

## **Contraceptive Use And Its Determinants In Currently Married Women Of Tea Gardens Of Darjeeling, India**

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### **Abstract**

#### **Background:**

In spite of being the first countries of the world to launch a nation wide family planning program, the contraceptive prevalence of India still remains low. This may be due to the influence of socio-demographic and cultural factors on family planning decisions.

#### **Objectives:**

- To determine the prevalence of contraceptive use among currently married women and identify factors affecting the contraceptive use.
- To find out the reasons responsible for non-use of contraceptives

#### **Materials and methods:**

A cross-sectional study was conducted in tea gardens of Siliguri subdivision of Darjeeling district, India among 1029 currently married women in reproductive age group. Information was collected regarding sociodemographic variable, knowledge and practice of contraception and reasons for non use of contraception. Simple descriptive statistics and multiple logistic regression was used to analyse data with the help of SPSS 16 software.

#### **Results:**

921 women were aware about any method of contraception; however, only 362 women were currently using any contraceptive method. The current use of contraception was found to be associated with age, religion, caste, literacy status, number of living children of the woman and awareness about contraceptive use.

#### **Conclusion:**

The contraceptive prevalence in the study area was quite low than the national figures which necessitate the need for the programme managers to take into account not only the concept of reproductive health education but also motivation of couples about use of contraception.

#### **Keywords:**

Contraception, contraceptive prevalence, socio-demographic variables, tea gardens

### **Introduction**

In 1952, India became the first country in the developing world to launch a national program emphasizing family planning to the extent necessary for reducing birth rates "to stabilize the population at a level consistent with the requirement of national economy"<sup>1</sup>.

Since then, fertility levels have declined throughout the country, albeit at varying paces in different regions; overall, the total fertility rate decreased from 6.4 lifetime births per woman in the early 1970s to 2.6 in 2009<sup>2,3</sup>.

Despite this decrease in fertility rates and the Government of India's best efforts, the 2011 census showed that the population continues to grow at a present rate of 1.58 percent and India is predicted to have more than 1.53 billion people by the end of 2030<sup>4</sup>.

Contraception, the prevention of pregnancy through temporary or permanent means, can act as an effective instrument to achieve population stabilization<sup>5</sup>. It is well documented that, to be successful, family planning programmes need to motivate women to begin using contraception and must encourage women who are already using family planning not to discontinue contraceptive use<sup>6</sup>.

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The current level of contraceptive use (i.e., the contraceptive prevalence rate), defined as percentage of currently married women age 15-49 years who are currently using a contraceptive method or whose husbands are using a contraceptive method, is an indicator of health, population, development and women's empowerment<sup>7,8</sup>. It is also an indicator for measuring the success of family planning programmes.

Nationally, the contraceptive prevalence has increased over the period between National Family Health Survey- 1 (NFHS-1) & National Family Health Survey- 3 (NFHS-3), from 41 percent in NFHS-1 (1992-93) to 48 percent in NFHS-2 (1998-99) and further to 56 percent in NFHS-3 (2005-06)<sup>7,9,10</sup>. But there exist large-scale variations and diversities in the demographic situation and socio-economic and cultural milieu between and within the states and regions of the country. These differences reflect a myriad of different factors including availability and accessibility, as well as social and cultural attitudes toward fertility control, sexuality, and the roles of women in society.

Therefore, to understand the dynamics of contraceptive use, it is important to study the sociodemographic variables which can affect a woman's intention and preference to use contraceptive methods and as well as the problems of different methods. In this context, a study was conducted among currently married women of reproductive age group residing in tea gardens of Darjeeling in West Bengal, India with the intention that the findings will allow the policy makers discuss the problem of contraceptive prevalence against the backdrop of the socio-economic condition and lifestyles prevalent in tea gardens, which may have important public health implications.

### Objectives

- To determine the prevalence of contraceptive use among currently married women aged 15-49 years residing in tea gardens of Darjeeling district
- To identify socio-economic and demographic factors affecting women's contraceptive use.
- To find out the reasons responsible for non-use of contraceptives

### Materials And Methods

A community based cross-sectional study was done in tea gardens of Siliguri subdivision of Darjeeling district from April 2012 to December 2012. Siliguri lies in the foothills of the Himalayas with lush green tea garden estates inhabited by predominantly tribal population. All the currently married women aged 15-49 years residing in these tea gardens for more than one year served as the sampling frame for the study. A sample size of 1040 was calculated using EPI-Info version 7.09, based on the prevalence of current contraceptive use of 56.3%, 99% confidence level, 10% relative precision and design effect 2.

A two stage 40 cluster sampling was used to sample twenty six women from each cluster. In the first stage, 40 clusters were selected from a list of tea gardens using the probability proportional to size method. In each cluster, with a random start from the centre, consecutive households were visited to select twenty six willing women who were in the age group 15-49 years. All eligible women in the last household in each cluster were included in the study.

