

Impact of Family Welfare Programme on Fertility and its Socio-Economic Determinants in Sagar District

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Abstract

Background: After independence family planning programme implemented in 1952 and continuously run the program by the various strategies to curb down population pressure in the study area. In the twenty first century, fertility of the Sagar district is very high and not reached the satisfactory outcome to implementation of the family welfare program. This study try to find out the reality of the family welfare program in the study area and why the implementation out of the program is not reached the satisfactory level.

Methods: This research used primary as well as secondary data. 900 married respondent between the aged 15-49 years of the district interviewed and Census of India data used as a secondary source. Women autonomy index prepared for knowing the status of women in the study area. Bi-variate and Logistic regression analyses are used to examine the association between adoption of contraceptive and socio-economic factors.

Results: Overall women autonomy index is very low in the district though less educated, rural, Muslim's and higher aged women have low women autonomy index. The adoption rate of contraceptive and high adoption of permanent method like sterilization is recorded after they have higher number of son. Higher education and women autonomy, low son preference increase the adoption of modern contraceptive in the study area which resulted reduced unmet need and fertility. Adoption of contraceptive also reduces 6 percent infant death and 13 percent unwanted birth averted in the study area.

Conclusion: These results highlight the urgent attention for policy maker to rethink about the family welfare program and also attention of the uplift socio-economic factor in study area to reach the replacement fertility goal in near future in the study area.

Keywords: Fertility desire, Women autonomy index, Family Planning program, Couple contraceptive behaviour.

1. INTRODUCTION

Bihar, Madhya Pradesh, Rajasthan and Uttar Pradesh (popularly known as BIMARU) are the central states of India have the most problematic as regards to explosion of population (Som and Mishra, 2014). Madhya Pradesh is the state, which ranks eight in population growth rate (20.30 per cent) among the Indian states while it recorded fourth position among the eight EAG states (Census, 2011). High fertility rate of Sagar district is an issue of concern as a district of Bundelkhand (one of the most backward region in India). Mean children ever born is 3.74 in 2011 (when it was calculated from census 2011) which is 13th highest population fertility district in the state. The exponential growth rate (2.1 per cent during 1991-2001) is still very high in this district, which should be decreased to less than 1 per cent. Sudden decline in the progress of family welfare programme in this region, as in other parts of the state may be a serious reason for high growth rate. The decadal growth rate (22.7 per cent) during 1991-2001 is expected to attain dangerous position in exploding population as its

effective couple protection rate has declined to 5 per cent during the year 2001 which was recorded 144 per cent during the year 1997 and 50 to 61 per cent during the period 1985-1991.

Family welfare programme in Sagar district was started in order to control population under national programme and policies, during 1951 with a clinical approach. Extension education (Year book 1988-89) was adopted in mid sixties and since late seventies the family planning service delivery system has gradually expanded into a community- oriented service. Although, a reduction in birth rate over the years has fallen short of the plan targets.

2. STUDY AREA

Having rich historical and cultural heritage Sagar is situated between 23.10" and 24.27" North latitude and 78.4' and 79.2' east longitude i.e. north central Madhya Pradesh being truly a central position in the state and the country (Fig. 1). Before British period it has been a controlling centre of one hundred small forts within one hundred sixty kilometer of radius (i.e. one hundred miles) and therefore they spelled as " SAGOUR" (' SAU' means one hundred ' GOR' means fort) later on it become SAGAR (means sea) as the city surrounds a beautiful natural lake formed by small hills. The race of ages resulted into expansion inhabitation and multiplication of population in Sagar and therefore, a small town of past is a district and divisional headquarters at present. It is divided into seven tahsils and eleven development blocks for the revenue collection. Sagar district have 147 population density per sq. km and sex ratio recorded 893 females per 1000 males. The total population of Sagar district be similar to Meghalaya state and exceeds the combined population of Arunachal and Mizoram States.

