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RESEARCH ARTICLE

IS UNMET NEED FOR FAMILY PLANNING STILL A CONCERN IN INDIA: SITUATION, TRENDS AND DETERMINANTS WITH SPECIAL FOCUS TO ODISHA

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ABSTRACT

Background: India is harnessing a hard and strenuous path since the launch of National family planning program which was later integrated into Reproductive, Maternal, Newborn, Child and Adolescent health (RMNCH+A) strategy. In this context Odisha, geographically located at the southeastern coast of the country with a population of 42 million is selected for the research study. Odisha has significantly high Maternal Mortality Ratio (MMR) of 180per 100000 live births (SRS 2014-2016) and Infant Mortality Rate (IMR) of 44 per 1000 live births (SRS 2016), Under 5 Mortality Rate (U5MR) 49 (National Family Health Survey (NFHS) IV, 2015-16). **Objective:** The research paper aims to study the use of modern limiting, spacing and traditional methods of contraceptives in association with age, education, place of residence, wealth status among tribal and non-tribal population of Odisha. It also attempts to study the factors associated with the current use of modern methods of contraceptives among tribal and non-tribal women. A district wise trend for modern use of contraceptives among tribal and non-tribal women is mapped using ArcGIS. The reason behind lack of contraceptive usage is studied in terms of barriers, opposition to use, knowledge, fear and complications related to contraceptive usage. **Methods:** The NFHS IV (2015-16) data published by Ministry of Health and Family Welfare (MoHFW) is used for the study. The data on family planning is accessed from woman questionnaire of the survey with a sample size of 33,721 women of Odisha. The data is analyzed using SPSS by applying binary logistic regression method. **Results**: It is found that use of modern contraceptives increases significantly with education, wealth index, among the young couples of both tribal and non-tribal married women. Use of contraceptive has reduced with increasing number of births of daughters among tribal and non-tribal showing a significant preference towards the birth of son. Unmet need for tribal and non-tribal married women is analyzed for High Priority Districts (HPS's). It was found that unmet need for limiting and spacing is high among the tribal women in Gajapathi, Koraput, Nuapada and Rayapada (HPD's). **Conclusion**: The finding of research study will contribute to identify the various socio cultural, demographic and community-based interventions which can significantly improve the contraceptive usage among married couples of Odisha.

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INTRODUCTION

United Nations and WHO states that "Reproductive health is a state of complete physical, mental and social well-being and not merely the absence of disease or infirmity, in all matters relating to the reproductive system and to its functions and processes" (Sexual and Reproductive Health, 2018). Reproductive health means that people have a safe and healthy sex life with complete freedom of choice, empowered and enlightened, to decide when and how to reproduce (Sexual and Reproductive Health, 2018). Reproductive health care is the collection of preventive methods, techniques and indicators that contribute towards healthy and reproductive well-being (Chaurasia and Singh, 2014). Reproductive wellbeing also means that living a healthy life free from disease and disorders affecting both the male and female reproductive cycle and biological system (Chaurasia and Singh, 2014). It is understood that reproductive health is not gender specific (Sexual and Reproductive Health, 2018). Women and men both have equal right of freedom and choice towards their sexual life. Under reproductive health and rights, it is the right of every women and men to be informed about their available

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choices, to have access to quality and affordable methods of family planning where in line with regulation of country fertility laws (Ministry of Health and Family Welfare, 2014). The various methods, services and indicators towards reproductive health and wellbeing include maternal and perinatal health, family planning, promoting institutional delivery, promoting informed decision, gender equality, prevention of sexually transmitted diseases and availability and accessibility of quality healthcare services (Chaurasia and Singh, 2014; Sexual and Reproductive Health, 2018).The major step taken by the Indian Government to promote reproductive health with increasing population was the launch of National Family Planning Program in 1952 (Chaurasia and Singh, 2014). Back in 1952, the main objective behind launching National Family Planning program was to control the population growth in India especially during 1961 and 1971 which recorded highest annual population growth (Sebastian, Khan, and Sebastian, 2013). After 50 years of launch of the program, the health indicators of family planning were recognized under National Rural Health Mission (NRHM) in 2005. Till 2005, the focus was the target-based approach to control the birth rate of the population exploring only the demographic indicators (Sebastian, Khan, and Sebastian, 2013). From 2005, there was a combined strategy adopted which explored both the health and demographic indicators under the family planning program in India (Sebastian, Khan, and Sebastian, 2013; Chaurasla, 2014). Under National Rural Health Mission (NRHM) family planning program was revolutionized to merge with the goals of Reproductive and Child Health (RCH) and followed decentralized community-based approach. Presently, the goal of national family planning program is not simply the population control, it is also to protect the reproductive rights of women, reduce Maternal Mortality Rate (MMR) and Infant Mortality Rate (IMR) by improving modern limiting and spacing methods. MMR in India has reduced from 167per 1,00,000 live births to 130per 1,00,000 live birth (SRS 2014 – 16) and IMR is 41 per 1000 live births (NFHS IV 2015 – 16). Total Fertility Rate (TFR) from 2.7 (NFHS III 2005-20016 to 2.2 (NFHS IV 2015-16) (SRS Statistical Report 2013, 2013; SRS Statistical Report 2016, 2016; International Institute of Population Sciences (IIPS) and ICF, 2017). Despite, systematic planned efforts made by Indian government towards family planning under reproductive and child health program there are shortcomings with the program which slows down the target to be achieved in every planned phase. Globally, around 800 women die every day related to pregnancy and child birth, out of which 20 percent women are from India. IMR has fallen from 57 per 1000 live births (NFHS III 2005-06) to 41 per 1000 live births (NFHS IV 2015-16).