The data was collected from the study population by using a validated, predesigned, pretested, semi-structured proforma which was administered by the investigators during a face-to-face interview. Pre-testing of the questionnaire was carried out on a convenience sample of 30 postnatal women attending the G&O OPD of North Bengal Medical College. The clarity and relevance of items were assessed and certain modifications were made on the basis of the findings of the pre-test. Relevant information about the current contraceptive use was recorded along with the socio-demographic data. Current level of contraceptive use was operationally defined as currently using a contraceptive method by either the women or her husband. Information thus obtained was then cross-checked with the available records to minimize the recall bias. The data were analyzed using SPSS version 16 (IL, Chicago).

Binary logistic regression analysis was used for statistical analysis. In this analysis, current contraceptive use was used as the dependent variable, where currently using contraceptive was coded as 1 and not using as 0. The independent variables used for the analysis include; age, religion, caste, women's education, husband's education and per capita monthly income.

Mother's age was categorized into <20 years, 20-24 years, 25-29 years, 30-34 years and  $\geq$  35 years of age. The educational level of the women and their husbands was defined using years of schooling and they were grouped into illiterate, non formally literate and primary school and above. The religion of the mother was grouped as Hindu, Muslim, and Christian. Identification of the social group was based on the women's self-reporting as General caste, Scheduled Castes (SCs) and Scheduled Tribes (STs). The groups were based on the Central Government of India official classification of certain socially and economically backward castes/tribes based on their historical disadvantage in social and economic positions<sup>11</sup>.

A relative indicator of household wealth was calculated from the per capita monthly income of the family and categorized as per recommendations of Tendulkar Committee's recommendation<sup>12</sup> into two classes (< Rs. 673 and  $\geq$  Rs. 673). According to the Commission's report, the poverty line in India is set at Rs. 673. Number of living children was categorized as zero, one, two or more.

## Results

Of 1040 women contacted for the study, 1029 finally participated in the study. The mean age of the participating women was  $26.08 \pm 4.8$  years. More than four-fifths of the women were Hindu (83.7%) and had their monthly per capita family income less than Rs. 672 (86.4%). Majority of the women and their husbands were illiterate.

The study participants were asked about their existing knowledge of temporary methods of contraception like oral pills, barrier methods, emergency contraception, injectables, IUD; and permanent methods like female and male sterilization. It was observed that knowledge of contraceptive methods was practically universal; 84.8% of the women knew about oral pills, 57.4% knew about barrier methods like condom and only 14.3% knew about emergency contraception. Where permanent methods were concerned 80.4% women were aware of female sterilization whereas the corresponding figure for male sterilization was only 48.2%. The knowledge of any method of contraception was present in 901 women (87.5%)

**Table I: Knowledge about contraceptive methods among the study population. N=1029**

Knowledge about contraceptive device	Frequency	Percent
<i>Temporary methods</i>		
Oral Pills	873	84.8
Condoms/ Barrier Methods	591	57.4
Injectable Contraception	109	10.6
Emergency Contraception	147	14.3
IUD	84	8.2
<i>Permanent methods</i>		
Female Sterilisation	827	80.4
Male Sterilisation	496	48.2

\* Multiple responses

Overall, 372 women (36.7%) were currently using a contraceptive method. Oral daily contraceptive pill was by far the most widely used method (31.5%), followed by female sterilization (20.6%), condoms (16.7%) and IUD (16.7%). Less than ten percent of the women used male sterilization, emergency contraception and injectable implants.

**Table II: Current use of method of contraception by the study population N= 372**

Contraceptive method	Frequency	Percent
Oral daily pills	119	31.5
Female Sterilization	72	20.6
Condom	63	16.7
IUD	63	16.7
Male Sterilization	33	8.7
Emergency Contraception	12	3.2
Injectables	10	2.6
Total	372	100.0

**Association between socio-demographic characteristics and current contraceptive use:**

To identify the factors associated with the current contraceptive use by the study population, multivariate logistic regression was done.

