18-24 | 83 (75) | 27 (25) | 110 | 3 | 0.02 |
| ≥25 | 7 (58) | 5 (42) | 12 | 3 | 0.04 |
| Types of family | Nuclear | 91 (70) | 39 (30) | 130 | 1 | 0.002 |
| Joint | 44 (62) | 26 (38) | 70 | 3 | 0.02 |
| Literacy status | Illiterate | 5 (33) | 10 (67) | 15 | 1 | 0.05 |
| Up to IV | 52 (66) | 26 (34) | 78 | 3 | 0.02 |
| V-X | 67 (73) | 24 (27) | 91 | 3 | 0.02 |
| XII and above | 11 (68) | 5 (32) | 16 | 3 | 0.02 |
| Number of children | 0 | 6 (37.5) | 10 (62.5) | 16 | 3 | 0.03 |
| 1 | 28 (66.7) | 14 (33.3) | 42 | 3 | 0.02 |
| 2 | 70 (68.7) | 32 (31.3) | 102 | 3 | 0.02 |
| ≥3 | 31 (77.5) | 9 (22.5) | 40 | 3 | 0.02 |
| Socioeconomic status | I | 11 (68) | 5 (32) | 16 | 1 | 0.02 |
| II | 20 (80) | 5 (20) | 25 | 1 | 0.02 |
| III | 42 (75) | 14 (25) | 56 | 1 | 0.02 |
| IV | 57 (65) | 31 (35) | 88 | 1 | 0.02 |
| V | 5 (33) | 10 (67) | 15 | 1 | 0.02 |

Figure in parenthesis indicates percentages. df: Degrees of freedom
including adolescents and men continue to be underserved and neglected. Greater autonomy for women are also shown to lead greater contraceptive use. Additionally, availability of household and institutional resources influence many of these measures of status.

The maximum number of eligible couples was 32% belonged to 20–24 years age group followed by 27% in 25–29 years age groups. Eighty-five percent of study population belonged to SC category and this was much higher than national average. So the present study was conducted mainly among disadvantaged group.

Type of family
It has been found that 65% of study population was from nuclear family. Seventy percent of the acceptors of contraceptives were held from nuclear family as compared to 62% from joint family. This difference in user rate was statistically significant with the type of family [χ² = 9.52, P = 0.002] Similar findings were observed by Bisoi et al., in their study. Another study conducted by Haldar et al., revealed that acceptability of contraceptive methods in relation to type of family was higher among the couples of nuclear families in both the districts.

Literacy status
It was revealed from the present study that 47% female of eligible couples passed up to class X followed by 39% up to class IV. Overall female literacy rate is 92.50%. Maximum proportion (73%) of study population used contraceptive fall within class V–X. In contrast, only 33% contraceptive use rate is found among eligible couple who are illiterate. Contraceptive prevalence rate differs significantly with literacy status of wife [χ² = 9.52, P = 0.03]. National average of female literacy was 65.50% as per census 2011. Similarly, male literacy rate among study population was 97.50%, which was also much higher than national average of 82.14%. This findings was supported by a study conducted by Manna and Basu who showed that 68.50% contraceptive use rate was observed among study population with literacy status of class V–X. Acceptance of family planning measures was significantly higher among those respondents who acquired education from institutions than illiterate and just literate group in both the districts. A similar observation was made by Sharma et al., in South Delhi. All the findings were comparable with one study in Hyderabad by Shobha.

Age at marriage
Thirty-nine percent female of study population married at age less than 18 years. According to District Level Household and Facility Survey (DLHS)-III data mean age of marriage for girls was 19.3 years in rural areas. Fifty-five percent married at age of 18–24 years. The age at marriage of 18–24 years had 75% of contraceptive users. The contraceptive use rate was significantly different with age at marriage of wife [χ² = 8.89, P = 0.01]. But in a study conducted by Bisoi et al., found that contraceptive use rate did not differ significantly (P > 0.05) with age at marriage.

Number of children
Fifty percent of eligible couple had two living children, 25% had either three or more children, and 5% had no child. Present study reveals that contraceptive prevalence varies with the number of living children of study population. 77.50% acceptor rate is in study population who had three or more living children. The contraceptive use rate significantly differed with number of living children [χ² = 8.46, P = 0.03].

