Contraceptive Use among Slum and Non Slum Dwellers: An Analysis of Selected cities in India

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Introduction

India has the unique distinction of sponsoring the first national family planning programme in the developing world. Since the state-sponsored programs were initiated in 1952, country's demographic and health profile has changed radically. As a result of continuing efforts made by national/international/voluntary organizations, considerable progress has been made in reducing the birth rate during last few decades. During the same period, the infant mortality rate has also reduced substantially (Health Information of India, 1999)[1]. Today knowledge of family planning is almost universal and almost half of the couple is using some means of contraception. However, the government supported family planning program is dominated by voluntary sterilization, especially female sterilization, which account for 75% of all contraceptive use (NFHS 2000)[2]. Though, it is widely acknowledged that over-riding emphasis on single method is unlikely to meet the clients' need. Traditionally, the National Family Welfare Programme in India sought to promote responsible and Planned Parenthood through voluntary and free choice of family planning methods best suited to individual acceptors (Ministry of Health and Family Welfare, 1998)[3]

Contraceptive use is considered as an intervention aimed at changing the risk of pregnancy. Any purposeful practice of a method undertaken by sexually active women and their male partners to reduce the risk of conception is considered as contraception. Contraception refers only to the control of fertility through the use of various fertility regulation technologies by individual or a couple with the ultimate aim of limiting family size and subsequently reducing the population growth. But the past few years have witnessed some radical changes in this definition. The term has gone beyond the scope of regulating fertility and it has been redefined by incorporating many others dimension of health and health care services. This change has occurred due to emerging challenge in the health of individuals, families, communities and nations. The resurgence of old disease including reproductive tract infection (RTIs), sexually transmitted disease (STDs) and pelvic inflammatory diseases (PIDs), occurrence of new life threading disease such AIDS; their fast growing spread among the general population ; the increasing vulnerability of women,

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particularly the young and the adolescent towards acquiring gender-specific infection though pregnancy, abortion, child birth and their associated health risks, and finally, attitudinal and behavioral changes in the society towards norms governing sex and sexually have played a critical role in bringing about this change. It calls for need of expanding the contraceptive choice to meet the health needs of individuals, both men and women.

Birth control measure suggests that among the various factor of fertility determinant none has direct effect on the individual than the use of contraception methods (Ross1983)[4]. However, the influential factors that affect the use of method include age at marriage, education, ideal number of living children, spacing between successive births, employment, poverty, health and status of women. These factors in turn increase contraceptive use among the couples when structural changes such as socio-economic development or modernization take place (Coale, 1979)[5]. Such transformation brings cognitive change among the couples to limit their birth rates through the adoption of contraception.

One of the principal objectives of Family Planning Programme, as endorsed by programme of action adopted in Cairo at the 1994 International Conference on Population and Development (ICPD) is to enable couples to decide timing and spacing of their births, to ensure that they make informed choices and to make use of a full range of available safe and effective methods. Among different methods, however, sterilization (mainly female sterilization) is the most commonly used methods in India (IIPS, 2001)[6]. When couples achieve their family size, majority choose to undergo sterilization, which is considered as most effective and safest method to stop child bearing in India and people often equate the term Family Planning with sterilization.

According to Census 2001, Indian population stood at 1028 million. The last decade has seen India's population grow by 21.34% which means 180 million persons were added to the population. India is undergoing a fertility transition and an important feature of this transition is the fact that contraceptive use has spread to uneducated women also (Mc Nay K. et. al.2003)[7] This augurs well for the country in the long run. Another advantage with the rising prevalence of contraceptive usage is the fact that abortion incidence has declined (Marston C. 2003)[8]. National Population Policy 2000 envisages universal access to various methods of contraception and fertility regulation.

The current level of Contraceptive use, i.e. the contraceptive prevalence rate (CPR) defined as percentage of currently married women age 15-49 years who are currently using a contraceptive method or whose husband are using a contraceptive method. It is the most widely used measure of level of family planning in a population and is one of the most useful indicators in family planning policy. Contraceptive prevalence can also be considered a measure of the final stage in the process of contraceptive innovation. Despite the fact that contraceptive usage has increased over a period of time, there exists a KAP-gap i.e. a gap between knowledge, attitude and practices regarding contraception (Ashok S. et. al.2000)[9]. With the above facts in consideration, we aimed to find out prevalence of contraceptive usage amongst eligible currently married women in selected cities of India.

Review of Literature

Shaw (1988)[10] examined the fertility and child spacing among the urban poor in a third world city, the case of Calcutta, India. Studies of fertility behavior in the third world have relied heavily on two variables, income and education, to explain variations in fertility rates. The socio-economic variables traditionally employed to account for variations in infertility rates are invariant. On the basis of data from 180 slum households in Calcutta, India, this paper indicates that in a situation where material and social conditions are comparable, cultural and demographic variables play a major role in influencing reproductive behavior. In this case study, caste and family type have a significant effect on the numbers of surviving children. As regards child spacing, the woman's age is of paramount importance.