**Table III. Determinants of current contraceptive use among study population N=1029**

	Frequency (%)	OR (95% CI)	Total
<b>Age group</b>			
<20 years	34 (30.4)	1 (Referent)	112
20-24 years	151 (35.6)	1.10 (0.66 - 1.85)	424
25- 29 years	98 (35.8)	1.11 (0.64 - 1.92)	274
30 -34 years	87 (44.8)	1.61 (0.91 - 2.84)	194
= 35 years	8 (32.0)	0.55 (0.19 - 1.58)	25
<b>Religion</b>			
Hindu	351 (40.8)	1 (Referent)	861
Muslim	7 (8.0)	0.08 (0.03 - 0.17)	87
Christian	20 (24.7)	0.50 (0.27 - 0.91)	81
<b>Caste</b>			
General	155 (48.9)	1 (Referent)	317
SC	161 (39.6)	0.54 (0.38 - 0.79)	407
ST	62 (20.3)	0.29 (0.19 - 0.44)	305
<b>Wealth index</b>			
APL	82 (58.6)	1 (Referent)	140
BPL	296 (33.3)	0.40 (0.24 - 0.68)	889
<b>Literacy status</b>			
Illiterate	209 (41.1)	1 (Referent)	508
Non formal literate	111 (36.3)	1.05 (0.59 - 1.86)	306
Primary school and above	58 (27.0)	0.37 (0.11- 1.30)	215
<b>Literacy status of husbands</b>			
Illiterate	179 (41.9)	1 (Referent)	427
Non formal literate	145 (35.5)	1.02 (0.57 - 1.81)	409
Primary school and above	54 (28.0)	2.09 (0.56- 7.85)	193
<b>Awareness about contraception</b>			
Present	372 (41.3)	1 (Referent)	901
Absent	6 (4.7)	0.06 (0.03 - 0.15)	128
<b>Number of living children</b>			
0	173 (39.4)	1 (Referent)	439
1	172 (35.6)	1.07 (0.79 - 1.45)	483
=2	33 (30.8)	0.89 (0.54 - 1.48)	107
<b>Total</b>	<b>378 (36.7)</b>		<b>1029</b>

As shown in Table III, there were marked differences in the current use of contraceptives by women's background characteristics. Younger women (age <20 yrs) and older women aged more than 34 years were less likely to be using contraception than women in the mid childbearing ages (20 to 34 years).

Contraceptive use was found to be associated with religion and caste; Muslim women and women belonging to Scheduled tribes were less likely to use contraceptive than their counterparts. In the present study, current contraceptive use was found to decrease with educational attainment of both the women and her husband and socioeconomic status. The odds of contraceptive use were higher in women

belonging to families living above poverty line. The current contraceptive use was higher among women who had existing knowledge about contraception and who had 1-2 living children.

When the women were enquired about the reasons for non-use or discontinuation of contraceptive methods, the major cause cited by them was religious reasons (66.4%) followed by financial reasons (48.8%). 217 women said that they had no idea about the source of availability of contraceptives and 193 said their husband or in-laws were opposed to the idea of contraception. Among former users of contraception, the major reason for discontinuation was that she wanted to get pregnant (15.8%) followed by contraceptive method failure (11.8%).

**Table IV: Reasons for non-use or discontinuation of contraceptive methods N=651**

	N	%
<b><i>Non-use</i></b>		
Religious beliefs/ customs	432	66.4
Financial problems	318	48.8
No idea about the source of availability of contraceptives	217	33.3
Opposition from husband/in-laws	193	29.6
Perceived low risk of getting pregnant	137	21.0
No faith	59	9.1
<b><i>Discontinuation</i></b>		
Wanted to be pregnant	103	15.8
Method problem or failure	77	11.8
Wanted to have a male child	42	6.5
Other	59	9.1

\* Multiple responses

## Discussion

Family planning, one of the greatest public health advances of the past century, is enabling women to make informed decisions about whether and when to have children<sup>13</sup>. It is achieved through use of contraceptive methods. Promotion of family planning – and ensuring access to preferred contraceptive methods for women and couples – is essential to securing the well-being and autonomy of women, while supporting the health and development of communities<sup>14</sup>.

Family planning and contraception in India has a history lasting more than 60 years when India became one of the first countries of the world to launch a nationwide family welfare program to stabilise population at a level consistent with the requirements of the national economy<sup>1</sup>. Since then, family planning has been and remains the basis of family welfare programmes in India; and the program is currently being repositioned to not only achieve population stabilization but also to promote reproductive health and reduce maternal, infant & child mortality and morbidity<sup>1</sup>.

The present study was conducted in tea gardens of Darjeeling district of West Bengal to find out the awareness and prevalence of contraceptive methods among currently married women.

#### ***Awareness about contraceptive methods***

Awareness of family planning methods plays a vital role in motivating females to have a favorable attitude towards family planning and lack of this knowledge may be strongly associated with unmet need for contraception<sup>15</sup>. Awareness is crucial when deciding if one should use a contraceptive, and, if an affirmative decision is made, then selecting which method to use. In the current study, the overall knowledge of contraception was quite high (87.5%); the most widely known modern contraceptive methods were female based methods like oral contraceptive pills (84.8 percent) and female sterilization (80.4 percent). This knowledge may be attributed to the successful dissemination of family planning messages through the mass media and, to a lesser degree, through service providers in family planning and reproductive health. Interestingly, knowledge about male methods like condoms (57.4%) and male sterilization (48.2%) was comparatively lower. The observations of the present study were quite less than the corresponding national figures as documented by NFHS 3<sup>7</sup>.