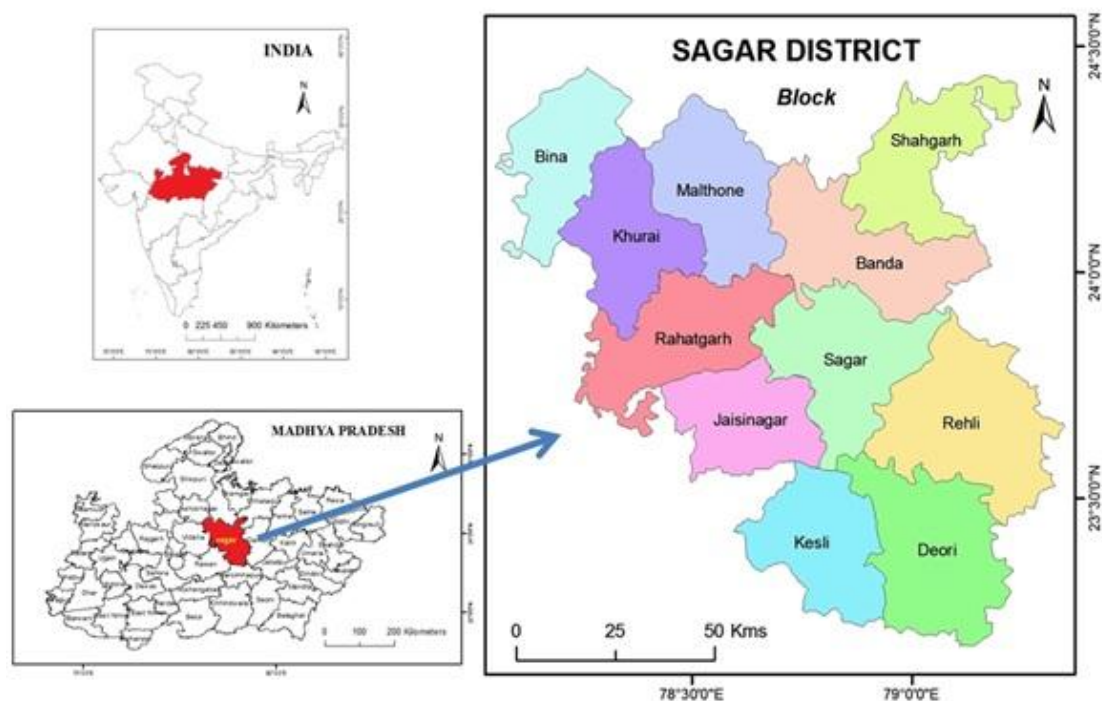


Figure1. Location Map of the study area (Sagar District)

3. OBJECTIVES

The objectives of the study are:

1. To find out the role of various methods of contraceptive use on fertility rate. This study also highlights the status of unmet need of contraception.
2. To assess the influence of Socio-economic factors on the knowledge and adoption of contraceptive.

4. MATERIAL AND METHODS

This study is based on primary data as well as secondary data. Primary data have collected with semi structure interview schedule from 900 ever married women of the reproductive age group (15-49 years) and conduct focus discussion group for deep insight the matter.

4.1. Sampling Techniques

Sagar District has total 2.3 million population where 445 thousand women are belong to the reproductive age in 2011 (Census, 2011). With the basic of sampling, (For the norms of 95 percent confidence level with 5 percent confidence level) minimum 384 sample population has been needed to conduct this study. But to refine the result and cover all the aspect, this study used 900 married eligible women sample with 99 percent confidence level and 4.3 percent confidence interval. This sample is collected by the stratified random sampling techniques where 11 sample villages have selected form 11 community development blocks and 3 wards form 3 urban centers.

4.2. Methods

This study is used statistical analysis and figures to fullfill the objective. Deatails of the methodology are follows.

- Basic statistic used to find out the status of fertility (MCEB) and adoption of contraceptive. MCEB denotes mean children ever born which is calculated by the average of the total number of child produced during the reproductive period by the respondent.
- **Women autonomy index:** Women autonomy index is the best way to know the status of women in the society. Women autonomy index is a use frequently as an independent variable show the status of reproductive health of women. This index is prepared on the basis of the level of participation in different categories of household decision making matters. Decision seek to buy household items, healthcare for yourself and children, send children to school and visit to relatives house to define the level of women autonomy.

Table1. Calculation of Women Autonomy Index

Sl. No.	Decision	Response of the women respondent	Scores
1.	Decision to buy household items	Takes decision Sought Does not Take decision	2 1 0
2.	Decision to health care for yourself	Takes decision Sought Does not Take decision	2 1 0
3.	Decision to health care for children	Takes decision Sought Does not Take decision	2 1 0
4.	Decision to send child to school	Takes decision Sought Does not Take decision	2 1 0
5.	Decision to visit to relatives house	Takes decision Sought Does not Take decision	2 1 0
Autonomy index ranged from 0-10, Low level autonomy =0-4, Medium level autonomy=5-7, High level autonomy = 8 and above			

Source: Prepared by the author based on literature

All women respondent ask the question whether she is able to take decision on her own or she takes the decision with the help of the other family member or she has not any power to take decision in the family matter. A score assigned '0' was if she has unable to take decision or have not any role to family decisions, a score of '1' when she takes decision with the help of others and score'2' is given when she had the sole responsibility to take the decision. After the given score for the individual respondent sum up the score an index of autonomy is ready (Table 1). The index range from 0 to 10, where 0 means she has least autonomy and 10 means highest level of autonomy. Women autonomy index has been divided by the three categories such as (1) low level of autonomy (0-4) (2) medium level of autonomy (5-7) (3) high level of autonomy (8 and above).

- Family composition and adoption of contraceptive relation has testified by the chisquare test.
- To find out the role of socio-economic factors on the prevalence of contraceptive use, this study adopted the binary logistic regression analysis. This analysis have employed due to the dichotomous nature of the dependent variable (adoption of contraceptive). This technique

generally used to examine the influential role of certain variables on the probability of occurrence of an event. A dummy variable constructed here by the combination of contraceptive user and non-user where user assigning the 0 value and non-user for 1.