Kayembe P. et al. (2003)[11] studies the prevalence and determinants of the use of modern contraceptive methods in Kinshasa, Democratic Republic of Congo *Contraception.* Five hundred females of childbearing age (15–49 years) who were selected through a stratified sampling procedure. The interview collected sociodemographic data, knowledge, perception and current use of modern contraceptive methods. The result showed Condoms appear to be the most widely known modern contraceptive method, the pill was cited by only 28%, a noticeable proportion reported unwanted pregnancies. The prevalence of the utilization of modern contraceptive methods (barrier and hormonal methods) was estimated at 7%, with the male condom being the most commonly used method (reported by 74.3% of those using a modern method). Hormonal methods were used less often. The current use of a modern contraceptive method correlated with

having discussed contraception with someone and having ever used a modern contraceptive method. An increase in the level of knowledge on modern contraceptive methods through mass and interpersonal communications could be one of the key strategies to increase the utilization rate of modern contraceptive methods in the Democratic Republic of Congo. Teenagers should be considered a priority group since there is evidence of unmet needs among them.

Majumdar et al. (1972)[12] examined the use of oral contraceptives in urban, rural and slum areas in Howrah district in West Bengal. They made a comparative study of acceptability and use-effectiveness of oral contraceptives in three clinics in different settings (urban, rural, and slum areas). The major findings of the study were that in the urban area, where the program was shown before its initiation, a majority of acceptors attended the clinic prior to contact with field workers and more than a quarter attended after only one contact. In the rural area majority of acceptors came to the clinic after one contact with field workers, but in the slum area, the majority of acceptors came only after the second or third contact. The cumulative continuation rates after different cycles of use computed by the life-table method were highest in the rural area and lowest by far in the slum area. The slum acceptors showed higher drop- out rates throughout the entire period of use. The cumulative continuation rates tended to be highest in the urban area for the age groups 25-34 and for women with four or five living children. The rates were higher for literates but the difference between literates and illiterates was substantial only in the slum area. The rates were also higher in the slum area for women who joined the program after repeated visits by field workers than for those who came after, at most, one visit.

Nguyen Minh Thang and Dang Nguyen Anh (2002)[13] study accessibility and Use of Contraceptives in Vietnam. Accessibility of contraceptives is an important factor in use of family planning. Because contraceptive access in Vietnam varies sizably by region and because one method (the IUD) predominates in Vietnam's contraceptive method mix, a better understanding of the accessibility of family planning services in the country could help program planner's increase use. They use data from the 1997 Vietnam Demographic and Health Survey on 5,310 currently married women of reproductive age were used to examine factors related to the accessibility of family planning services. The effects of individual-level and community level factors were analyzed jointly. In this studies had been seen nearly 84% of currently married Vietnamese women.100% of those in urban areas and 80% of those in rural areas lived within one kilometer of least one source of family planning services in 1997. Commune health clinics

and drugstores were the major providers, with 55% and 47%, respectively, of women located within one kilometer of such sources; these were followed by community health and family planning workers (40% and 27%). A multiple regression analysis showed that ready access to any source of family planning significantly reduced nonuse of modern methods (odds ratio, 0.6) and current use of traditional methods (0.6). Likewise, access to a greater number of sources of family planning reduced nonuse of modern methods (0.9) and current use of traditional methods (0.9). The Increased availability of contraceptive methods and information could increase use of family planning in Vietnam.

Reddy (1984)[14] examine the differential contraceptive use among the slum and non-slum dwellers: in Hyderabad city. A two stage simple random sampling technique was used in this study designed to examine the differentials in contraceptive practice between the slum and the non-slum dwellers of Hyderabad, and the effect of a few selected variables age, marriage duration, and number of living sons, and socioeconomic status on contraceptive behavior. A total sample of 480 couples consisting of 240 slum and 240 non-slum dwellers were selected at random. Contraceptive use was significantly higher among the non-slum dwellers than the slum dwellers. About 65% of the non-slum dwellers were currently using a contraceptive method in contrast to 32% of the slum dwellers. Further, 12% of the non-slum dwellers had used contraceptives previously in contrast to none of the slum dwellers. The ever users of contraceptives constituted 76% of the non-slum dwellers in comparison to only 32% of the slum dwellers. Among the current contraceptive users, 84% each of the slum and the non-slum dwellers had undergone sterilization; 15.5% of the non-slum dwellers and less than 3% of the slum dwellers used effective temporary methods. The need exists to encourage the adoption of the temporary contraceptive methods by both the non-slum and the slum dwellers in order to maintain proper spacing between successive children.