#### ***Contraceptive prevalence rate***

Contraceptive use is the expression of individual desire to space or to limit birth. Individual demand for birth spacing and limitation are themselves shaped by the surrounding social economic and policy environment. Recent studies have shown that fertility is declining in most developing countries caused by the rise in the level of contraceptive use<sup>16</sup>. In the present study, about one third of the study population or their husbands were currently using any contraceptive method. The contraceptive prevalence rate in India is 56 percent (NFHS 3).<sup>7</sup> The corresponding figure in Sri Lanka is 68%, Bangladesh 61%, Nepal 49.7%, Cambodia 50.5%, Indonesia 61.4%, and Maldives 34.7%<sup>17-22</sup>.

#### ***Determinants of current use of contraceptives***

Gajanayake suggests that age and contraceptive use follows a typical curvilinear relationship in which contraceptive use increases with the increase of age, reaches maximum around 30s and then declines<sup>23</sup>. Similarly, in the present study age was found to show a differential pattern in contraceptive use. Use rates were the lowest in the oldest age category ( $\geq 35$

years) which can be attributed to the fact that older women are not at as high of a risk of pregnancy as younger women due to their declining fecundity. Young women aged  $< 20$  were also had a low contraceptive use because they may either be relatively poorly informed about the contraceptive methods or may have more desire for additional children. The observations were consistent with NFHS 3 results<sup>7</sup>.

Religion and caste have always been an integral part of India's foundation of culture and has an enormous effect on Indian society and behavioural patterns. One important finding of the present study is that religion and caste have emerged as important predictors of contraceptive use. Women practicing Hinduism and belonging to general caste had higher odds of using contraception than their counterparts. This is in consonance with the national survey done in India and other studies<sup>7,24,25</sup>.

A number of studies have revealed a direct relationship between socio-economic status and effective use of contraception<sup>26-28</sup>. Similarly, in the present study women living above poverty line were more likely to use contraception than their socio-economic lower counterparts. It can be explained by the fact that poverty can affect both access to and the ability to pay for contraception<sup>29</sup>.

Evidences suggest that there exists a positive correlation between contraceptive use and level of women's education<sup>30,31</sup>. The possible explanation of this relationship may be that education gives a woman greater power in decision making, wider information and greater access to modern and effective contraceptive methods. However in the present study, the women educates till primary level or above were less likely to practice contraception than their lesser educated counterparts.

Generally, husband's education can significantly affect his contraceptive attitude because an educated husband is more likely to approve of family planning than an uneducated husband. Similar findings were observed in the present study.

Awareness about contraception can be an important predictor of its intended use. Oni et al has found that increase knowledge of contraceptives has been accompanied by increased the use of contraception, especially by increase in current use<sup>32</sup>. In the present

study, subjects unaware of contraceptives were less likely to use contraception.

Given that the family planning programs were instituted to help women regulate their fertility and control their family size, number of living children should be a strong predictor of contraceptive use. Shah et al observed that the number of living children is the most important factor in determining whether Kuwait women desire to stop childbearing and whether they use contraceptive<sup>33</sup>. However, in the present study, the odds of using contraception were lower among women with two or more living children.

Women who were not using contraception at the time of the survey were asked to give the main reasons why not. The reason most frequently cited by women for not using contraception was religious beliefs. The prevalence of family members' opposition to family planning as a woman's reason for nonuse ranged from 1% (Morocco and Cambodia) to 14% (Uganda)<sup>34</sup>.

There were a number of women who were formerly using contraception but have discontinued now most commonly because they wanted another child. Trying to get pregnant was also cited as a reason for discontinuation of contraception among women in Ghana as revealed by Parr<sup>35</sup>.

There were a few limitations of the study. Firstly, cross-sectional design was used which can only reveal associations rather than causal relationships between covariates and the outcomes of interest. Secondly, the results of the study conducted in a part of the country cannot be extrapolated for whole country.

## Conclusion

Family planning interventions and contraception are among the most cost-effective health interventions because they are closely related to maternal and infant health and survival<sup>36</sup>. This study demonstrated that contraceptive prevalence in the study area was quite low as compared to the national average. However, there was wide difference in the prevalence according to the socio-demographic variables. The findings of this study necessitate the need for the programme managers to take into account not only the concept of reproductive health education but also motivation of couples about use of contraception. Also, knowing the major barriers of contraceptive use in the area may help the policy

makers in increasing the practice of contraceptive prevalence in the study area in particular and that of the region in general.

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