5. RESULT AND DISCUSSION

5.1. Temporal Contraceptive Prevalence Rate in Sagar District

In DLHS 2 (1998-99) report of Sagar district recorded 47.40 percent contraceptive prevalence rate among them 41.30 percent adopt modern contraceptive while 6.10 percent used traditional contraceptive. 99.20 percent women told that they are know about contraceptive in DLHS 2. Very high fertility (MCEB-5.6) recorded in the DLHS 2 in Sagar district. In 2007-08, DLHS 3 report recorded near 8 percent increase the contraceptive prevalence rate and reached 55 percent. Among the all user of contraceptive, modern contraceptive prevalence rate increases while the traditional contraceptive use decreases. Increases contraceptive prevalence rate from DLHS 2 to DLHS 3 give an outcome to decrease fertility from 5.6 children ever born to 3.0 children ever born (Table 2).

Table2. Trends of Contraceptive Prevalence Rate in Sagar District

Time Period	MCEB	Knowledge	Contraceptive Prevalence Rate		
			All	Modern	Traditional
Sagar District					
DLHS 2 (1998-99)	5.60	99.20	47.40	41.30	6.10
DLHS 3(2007-08)	3.00	100.00	55.00	51.20	3.80
NFHS 4 (2015-16)	3.00	100.00	49.00	44.40	4.60
Field Report 2015-16	3.47	98.00	42.67	32.22	10.45

Source: DLHS 2, 3; NFHS 4 and Field survey 2015-16.

Though in NFHS 4 report said that Sagar district has only 49 percent contraceptive prevalence rate among 44.40 percent are modern and 4.60 percent are traditional method user. Primary survey 2015-16 recorded that contraceptive prevalence rate has very low (42.67 percent) among that modern contraceptive prevalence rate is 32.22 percent and traditional CPR is 10.45 percent (Fig.-2). Mostly respondent said that use of contraceptive and their accessibility has been increased in recent year though the fact is differ from the secondary data.

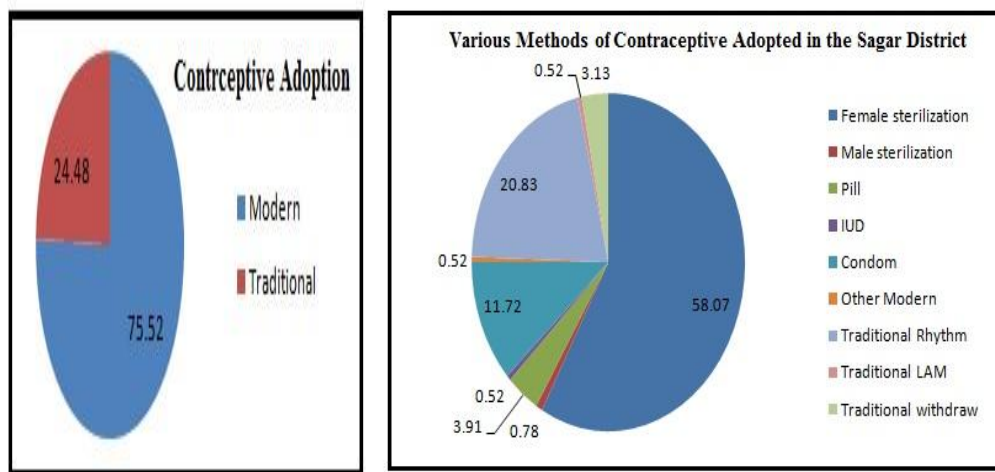


Figure2. Adoption of Various Contraceptive Methods in Sagar District, 2015-16

5.2. Knowledge and Adoption of Contraceptive by Various Background Characteristics

Knowledge of contraceptive and their used are detailed figure out by various background characteristics of the respondent in table 3.

Rural population has been recorded lower level (94.4 percent) knowledge of contraceptive than urban area (100.0 percent) respondent. Modern contraceptive prevalence rate in rural area has very low (28.94 percent) and near about 9 percent respondent in rural areas have used traditional method of contraceptive. On the other hand, urban respondent have 43.56 percent contraceptive prevalence rate and 15.35 percent respondent have used tradition contraceptive methods.

Younger age group has higher knowledge about contraception than the older age group. Highest knowledge (99.0 percent) of contraceptive recorded in the age group 15-24 age group. After that, in higher age group decreasing rate of knowledge of contraceptive from 97.4 percent in 25-29 years to 89.6 percent in 45-49 year age group. Higher percentage contraceptive knowledge of respondents in lower age group because the intensive awareness programme and education increases in recent year.