Need for the study

A number of studies have been conducted in India on contraceptive behavior. Majority of such studies have tried to see the variation between the rural- urban differentiate in contraceptive prevalence and method use. But there is dearth of literature on contraceptive use pattern among urban slums dwellers. Studies conducted on contraceptive behavior of women living in urban slum, are mostly conducted in local setting and they are based on primary sample surveys. These

surveys provide local estimates which does not give overall picture of contraceptive behavior in Indian slums. A study conducted in Bangladesh during 1994, shows that the contraceptive prevalence rate (CPR) among currently married women was 40% compared to the national average of 54% (Barkat et al., 1995)[15]. Such type of difference in CPR among currently married women of slum and non slum areas are also expected in India. Very little is known about reproductive behavior and family planning utilization in the urban slums in India. To achieve the goal achieving the replacement level of fertility by 2010, it is imperative to understand the determinants of family planning practice for the people who are living in slum. The third round of National Family Health Survey (NFHS III) has collected data from statistically representative slums of eight mega city of India for the first time, so it would be very interesting to have a comparative study of contraceptive use among currently married women living slum and non slum in cities in India.

Objective

The border objective of the study is to examine in the slum and non-slum context how contraceptive use is intertwined with demographic as well as health consequences of a population. The specific objective is to examine the level, differential and determinant of contraceptive use

Data Sources and Methodology

This study utilizes the data obtained from National Family Health Survey III, which was conducted in 2005-06 covering 29 states in India, comprise near about 99 percent of India's population. NFHS III survey is suitably designed to provide estimates of important indicator on family welfare, nuptility, fertility, mortality and child health care and nutrition. It also provides information about reproductive health, tuberculosis and malaria. For the first time, NFHS III collected data for slum and non-slum population of eight mega cities namely, Delhi (3106), Mumbai (2159), Kolkata (2471), Chennai (2060), Meerut (2713), Indore (2280), Hyderabad (3140), and Nagpur (2979) on health related issues and population estimates, which provide us ample opportunities to look at the demographic and socio-economic determinant of contraceptive use, effect of accessibility of contraceptive use among slum and non slum dwellers

of selected cities in India, Present study has utilized data from currently married women of age group 15-49 years belonging to these cities.

The study uses bivariate and multivariate techniques to understand the contraceptive behavior among currently married women living in slums and non slums. Multivariate statistical techniques like multinomial logistic regression have been applied to examine the predictor of contraceptive use.

Description of indicators included in the analysis has been as follow:

Contraceptive prevalence

Contraceptive prevalence is one of the principal determinates of fertility. 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.

Dependent Variable

Contraceptive use contraceptive use have been classified into three categories which is define as follow-

1. Modern method- In the modern method male sterilization, female sterilization, pill, IUD, condom, injectibles, foam and jelly, and others modern method has been included.

2. Traditional method In the traditional method rhythm (periodic abstinence), withdrawal, and other traditional method have been taken.

3. Not using any method

Independent variables

Age group

Age of the women is an important demographic variable that influence women's contraceptive behavior. In the present study age of the currently married women has been classified into three groups which is early adulthood (15-29), middle adulthood (30-34) and late adulthood (35-49).

Education level

Education is expected to influence the knowledge and attitudes towards family planning. Education of women has been categorized into three parts namely no education, primary education and secondary & higher education.

Caste

Caste is frequently cited obstacle to use contraception among currently married women. In this study caste has been taken into three components namely others, scheduled caste/scheduled tribe and other backwards caste.

Religion

Women's contraceptive behavior can be influenced by their religious belief. So using method of family planning may be differing according to their religion. The religion has been classified into three categories as Hindu, Muslim and others. In the others religion category Christian, Sikh, Buddhist/Neo-Buddhist, Jain, Parsi/Zoroastrian, No religion, others has been used.

Occupation

Occupation is the important factors which are affect the use of contraceptive behavior. In this study occupation of the currently married women has been classified into two categories as working women and not working women. In the working women included variables are Professor, Teacher, Manager, Clerical, Sale, Service, and Agriculture employees, skilled and unskilled manual.

Number of living children

Like age number of living children is also an important demographic variable which influence the pattern of contraceptive use. Number of living children has been classified into four groups as no children, 1-2 children, 3-4 children and five & above children.

Standard of living index

Standard of living index is the proxy of wealth quintile which is an important economic indicator which can influence the contraceptive use and unmet need for family planning. Standard of living index has been categories into three parts namely low, medium and high.

Mass media exposure and family planning message

Demand for contraception depends on the knowledge and awareness of the people. Mass media is an important source from where people can acquire knowledge. The main objective of family planning programme is to educate the people about advantages of small family norms. In NFHS Women who listened to radio every week or watched television every week or read newspaper once a week has been treated as exposed to mass media. Mass media exposure classified into three categories namely no exposure, partial and full exposure. These variables computed using the frequency of mean of reading newspaper/magazine, listing radio and watching television. Exposure to family planning message has been classified into two category no exposure and any

exposure. This computed using the frequency of heard about family planning through radio, television and newspaper in the last month.

Multinomial logistic Regression Analysis

A multinomial logistic regression analysis is the most appropriate technique in a situation where the dependent variable is categorical and has more than two outcomes (choe, 1985). The model permits the study of the effect of a unit change in the independent variable on the dependent variable considering the simultaneous effects of several variables.