In a study conducted by Chaco in India (2001) observed that number of living children was an important determinant of contraceptive use.

Socioeconomic status
According to BG Prasad’s SES scale, 55% of present study population belonged to class IV and 24% to class III. Socioeconomic status of eligible couple is an important determinant of contraceptive prevalence. Contraceptive use rate of maximum 80% was observed in study population who belonged to class II socioeconomic status as compared to 33% of acceptor rate among study population of class V socioeconomic status. Further it has been noted that contraceptive use rate differs significantly with socioeconomic status of study population [χ² = 11.5, P = 0.02]. Contraceptive acceptance rate was higher among higher income groups in both districts.

In the present study; among 200 eligible couples, 135 (98 + 37) accepted any modern method of contraceptives (67.50%). Among acceptors of contraceptives, 98 (49%) couples adopted permanent method, that was tubectomy and currently 37 (18.50%) couples were using temporary methods.

In the present study, CPR was 67.50%. As per NFHS-3, CPR was 48.5%. CPR of 62.3% was observed in a study conducted in Howrah district by Bisoi et al. In a study conducted by Haldar et al., in two districts showed that, contraceptive practice by any method among currently married women was (66.70 and 59.90%) less than in NFHS-3 of West Bengal (71.2%), but higher than NFHS-3 national data (56.3%) and other studies.

Forty-nine percent of study population had undergone sterilization operation and all had tubectomy done. Female sterilization was (28.6%) West Bengal figures (32.3%) and National figure (37.3%) of NFHS 3. Not a single case of vasectomy was detected within the study population. According to NFHS-3 acceptance of vasectomy in the country is 1.0%. Prevalence of spacing methods among the acceptors in this study was 18.5% (15.5% OCP user + 3% condoms use). Similar findings have been observed in a study conducted by Kansal et al., in Dehradun district. However, NFHS-3 data showed much lower rate (10.2%). OCP use was observed 3.1% on NFHS-3 but in the study by Haldar et al., it was 22.3%, 43.41% by Chankapa et al., and 7.5% by Rao et al., and Kumar.
et al.\textsuperscript{19,20} Chankapa et al.\textsuperscript{18} also showed that condom was used by 16.27\%, tubectomy 15.77\%, vasectomy 4.87\%, and IUD 4.19\%.

Another striking feature of the present study is that no case of Intra-uterine device (IUD) user was observed. This is due to the fact no facility for IUD insertion is available in the nearby health clinic run by Bankura Municipality.

**Conclusion**

CPR 67.50\%; female literacy rate is exceptionally higher than national average. 92.50\% wives of eligible couples are literate. Early marriage is a prominent feature in the study area. Thirty-nine percent girls marry at the age of less than 18 years. 57.50\% of study population belonged to Prasad socioeconomic status scale class IV and V. Tubectomy was the commonest type of contraceptive methods. Different factors namely age at marriage, type of family, number of living children, literacy status of female partner, and socioeconomic status significantly affect contraceptive behavior of the study population.

**Strength of the study**

We have tried to illuminate the clue to halt population growth in the developing countries including India with our earnest attempt to find out the hindrances of the contraceptive practices as a cost-effective primary level of intervention in our study population.

**Limitation of the study**

The study was conducted in a slum and was a cross-sectional one, at the same time unable to make causal inferences and not reflecting the contraceptive prevalence of Bankura as sample was small and with poor external validity.

**Future direction of the study**

A multicentric interventional study is needed with a robust population to find out the gray zones of the subnormal contraceptive use among vast multilingual and multicultural population in our country. We, the primary care protagonists, have to lead the way to find out a realistic multipronged strategy with the involvement of family medicine practitioners at the primary care level who are familiar with the pulse of the population at the grassroots of the society.

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How to cite this article: Gupta A, Roy TK, Sarker G, Banerjee B, Ghosh S, Pal R. Determinants of contraceptive practices among eligible couples of Urban Slum in Bankura District, West Bengal. J Fam Med Primary Care 2014;3:388-92.

Source of Support: Nil. Conflict of Interest: None declared.