This study recorded has an inverse “U” shape relationship between modern contraceptive adoption and age group. In early age group (15-19 years) modern contraceptive adoption is very low (6.52 percent) due to wanted children is very high in that age group. After 24 years mostly respondent adopted when reached two or more children they started to adopted contraceptive and mostly among them use modern permanent contraceptive method (sterilization). In higher age group respondent have less educate and awareness in low in her younger age and recent time those are reproductively active and did not adopted contraceptive because to fulfill the son preference dream.

Table3. Fertility (MCEB), Knowledge and Adoption of Contraceptive among women by background characteristics in Sagar District

Background characteristics	Mean Children Ever Born (MCEB)	Contraceptive method (MECPR)	Contraceptive method (TECPR)	Knowledge	Number of women interviewed
Place of Residence					
Rural	3.56	28.94	9.03	94.4	698
Urban	2.96	43.56	15.35	100.0	202
Age group of the respondents					
15-19 years	1.21	6.52	9.78	99.0	92
20-24 years	1.70	20.42	8.90	99.0	191
25-29 years	2.70	40.63	10.42	97.4	192
30-34 years	3.91	48.45	11.18	94.5	161
35-39 years	5.19	45.45	12.40	92.3	121
40-44 years	6.44	24.39	18.29	91.3	82
45-49 years	5.07	22.95	0.00	89.6	61
Age at marriage of respondents					
Below 18 years	3.83	30.24	8.87	93.6	496
Between 18-24 years	2.94	33.91	12.07	98.6	348
24 above years	2.84	39.29	14.29	95.1	56
Educational level of the respondents					
Not Attended School	4.49	29.86	7.54	93.6	345
Below Matric	2.88	28.81	9.60	96.2	427
Matric to Higher Secondary	2.52	44.44	20.99	99.1	81
Graduation	2.31	65.63	21.88	100	32
Above Graduation	1.47	46.67	20.00	100	15
Wealth status of the family					
Poorest	3.93	30.12	7.23	93.4	332
Second	3.74	25.50	10.00	95	200
Middle	3.21	32.33	12.78	98.5	133
Fourth	2.66	40.00	8.80	98.4	125
Richest	2.45	41.82	20.00	97.3	110
Number of children died					
0	2.64	35.10	10.47	96.8	621
1	4.39	31.71	10.98	98.8	164
2+	6.73	20.20	11.11	99.0	99
Religion of head of the household					
Hindu	3.43	32.75	9.50	95.5	800
Muslim	3.96	13.43	13.43	94.1	67
Others	2.15	57.57	0.00	100.0	33
Caste Group					
Scheduled Caste	3.62	26.35	8.30	88.8	277
Scheduled Tribe	4.03	28.38	4.73	83.8	148

None Of Them/Others	3.17	33.33	12.19	93.6	525
Women Autonomy Index					
Low	3.87	29.37	11.52	94.26	534
Medium	3.47	34.53	9.42	97.19	271
High	2.69	41.64	7.31	99.65	95
Exposure to Mass Media					
Exposed	3.49	34.9	10.69	99.52	719
Not Exposed	4.17	27.09	9.46	80.58	181

Source: Calculated by the authors based on field survey, 2015-16.

This study proved that higher age at marriage is the outcome of higher education level of the respondent ($R^2=0.46$). lower age marriage women are less empowered due to low educational level and less economic opportunity in the from jobs resulted lower knowledge of contraceptive. Only 93.6 percent women have knowledge about contraceptive and around 39 percent adopted contraceptive to protect from fertility in below 18 years marriage group. On the other hand, higher age marriage women generally more educated and empowered which resulted higher knowledge and adoption (near 44 percent) of contraceptive in the study area (Table 3).

Education is a versatile indicator of development (Dube and Mishra, 1981). Education has increase the age at marriage ($R^2=0.46$) and age at first birth ($R^2=0.34$) of the women. Only 93.6 percent illiterate women have knowledge about the contraceptive while above higher secondary educated women have 100 percent. Higher secondary educated women adoption of contraceptive has double than illiterate women. After achieving higher secondary education certain hike in adoption of contraceptive and its play a threshold role.

Family planning is still very low for the women in poorest quintile of women though the generalized efforts of universal accesses of contraceptive are seen in the world (Restrepo-Méndez et al., 2015). Higher wealth status gives extra opportunity and benefit to get higher education if they want. Knowledge of contraceptive is varying from 93 percent to 99 percent among the wealth status group. Lower adoption rate has recorded among the lower wealth status respondent (37 percent) while it increases among the higher wealth status (61 percent) group.

Higher contraceptive use help to achieve the 1000 window opportunity gap which help to restore proper nutrition and reduce the risk of suffering from obstetric complication (Hobcraft, 1987, Trussell and Pebley, 1984, Bobadilla 1987; DaVanzo et al. 1983). Contraceptive adoption reduces the unwanted child and increasing the spacing through this it reduces infant mortality and population fertility. Family planning reduces 6 percent infant death and 13 percent unwanted birth averted in the study area. Knowledge of contraceptive is higher among the respondent who have higher infant mortality (99.0 percent) than less (96.8 percent) or without (98.8 percent) infant death. Though the adoption rate is higher among the respondent without infant death have 45 percent while respondent with higher than 2 infant deaths have 30.31 percent.