A multinomial logistic regression model is generalization of binary (or logistic) regression model. In the binary model, a binary outcome (0 or 1) of events is modeled. If p is the probability of outcome being one, then the model specifies

$$\ln [p/ (1-p)] = \sum b_k x_k \quad + e_k$$

Where b_k represent the coefficients of each of the predictor variables included in the model, while e_k is an error term. ln [p/ (1-p)] represents the natural logarithm of the odds of the outcome.

The multinomial logistic regression model has been utilized for the two dependent variable namely contraceptive use and unmet need for contraception, since they have been categorized in three mutually exclusive categories. The contraceptive use has been coded as not using any method, modern methods and traditional methods. Similarly unmet need for contraception has been classified into three categories as unmet need for spacing, unmet need for limiting and no need for contraception.

Suppose the response variable as describe as contraceptive use.

P_1: estimated probability of not using any methods.

P_2: estimated probability of using modern methods.

P_3: estimated probability of using traditional methods.

Let the reference category is not using any contraceptive methods.

The multinomial logit model then consists of two equations plus a constraint

$$\log (p_1/p_3) = a_1+b_1x_1+c_2x_2+\ldots\ldots\ldots\ldots\ldots+11x_n$$

$$\log (p_2/p_3) = a_2+b_2x_2+c_2x_2+\ldots\ldots\ldots\ldots\ldots+12x_n$$

$$p_1+p_2+p_3=1$$

the multinomial logit coefficients has been estimated using the STATA (8 version) statistical software package. Due to the sign of a multinomial logit regression coefficient may not reflect of

the predictor variable. We have estimated the adjusted percentage for the multinomial logit model by using excel sheet.

Most convenient way to represent the effects of the predictor variable on p_1, p_2 and p_3 is in the form of an MCA table. To measure of goodness of fit pseudo R square is used in multinomial logit regression.

Results

Total fertility rate for selected cities, India, 2005-06

Figure 1 presents information on the total fertility rate (TFR) for slum and non slum areas in selected cities in India. The overall TFR of Delhi, Kolkata, Mumbai and Chennai are 2.1, 1.4, 1.7 and 1.6 respectively. TFR of Delhi is equivalent to the replacement level but highest in slum 2.6 and non slum 3.36. The TFR is lowest in Kolkata 1.4. Even in slum and non slum are 2.57 and 2.27 respectively. The TFR of slum areas of Mumbai is higher compared to non slum areas. The TFRs in slum and non slum of Chennai are 2.36 and 3.19.

Level of contraceptive methods

Table1 shows the prevalence of contraceptive method is higher in non slum dwellers compared to slum dwellers in all the four metro cities. Among the slum dwellers prevalence of contraceptive method is higher in Chennai followed by Kolkata, Delhi, Mumbai (72%, 71%, 57% and 55% respectively).The analysis shows that there is wide difference in prevalence of modern contraceptive method and traditional contraceptive method among slum and non-slum dwellers for all the four metro cities. The prevalence of modern method is higher in slum of Chennai followed by slum of Mumbai, Delhi and Kolkata (69%, 51%, 49% and 47% respectively).

Contraceptive prevalence of currently married women

Figure2 presents the contraceptive prevalence of currently married women using any method of family planning for selected cities among slum and non slum dwellers. Contraceptive prevalence among non slum dwellers was higher compared to slum dwellers in Delhi, Kolkata and Mumbai respectively. While contraceptive prevalence among slum dwellers was larger than non slum in Chennai.

Differentials of contraceptive methods in selected cities

Table2 shows the differential of contraceptive prevalence of modern and traditional method among currently married women in slum and non-slum areas in Delhi by socio-demographic characteristics of the women. The differences are observed in modern method and traditional method for the slum and non-slum dwellers. The association of contraceptive use and education of the women is positive. Primary educated women have the greater prevalence of modern method while the prevalence of traditional method is higher among secondary and above educated women. In the slum areas the prevalence of modern method is increasing as the age of the women is increasing but prevalence is high among the middle age group in the non-slum area. However traditional method use is higher in non-slum areas compared to slum areas. Among scheduled caste/scheduled tribe and others backward class women modern methods prevalence almost same as in slum but in non-slum this prevalence is large among OBC categories women. The prevalence of traditional method is highest in the both areas among others categories women. Modern methods prevalence among Hindu women is highest while traditional method use is highest among women of other religion. Working women have better knowledge about contraceptive method compared to not working women in the both areas of major metro cities. As the number of living children increases modern method use also increases up to two children, but this decreases in case of three and above children but fluctuating picture is observed in case of traditional method. As the SLI of women increases the level of contraceptive use method also increases but same is not the case with traditional method. The women, who have full exposure of mass media, have greater contraceptive prevalence of modern as well as traditional method among non slum dwellers.