Health seeking behaviours of the people is affect by the religious belief of the respondent (Obasohan, 2015, Som and Mishra 2016). Muslim has adopted low number contraceptive than other religion due to religious constrain (Som and Mishra, 2017). In the study area Hindu and Muslim women have near equal knowledge about the contraceptive, it's lower than others religious group. Lower knowledge of contraceptive among Hindu and Muslim women may be outcome of lower education level in that religious group in the study area. 95.5 percent Hindu women, 94.1 percent Muslim women and 100 percent others religious women have knowledge about contraceptive respectively.

Schedule caste and tribe is the backward caste in context of education, wealth and they are residing in the outside of main residence area like forest, hill area. Schedule caste women knowledge is 88.8 percent and schedule tribe women have knowledge about contraception is 83.8 percent. Others caste women have higher knowledge about contraceptive is 93.6 percent may due to higher societal facilities like education, health, wealth etc. received by this community. Others caste women have 45.52 percent adoption of contraceptive which is 12 percent higher than ST and 11 percent than SC respondent.

Women autonomy is the ability to make decisions about her daily life concerns (Roy and Niranjana, 2004). Women autonomy influence fertility behaviour and adoption of contraceptive by various multidimensional aspects (Madhavan et al., 2003). 5 percent more women respondents have knowledge about the contraceptive in higher autonomy women class than the low autonomy prevailed women class. Previous literature proved that higher autonomy seen in the highly educated women group. More than 12 percent modern contraceptive adoption recorded in higher women autonomy category than the women who have low autonomy status. In the outcome of that low fertility recorded among the higher autonomy prevail to the women respondent.

Mass media is a tool of campaigns has been utilized since long back to promote healthy behaviours, including the knowledge to use of family planning (Jacobs, 2016). The success of improving family planning knowledge, attitude, intention and adoption has an outcome of various mass media campaigns (by radio, television, social media etc.) in literature (Salem et al., 2008 and Mwaikambo et al., 2011). Those respondent exposed in mass media have a higher knowledge (99 percent) and adoption of contraceptive (45 percent) than non-exposed respondent (80 percent knowledge and 36 percent adoption) in the study area. An outcome of that differential, fertility vary from 3.49 (mass media exposed MCEB) to 4.17 (mass media exposed MCEB).

5.3. Fertility Differential among Various Methods of Contraceptive and Unmet Need by Background Characteristics

Contraceptive users are different by four categories which is (i) modern contraceptive method users exclude sterilization (ii) traditional contraceptive methods (iii) All contraceptive method excludes sterilization (iv) non users. In this section, research highlight the mean children ever born of four respective categories which are above mention and also mention the dimension of unmet need.

Residential area and uses of contraceptive have a relationship and adoption of contraceptive reduces fertility. Rural area women have higher fertility than urban area in case of different contraceptive methods. Modern contraceptive users exclude sterilization has lowest fertility in both rural and urban area than other contraceptive users and non users. It's clearly indicate that the effectiveness of modern contraceptive is very high that tradition contraceptive methods. Traditional contraceptive method user has higher fertility than nonusers in rural areas. On the other hand, urban areas have higher effectiveness of traditional contraceptive methods than rural areas and fertility trends are reverses. Rural area has higher unmet need than urban area indicate that health accessibility is low in the rural areas which need an urgent attention to the policy maker. Approximately 13 percent of currently married women between ages 15-49 years in India have unmet need of contraception while the study area have 19.19 percent women in the age group have unmet need of contraception. India's average unmet need of contraception is lower the urban area of Sagar district (Table 4).

Age group and use of contraceptive has a "U" shape relationship. In lower age use of contraceptive is low and then increases up to 35 years after that the decline trends seen. In the age group 15-19 years the effect of contraceptive is negligible because in that age group all respondent want to child. Upto 20-24 years age group nonusers have lower fertility than contraceptive users. After that distinct impact on fertility is seen by the contraceptive users than nonusers of contraceptive. Lower age group has high unmet need, after that upto 25-34 years age group unmet need of contraceptive is decreased and after that increasing trend are seen. Lower and higher age group has higher unmet need of contraceptive and middle age group have comparatively lower unmet need.

Generally more educated and employed respondent marry in higher age due to time invest on the education and job success. Modern contraceptive method users exclude sterilization high impact on fertility in Sagar district. Below 18 years age at marriage of respondents have 2.95 mean children ever born while above 24 years age at marriage of respondents have 1.92 mean child ever born in modern contraceptive method users categories. Higher age marriage (above 24 years) women have very high efficiency of traditional contraceptive method users and resulted the one third time fertility and half fertility compare with before two age at marriage categories. In case of non users higher fertility recorded in below 18 years and above 24 years age at marriage women. Unmet need of contraceptive is higher in the lower age (19.09 percent in below 18 years and 19.54 percent in 18-24 years age group) marriage respondent while in higher age at marriage group it's slightly decrease.

Table4. Fertility (MCEB) by Contraceptive Adoption and Proportion of Unmet need among women by background characteristics in Sagar District

Background characteristics	MCEB of Modern Contraceptive method users exclude sterilization	MCEB of Traditional Contraceptive method users	MCEB of All Contraceptive method users exclude sterilization	Non users	Unmet Need
Place of Residence					
Rural	2.39	3.86	3.47	3.43	20.44
Urban	2.54	2.84	2.77	3.05	14.85
Age group of the respondents					
15-19 years	1.50	1.00	1.20	1.16	17.39
20-24 years	1.50	1.82	1.68	1.65	24.09
25-29 years	1.95	2.45	2.20	2.48	16.32
30-34 years	2.45	2.94	2.76	3.63	14.91
35-39 years	5.14	5.53	5.41	5.70	19.29
40-44 years	4.50	7.07	6.33	6.43	30.08
45-49 years	-	-	-	5.72	12.02
Age at marriage of respondents					
Below 18 years	2.95	4.36	3.94	3.78	19.09
Between 18-24 years	2.44	3.07	2.80	2.63	19.54
24 above years	1.92	1.25	1.67	4.13	17.86
Educational level of the respondents					
Not Attended School	4.38	6.08	5.68	4.55	21.06
Below Matric	2.37	2.78	2.65	2.58	20.29
Matric to Higher Secondary	2.11	2.41	2.25	2.30	10.70
Graduation	2.46	1.86	2.25	1.50	8.33
Above Graduation	1.40	1.67	1.50	1.50	13.33
Wealth status of the family					
Poorest	3.00	5.17	4.79	3.80	21.69
Second	2.33	3.55	3.39	4.06	18.67
Middle	3.80	3.30	3.48	2.55	19.55
Fourth	2.37	2.55	2.43	2.50	18.67
Richest	2.00	2.36	2.16	2.40	12.73
Number of children died					
0	2.32	2.43	2.38	2.30	18.89
1	2.60	4.33	3.96	4.67	15.85
2+	7.00	8.64	8.38	6.61	27.61
Religion of head of the household					
Hindu	2.53	3.79	3.28	3.23	18.92
Muslim	3.00	2.78	2.85	4.40	30.85
Others	1.88	2.00	1.94	2.00	2.30
Caste Group					
Scheduled Caste	3.08	4.70	4.14	3.52	18.21
Scheduled Tribe	4.00	3.29	3.44	4.11	21.17
Others	2.28	3.13	2.75	3.07	19.05
Women Autonomy Index					
Low	3.23	4.26	3.75	3.93	21.41
Medium	2.59	3.38	3.19	3.12	19.19
High	2.27	2.54	2.45	2.64	16.27
Exposure to Mass Media					
Exposed	2.86	3.70	3.38	3.47	19.65
Not Exposed	3.23	4.26	3.70	3.87	22.38

Source: Calculated by the authors based on field survey, 2015-16.

Increase education decreases fertility in the study area. Effect of traditional contraceptive methods is higher in after secondary higher education. Modern contraceptive exclude sterilization users have 4.38 MCEB in illiterate women to 1.40 MCEB in above graduated women. On the other hand, traditional contraceptive method users have sharp decline trend of fertility from 6.08 MCEB among illiterate women to 1.67 MCEB among above graduated women. Secondary and above educated women have less unmet need of contraceptive (less than 14 percent) and below secondary educated women have higher than 20 percent.

Among the modern contraceptive exclude sterilization users have higher fertility in the middle wealth status group compare to rich and poor wealth status respondent respectively. In case of traditional contraceptive users, fertility decreasing from lower wealth status group of women to higher wealth status group women. Unmet need of contraceptive have less varied from poor to fourth wealth status group. Richer wealth status group of women have extremely low (12.73 percent) unmet need of contraceptive due to high financial accessibility of contraceptive in that group.

Modern and traditional contraceptive users have less fertility differential in without infant death or one child death. In case of two or more child death case, adoptions of contraceptive have less impact to control fertility. Higher infant death reduces the adoption rate of contraceptive with thinking to fulfill the desire number of child outlived the insecurity of child death. Mothers who have without infant death have higher impact on fertility when they use modern or traditional contraceptive. In case of mothers who have at least one child death have less output of traditional methods compare to modern contraceptive exclude sterilization due to low level of education and awareness among this mothers. It is interesting to mention that high unmet need (27.61 percent) recorded when mother have two and more child death incident.

Higher unmet need (30.85 percent) of contraceptive recorded in case of Muslim mothers than others religious respondent. It is interesting to mention that Muslim women have high effective rate of contraceptive than Hindu and Others but the rate of adoption is very less.