Table3 shows the contraceptive prevalence of modern and traditional method among currently married women in slum and non-slum in Kolkata cities. The prevalence of modern method is higher among middle & late adult women while middle adulthood women of slum have higher contraceptive prevalence of traditional method followed by non-slum women of late adulthood women. No educated women among slum and non-slum areas have highest contraceptive prevalence of modern method. Similarly Scheduled caste/scheduled tribe women have higher prevalence of modern method compare to others and others backwards class women while traditional method prevalence among others categories women is highest. Contraceptive prevalence of modern method is higher among Muslim women but same is not the case for

traditional method. The working women had more use of contraceptive method compared to not working women for both types of methods. The women having children have highest use of modern methods while the traditional method use among women with one child was large. As the standard of living index of women is increasing prevalence of contraceptive use of modern method decreasing in the both areas. For the women who have partial exposure of mass media among them use of modern method is large and among those who have any exposure of family planning message prevalence was also high.

Table4 presents the contraceptive prevalence of modern and traditional method among currently married women in slum and non-slum in Mumbai. The prevalence of modern method is higher among late adult women while middle adulthood women of slum have higher contraceptive prevalence of traditional method followed by slum non-slum women. Primary educated women among slum and non-slum areas have highest contraceptive prevalence of modern method. Likewise Scheduled caste/scheduled tribe women have higher prevalence of modern method compare to others and others backwards class women while traditional method prevalence among others categories women is uppermost. Contraceptive prevalence of modern method is higher among Hindu women but this picture not seen in case of traditional method. The working women had more use of contraceptive method compared to not working women for both types of methods. The women having two children have highest use of modern methods while the traditional method use among women with one child was large in slum as well as non slum. The women belonged to high SLI among them use of modern methods was high in both areas. For the women who have partial exposure of mass media among them use of modern method is large and among those who no exposure of family planning message prevalence was also high in slum plus as non slum.

Table5 indicates the contraceptive prevalence of modern and traditional method among currently married women in slum and non-slum in Chennai. The prevalence of modern method is higher among middle as well as late adult women while early adulthood women of slum have higher contraceptive prevalence of traditional method compared to middle and late adult women in both areas. No educated women among slum and non-slum areas have highest contraceptive prevalence of modern method. In the same way Scheduled caste/scheduled tribe women have higher prevalence of modern method compare to others and others backwards class women.

Contraceptive prevalence of modern method is higher among Hindu women but other religious women use traditional method in slum. The working women had more use of contraceptive method compared to not working women for both types of methods in both areas. The women having two children uses of modern methods higher while the traditional method use among women with one child was large. As the standard of living index of women is increasing prevalence of contraceptive use of modern method decreasing in the both areas. The same picture of contraceptive use had been appeared in case of mass media exposure and fluctuating among those who have no and any exposure of family planning message.

Determinant of contraceptive use in selected cities

To understand the correlates of contraceptive use of currently married women, a multinomial logistic regression model has been used considering that dependent variable is categorical having more than two categories. The dependent variable has been categorized into three categories, namely, not using method, modern methods and gravitational methods. Not using methods is coded as '0', modern methods is coded as '1' and traditional methods is coded as '2'.

Table 3.6 presents the results of multinomial logistic regression in terms of adjusted percentage showing the effect of various demographic and socio-economic variables on the likelihood of using contraceptives methods.

However, the major emphasis is laid on the adjusted percentage for modern methods as the prime endeavor here is to understand the correlates which influence modern methods. It is clear that most of the variables included in the model (adjusted percentage of modern methods) have statistically significant effect in explaining the likelihood of using modern methods in slum as well as non slum. The predictors which significantly affect the prevalence of modern methods after controlling others variables includes age group of currently married women, education, caste, religion, occupation, number of living children, standard of living index, mass media exposure, exposure to family planning message and cities. Results of the multinomial analysis for slum and non slum as a whole reinforce the importance of age group of women, religion, occupation, number of living children and mass media exposure as the most important determinant of modern methods of contraception.

Results indicate that the women belonging to middle and late adulthood age group in non slum areas are more likely to use modern methods. The likelihood of using modern methods by the

religion, as reported by Muslim compared to Hindu was significantly high in both areas. An interesting finding what has emerged from the analysis is that the prevalence of modern methods among not working women is more compared to working women in slum as well as non slum but in the slum areas prevalence is higher compared to non slum. The likelihood of using modern methods is higher among women having no children compared to one, two, and three & above children in both areas. The prevalence of modern contraceptive use is higher among those who belong to the high standard of living index only in slum. The use of modern family planning methods is lower among those having partial and full exposure to mass media compare to no exposure to mass media. The likelihood of using modern contraceptive methods in Delhi is more compared to Kolkata and Chennai in slum as well as non slum.

Discussion and Conclusion

This study demonstrated that contraceptive use is higher in Chennai compared to Kolkata, Delhi and Mumbai respectively. The findings show that there is wide difference in prevalence of modern contraceptive method and traditional contraceptive method among slum and non-slum dwellers for all the four metro cities. It indicated that as age increases the prevalence of modern method in slum and non slum in Delhi and Mumbai are increasing but in other two cities it is fluctuating. Socio economic variables tell that working women have better knowledge about contraceptive use method compared to not working women in slum areas of almost in whole cities. All those women having two children among those women contraceptive use was higher in non slum areas respectively in all cities.