Traditional contraceptive adoption rate effectiveness is high in the schedule tribe respondents than other caste category. Accessibility of the modern contraceptive is very low still today and tribal people use mostly date count methods as a traditional practice which is proved from the field observation. Due to low accessibility high unmet need (21.17 percent) of contraceptive is recorded in the study area.

Women empowerment has played a pivotal role in reproductive health behaviours whichever intensity of the result varied in spatial context (Abadin, 1996; Blanc, 2001; Malhotra et al., 2002; Kishor & Subaiya, 2008). A recent review by Upadhyay et al. in 2014 said that women empowerment is associated with lower fertility, longer birth intervals and low rates of unintended pregnancy. Five percent higher unmet need is recorded in lower women autonomy respondents than higher women autonomy respondents. Traditional methods impact to curbing fertility is more in higher women autonomy respondents than others. Mass media exposure increase the awareness through this reduced the unmet need and increases adoption of contraceptive which resulted lower fertility than non-exposures people.

5.4. Contraceptive Behaviours

a) Couple perspective of choice and decision about various contraceptive methods

Both contraceptive methods (modern and traditional) adoption is high in the urban area than rural areas. Higher adoptions of traditional contraceptive in urban educated women expect modern contraceptive is revealed by the open ended questionnaire. Most of the cases the answer is “fear side effect” followed by “negative experience and myths” and the “perception that it is easy to handle”. It is interested to mention that most of the cases the decision of which type and methods of contraceptive they used determined by the husband decision.

b) Family Composition and Adoption of Contraceptive in Sagar District

The results of bi-variate analysis show that the relationship between family planning uses and family composition. Overall 61.11 percent women want no more children though the differences are observed by family sex composition. Among the five categories of child composition more than 90 percent mothers who have both sons and daughters but more sons than daughters did not want further

child. About 81 percent mothers who have equaled number of son and daughters did not want further child. Overall 32.22 percent women were used modern family planning methods. Modern family planning methods were lowest among women with the zero sons and one or more daughters at 9.55 percent.

Table5. Percentage of married women aged 15-49 and their desire for more children and percentage using family planning sex composition

Variables	Zero sons, one or more daughter	Zero daughter, one or more sons	equal number of sons and daughter	Have both sons and daughters, but more daughters than sons	Have both sons and daughters, but more sons than daughters	Total
Desire for another Child (n=900*)						
Want more children/U ndecided/d o not know spouse's desire	76.40	65.17	18.44	14.71	8.97	33.89
Want no more	23.60	34.83	81.56	85.29	91.03	66.11
Total	100.00	100.00	100.00	100.00	100.00	100.00
FP Use (n=900*)						
Modern	9.55	26.40	39.66	41.18	48.97	32.22
Traditional	12.36	11.80	7.26	9.31	13.10	10.44
No-use	78.09	61.80	53.07	49.51	37.93	57.33
Total	100.00	100.00	100.00	100.00	100.00	100.00

Source: Calculated by Authors from field survey 2015-16. *p<0.001

Overall 32.22 percent women were used modern family planning methods. Use of modern family planning method was lowest among women with the zero son and one or more daughter at 9.55 percent while 26.40 percent of women with no living daughter but one or more sons. Modern family planning adoption was the highest (48.97 percent) in the group of women who have both sons and daughters but more sons than daughters. The adoption of traditional family planning methods was quite similar among the five categories. Lowest number of traditional method of contraceptive adoption was among the mothers who have equal number of son and daughters while it was highest among the mothers who have both sons and daughters but have more sons than daughters. It clearly indicates that in both type of contraceptive son preference reduce the adoption of family planning methods. These differences were significance at p=0.001 (Table 5).

Table6. Family Sex composition and adoption of various family planning methods by married women aged 15-49 year

Variables	Zero sons, one or more daughter	Zero daughter, one or more sons	equal number of sons and daughter	Have both sons and daughters, but more daughters than sons	Have both sons and daughters, but more sons than daughters	Total
Female sterilization	2.56	38.24	69.05	68.93	74.44	58.07
Male sterilization	2.56	1.47	0.00	0.97	0.00	0.78
Pill	7.69	4.41	5.95	1.94	2.22	3.91
IUD	0.00	0.00	2.38	0.00	0.00	0.52
Condom	30.77	23.53	7.14	9.71	1.11	11.72
Other Modern	0.00	1.47	0.00	0.00	1.11	0.52
Modern Total	43.59	69.12	84.52	81.55	78.89	75.52
Traditional Rhythm	53.85	19.12	14.29	16.50	18.89	20.83
Traditional LAM	0.00	2.94	0.00	0.00	0.00	0.52
Traditional withdraw	2.56	8.82	1.19	1.94	2.22	3.13

Traditional Total	56.41	30.88	15.48	18.45	21.11	24.48
Grand Total	100.00	100.00	100.00	100.00	100.00	100.00

Source: Calculated by Authors from field survey 2015-16.