The results of multinomial logistic regression model in term of adjusted percentage have shows the effect of age group of women, religion, occupation, number of living children, standard of living index, mass media exposure and cities have statistically significant effect on the likelihood of contraceptive use methods after controlling for the confounding variables. There is a smaller amount difference in the use of contraceptive between slum and non-slum women in the selected cities of India. However, women belonging to middle ages are more likely to use modern contraceptive methods in both slum and non-slum areas. Further, women in the slum areas are more likely to use modern contraceptive methods than their non-slum counterparts. One important finding is that women belonging to the Muslim religion, irrespective of their place of residence, that is, slum and non-slum are more likely to use modern contraceptive methods.

Number of living children has significant impact on the use of contraceptive use. Women from slum and non-slum areas are more likely to use modern contraceptive irrespective of sex. Women belonging to middle and high standard of living index in the slum areas are more likely to use modern contraceptives than their non-slum counterparts. With respect to Delhi, women in Kolkata and Chennai are more likely to use modern contraceptive methods in both slum and non-slum areas. Further, slum women are more likely to use modern contraceptives than non-slum women.

To make it effective the programme must include counseling and education to help women. Separate fact from invention regarding health concern and side effects of methods. Efforts to promote societal acceptance of contraceptive use can help women overcome the cultural and societal barriers to use contraceptive and achieve their desire family size. Policy and program efforts should encourage women to have fewer children and to support to use modern and effective family planning methods. The study could not analyze the trends of contraceptive use because of the fact that the data is available for one point of time. Sample size was very less in some of the categories in independent variables

Figure 2.Contraceptive prevalence of currently married women of slum and non slum areas in selected cities

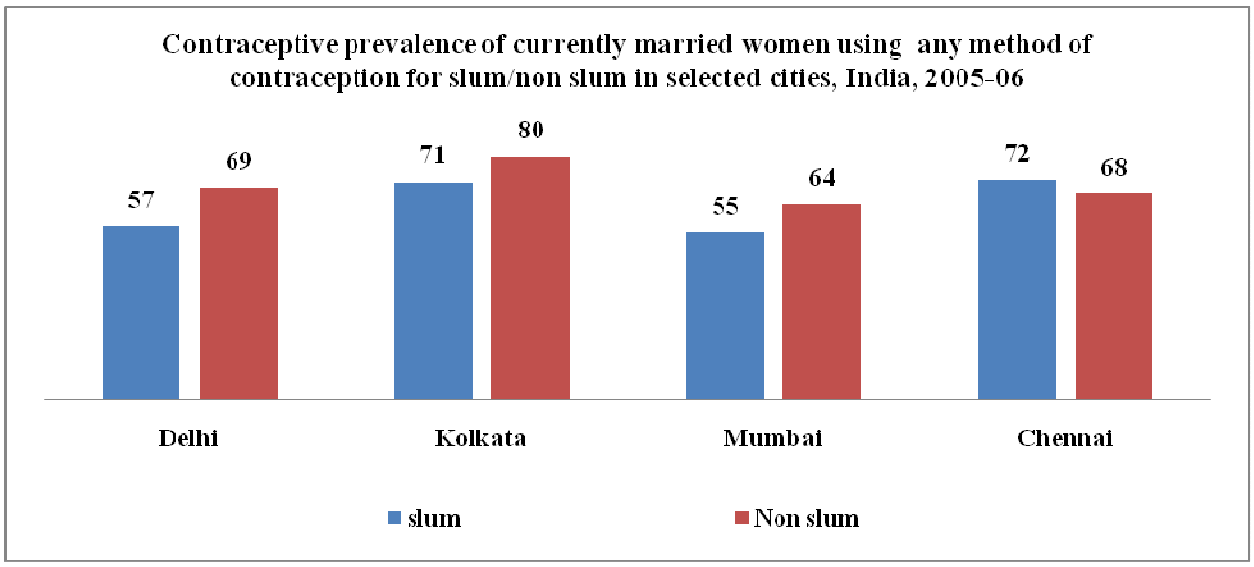

Table1 Level of contraceptive methods use among slum and non slum dwellers in selected Cities

Contraceptive Methods	Mumbai		Delhi		Kolkata		Chennai	
	Slum	Non Slum	Slum	Non Slum	Slum	Non Slum	Slum	Non Slum
Not Using	45.3	36.1	43.4	30.6	28.7	20.6	27.7	32.6
Modern Methods								
Pill	2.8	1.8	4.0	4.5	8.0	9.7	0.0	0.4
IUD	3.6	7.7	3.0	5.4	1.1	1.7	3.1	5.9
Condom	6.6	11.0	14.7	26.0	8.0	10.9	1.5	6.3
Female Sterilization	38.1	40.4	26.9	20.9	29.9	22.3	64.6	53.7
Traditional Methods								
Periodic Abstinence	2.3	1.5	4.2	6.7	13.8	14.9	1.5	0.4
Withdrawal	0.9	1.3	1.5	4.7	10.3	20.0	1.5	0.4

Table2.Contraceptive prevalence among slum and non-slum dwellers in Delhi city according to background characteristics

Background Characteristics	Contraceptive Methods			
	Modern Method		Traditional Method	
	Slum	Non-Slum	Slum	Non-Slum
Age Group				
Early Adulthood	41.1	43.2	9.7	11.2
Middle	69.4	70.7	12.4	13.2
Late Adulthood	58.1	56.9	8.9	9.4
Education				
No education	51.4	53.8	8.0	8.8
Primary	53.4	53.2	9.2	11.3
Secondary& Above	58.9	59.4	11.7	12.3
Caste				
Others	58.0	59.4	11.5	12.0
SC/ST	53.2	51.8	7.5	10.2
OBC	53.5	55.1	8.9	9.8
Religion				
Hindu	57.4	58.6	10.7	11.5
Muslim	48.4	51.2	4.2	4.7
Others	55.3	55.4	17.9	18.2
Occupation				
Not Working	54.8	56.6	10.4	11.3
Working	62.7	62.2	11.4	12.9
Number of Living Children				
No Child	5.0	11.6	2.5	2.0
1 Child	43.3	60.6	7.3	14.5
2 Children	66.7	66.7	5.9	9.0
3 & Above Children	57.9	50.0	7.0	9.8
Standard of Living Index				
Low	0.0	0.0	0.0	0.0
Middle	36.7	40.9	2.0	0.0
High	57.0	58.1	10.8	11.7
Mass Media Exposure				
No Exposure	43.1	45.2	6.9	8.1
Partial Exposure	54.9	56.5	9.4	10.1
Full Exposure	59.9	60.2	12.4	13.2
Exposure to Family Planning Message				
No Exposure	57.2	36.4	10.6	14.5
Any Exposure	40.0	58.5	9.5	11.5

Table3.Contraceptive prevalence among slum and non-slum dwellers in Kolkata city according to background characteristics

Back ground Characteristics	Contraceptive Methods			
	Modern Method		Traditional Method	
	Slum	Non-Slum	Slum	Non-Slum
Age Group				
Early Adulthood	46.6	47.3	27.3	30.9
Middle	50.5	50.8	38.9	42.9
Late Adulthood	39.2	36.8	26.6	29.8
Education				
No education	58.8	63.6	17.6	13.6
Primary	51.5	50.0	24.2	33.3
Secondary& Above	41.0	40.4	36.5	39.0
Caste				
Others	43.4	42.1	32.2	36.4
SC/ST	56.3	57.1	28.1	28.6
OBC	50.0	50.0	33.3	50.0
Religion				
Hindu	45.2	44.0	33.7	36.7
Muslim	48.0	47.8	22.0	26.1
Others	33.3	33.3	33.3	33.3
Occupation				
Not Working	44.1	44.2	31.8	34.9
Working	50.0	45.7	29.4	34.8
Number of Living Children				
No Child	18.2	23.8	9.1	19.0
1 Child	44.4	42.1	31.1	42.1
2 Children	66.7	72.0	20.8	16.0
3 & Above Children	62.5	66.7	12.5	0.0
Standard of Living Index				
Low	50.0	0.0	0.0	0.0
Middle	50.0	100.0	0.0	0.0
High	45.5	44.3	31.9	35.2
Mass Media Exposure				
No Exposure	60.0	60.0	20.0	20.0
Partial Exposure	46.5	46.4	28.3	30.9
Full Exposure	42.6	41.9	38.3	40.5
Exposure to Family Planning Message				
No Exposure	45.4	28.6	32.6	23.8
Any Exposure	47.2	19.2	22.2	36.5

Table4.Contraceptive prevalence among slum and non-slum dwellers in Mumbai according to background characteristics

Background Characteristics	Contraceptive Methods			
	Modern Method		Traditional Method	
	Slum	Non-Slum	Slum	Non-Slum
Age Group				
Early Adulthood	40.5	45.2	1.8	2.2
Middle	63.0	68.8	4.6	3.5
Late Adulthood	66.4	70.4	2.2	2.6
Education				
No education	58.0	72.9	1.3	0.0
Primary	63.9	73.7	0.0	0.0
Secondary& Above	53.4	57.6	3.9	3.6
Caste				
Others	55.3	61.0	2.7	1.7
SC/ST	58.8	67.4	1.0	2.2
OBC	55.4	57.9	5.4	8.8
Religion				
Hindu	58.8	62.8	2.6	2.4
Muslim	44.2	55.6	2.7	0.0
Others	50.9	58.8	5.6	5.9
Occupation				
Not Working	52.5	58.4	2.3	1.9
Working	63.0	66.7	4.9	4.9
Number of Living Children				
No Child	5.1	11.8	1.7	0.0
1 Child	49.5	62.7	4.3	4.2
2 Children	73.8	82.6	1.9	1.1
3 & Above Children	40.0	75.0	3.3	0.0
Standard of Living Index				
Low	25.0	0.0	0.0	0.0
Middle	55.7	0.0	3.0	0.0
High	55.6	61.4	2.9	2.8
Mass Media Exposure				
No Exposure	19.4	25.0	2.8	0.0
Partial Exposure	59.9	65.3	3.5	4.0
Full Exposure	53.5	58.4	2.5	1.9
Exposure to Family Planning Message				
No Exposure	56.3	36.2	3.0	4.3
Any Exposure	52.3	36.0	3.1	2.6