Share of modern contraceptive methods use has higher than traditional users when mothers have atleast one son and one daughter. Female sterilization rate is quite higher than others modern methods of contraceptive. Though, the sharp variation has recorded between mothers who have not reached the pair of one boys and one girls or less than that composition (Table 6). On the other hand, contraceptive pill and condom (temporary methods) are very popular among the mothers who have either only a boy or a girl.

c) Discontinuation of contraceptive Adoption and Reasons

Each respondent they stopped used the contraceptive has asked the reason behind that. Around 60 percent of the case discontinuation is occurred after the second child birth and they do not fulfill the desire sex composition. Main three causes of discontinuation of contraceptive are “wanted a child”, “lack of satisfaction” and “some cases method failure”. After the sterilization occurred 20 percent respondent said that they feel backbone problem and headache. In case of pill discontinuous, respondent said that the side effect of the pill in the form of vomiting and headache is the main cause to shift from this method.

5.5. Socio-Economic Determinant of Contraceptive use by the Logistic Regression Analysis

Contraception is the weapon to avoid the unwanted pregnancy through temporary or permanent ways for achieving the sustainable development by the process of population stabilization (PRB, 2017). Table 7 shows that education has a clear impact on contraceptive use in the study area which proved by the result of odd ratio. Above graduate respondent 11 times more adopt contraceptive than illiterate. Minimum higher secondary educated mothers have two times higher rate towards adoption of contraceptive with significant level.

Table7. Socio-economic determinant of contraceptive use by the logistic regression analysis

Explanatory Variables	Refernce Category	Odds Ratio
Total Case	N=900	
Women’s Education Level	Illiterate	1.000
Below Matric		1.134*
Matric to Higher Secondary		2.039***
Graduation		7.769***
Above Graduation		11.085***
Religion and Caste	Hindu excludes Schedule population	1.000
Muslim		.377***
Others		3.239**
Schedule population		0.845
Age at Marriage	Below 18 years	1.000
18 years and above		1.116*
Women Age Group (Years)	Less than 19 Years	1.000
20-29		1.490*
30-39		1.781*
40-49		.664*
Wealth Status	Lowest	1.000
Second		.897
Middle		1.517*
Fourth		1.265*
Highest		1.095
Son Preference	No Preference	1.000
Son Preference		1.583***

Number of Living Children	Upto Two Child	1.000
	More than Two Child	4.172***

Source: Calculated by the Authors from field survey, 2015-16.

Contraception is the weapon to avoid the unwanted pregnancy through temporary or permanent ways for achieving the sustainable development by the process of population stabilization (PRB, 2017). Table 7 shows that education has a clear impact on contraceptive use in the study area which proved by the result of odd ratio. Above graduate respondent 11 times more adopt contraceptive than illiterate. Minimum higher secondary educated mothers have two times higher rate towards adoption of contraceptive with significant level.

Number of researcher proved that the religious fertility differential mostly due to the differential contraceptive behaviour especially in between the religious group of Hindu and Muslim (Balasubramanian,1984; Bhagat and paharaj, 2005; Mistry, 1994 and Haque & Patel, 2016). Muslim has low contraceptive prevalence rate due to their religious faith does not permit to adopt this (Rasheed, 2015 and Iyer, 2002) even though some scholar opposed this view (Mahamood, 1977; Obermeyer, 1992 and Omran, 2012). Muslim population has one third time adoption of contraceptive than Hindu excludes Schedule population while Others religious group have 3 times higher adoption of contraceptive with a significant level. In case of schedule population, adoption of contraceptive is less when compare with Hindu excludes Schedule population without statistically significant.

Above 18 years age at marriage is 1.1 times higher adoption of contraceptive than below 18 years of marriage. Though, a study conducted by Bisoi et al. (2012) found that adoption of contraceptive did not differ statistically significant ($p > 0.05$) with the age at marriage in rural West Bengal. Middle age mothers have higher adoption of contraceptive than young age mothers. It is interesting to mention that middle and fourth wealth status group has higher adoption of contraceptive than lowest wealth status group. This is very interesting that those mothers who have son preference have 1.5 times more adoption of contraceptive than the mothers who have no son preference. Mothers who have more than two children have 4 times more adoption of contraceptive than the mothers who have upto two children.

6. CONCLUSION

This study suggest that the family welfare program is not doing a great job to reaching the married women in Sagar district, though the program implemented since 1952. On the other hand, this study demonstrates a positive relation between socio-economic development and adoption of contraceptive. Family sex composition, higher education and women autonomy are the major factor to determine the adoption rate of contraceptive to curb the future fertility rate in the district. This study reveals that Family planning also reduces 6 percent infant death and 13 percent unwanted birth averted in the study area. So, it is necessary to strengthen the program with uplifting socio-economic status of the society in the study area to achieve the sustainable development goal.

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