Table5 Contraceptive prevalence among slum and non-slum dwellers in Chennai according to background characteristics

Background Characteristics	Contraceptive Methods			
	Modern Method		Traditional Method	
	Slum	Non-Slum	Slum	Non-Slum
Age Group				
Early Adulthood	50.4	49.5	1.6	1.1
Middle	77.5	75.9	0.8	0.9
Late Adulthood	76.2	75.4	1.2	0.0
Education				
No education	78.8	77.3	3.0	4.5
Primary	77.3	77.6	1.5	0.0
Secondary& Above	62.4	62.5	1.3	1.0
Caste				
Others	60.0	60.9	0.0	0.0
SC/ST	70.8	71.4	1.5	0.0
OBC	66.9	66.0	1.2	1.5
Religion				
Hindu	68.5	67.7	1.1	1.3
Muslim	65.0	66.7	0.0	0.0
Others	58.3	57.1	2.8	0.0
Occupation				
Not Working	65.0	64.5	1.3	1.1
Working	70.9	70.9	1.8	1.2
Number of Living Children				
No Child	6.3	5.7	0.0	0.0
1 Child	55.7	70.1	2.5	1.6
2 Children	84.7	94.0	0.0	0.0
3 & Above Children	66.7	66.7	0.0	0.0
Standard of Living Index				
Low	100.0	0.0	0.0	0.0
Middle	85.7	100.0	0.0	0.0
High	66.8	66.0	1.2	1.1
Mass Media Exposure				
No Exposure	100.0	100.0	0.0	0.0
Partial Exposure	69.3	68.0	1.2	1.6
Full Exposure	65.1	65.2	1.2	0.7
Exposure to Family Planning Message				
No Exposure	67.0	71.4	1.3	0.0
Any Exposure	70.0	66.3	0.0	1.2

Table6 MCA Shows adjusting percentage for contraceptive use of currently married women of age group 15-49.

Background Characteristics	Contraceptive Method					
	Not Using Method		Modern Method		Traditional Method	
	Adjusted Percentage		Adjusted Percentage		Adjusted Percentage	
	Slum	Non-Slum	Slum	Non-Slum	Slum	Non-Slum
Age Group						
Early Adulthood®	53.9	56.8	39.9	31.8	6.2	11.4
Middle	66.7	67.7	28.9***	18.5***	4.5***	13.8***
Late Adulthood	59.4	52.4	35.1	39.5***	5.4	8.1***
Education						
No education®	58.7	60.6	35.8	30.3	5.5	9.1
Primary	63.1	64.0	31.9	25.8	4.9**	10.2
Secondary& Above	73.8	60.1	22.7	27.8	3.5	12.1
Caste						
Others®	59.8	62.4	34.8	28.9	5.4	8.6
SC/ST	64.3	61.5	30.9	28.6	4.8	9.9
OBC	60.8	56.3	33.9	30.2	5.2	13.5
Religion						
Hindu®	64.1	62.4	31.1	26.0	4.8	11.6
Muslim	46.6	53.3	46.2***	38.6***	7.2***	8.1***
Others	57.5	55.0	36.8	29.0	5.7	16.0
Occupation						
Not Working®	57.8	56.8	36.5	30.1	5.6	13.1
Working	68.8	68.7	27.0***	23.3***	4.2*	8.0***
Number of Living Children						
No Child®	6.0	11.4	81.4	85.2	12.6	3.4
1 Child	59.1	60.5	35.4***	25.2***	5.5***	14.3***
2 Children	81.6	76.9	15.9***	15.6***	2.5***	7.5***
3 & Above Children	68.8	63.4	27.0***	27.2***	4.2***	9.4***
Wealth Index						
Low®	45.8	65.0	47.0	28.5	7.3	6.5
Medium	57.2	62.3	37.1**	28.5	5.7**	9.2
High	64.2	60.1	31.0***	27.9	4.8***	11.9
Mass Media Exposure						
No Exposure®	46.2	44.4	46.6	45.3	7.2	10.3
Partial Exposure	61.1	60.3	33.7***	28.4***	5.2**	11.3
Full Exposure	61.8	62.1	33.1***	26.4***	5.1*	11.5
Exposure to Family Planning Message						
No Exposure®	60.6	59.4	34.2	30.8	5.3	9.8
Any Exposure	61.1	60.7	33.7	27.7	5.2	11.6
Cities						
Delhi®	50.5	52.7	42.9	30.4	6.6	16.9
Kolkata	68.8	37.4	27.0***	12.0***	4.2***	50.6***
Mumbai	51.7	62.4	41.9	33.5	6.5***	4.2***
Chennai	73.5	70.4	22.9***	28.1*	3.5	1.4***

Level of significance: *** Significant at p<0.01, ** significant at p<0.05, * significant at p<0.1
® = Reference category,

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