Study background: Odisha lies in the southeastern part of India with a population of 42 million is selected for the study. TFR of Odisha is 2.1 (NFHS IV 2015-16) which has reduced from 2.4 (NFHS III 2005-06). Though TFR has shown significant reduction compared to national TFR of 2.2 (NFHSIV 2015-16), the state remains to a high focus in terms of MMR, IMR and various Reproductive, Maternal, Newborn, Child and Adolescent health (RMNCH+A) indicators due to high inter district variations. Odisha has an MMR of 180per 100000 live births (SRS 2014-16), IMR of 40 per 1000 live births, U5MR of 49 per 1000 live births (NFHS 4 2015-16). According to NFHS III and IV, there has been no significant change observed in the modern contraceptive use from 2005 - 06 to 2015-16. Total unmet need for the state has reduced 2.4 percent over a decade period (NHFS 3 2005-06 - NFHS 4 2015-16). In line with the global commitment "Family Planning 2020", Odisha has a target to contribute 1.9 million new family planning users along with sustaining the existing 3.2 million users of the state (Ministry of Health and Family Welfare, Government of India 2014).

Research Objective

- To study the unmet need for family planning among the tribal and non-tribal of High Priority Districts (HPD) of Odisha.
- To study the district wise use of modern contraceptives among tribal and non-tribal women of Odisha
- To analyze the current use of modern limiting, modern spacing and traditional methods among currently married women of tribal and non-tribal with background characteristics.
- To analyze the factors associated with current use of any modern method of contraceptives among currently married tribal and non-tribal women of Odisha.

MATERIALS AND METHODS

National Family Health Survey (NFHS) is large scale representative household sample survey funded by United States Agency for International Development (USAID) with supplementary support from United Nations Children's Fund (UNICEF). The survey collects extensive data on health, nutrition, family planning services, maternal and child health, anemia, reproductive health, access to healthcare services, etc. The data collected in the fourth round of NFHS survey during 2015 – 16 has been used for the study. Women questionnaire which is a part of the research tool designed under NFHS, collects data on women background characteristics, education, marriage, fertility, contraceptive use, reproductive health, immunization, health seeking behavior, domestic violence, etc. The data on family planning and contraceptive usage is accessed from women data collected for Odisha which has covered 33,721 women from age between 15 to 49 years (International Institute of Population Sciences (IIPS) and ICF, 2017).

Various methods of contraceptive use among tribal and non-tribal women of Odisha is analyzed. A district wise analysis on modern use of contraceptives by married women is mapped using ArcGIS. Unmet need for modern limiting and modern spacing is studied with special focus to HPD's of Odisha. The research study has also analyzed the use of modern limiting, modern spacing and traditional methods in association with age, education, place of residence, wealth status among the tribal and non-tribal population of Odisha by applying simple logistic regression using SPSS (Chandhick, Dhillon, Kambo, and Saxena, 2003). It also attempts to study the factors associated with the current use of modern methods of contraceptives among tribal and non-tribal women of Odisha. In addition, other factors like number of surviving daughters, number of surviving sons, number of surviving children in the family, exposure to mass media in terms of television, radio and newspaper is also considered for analysis. The reasons for not using any contraceptive method is also explored in terms of barriers, opposition to use contraceptives, lack of knowledge, fear and complications related to contraceptive usage.

Contraceptives usage pattern: In National Family Health Survey (NFHS) IV, the sample size covered by women's questionnaire is 33, 721, out of which 24,101 samples (71 percent) are currently married women between 15 to 49 years was used for analysis. Among the samples covered, 77 percent constitute non-tribal women and 23 percent constitute the tribal women of Odisha. Modern limiting, modern spacing and traditional methods of contraceptive usage was statistically analyzed among tribal and non-tribal women of Odisha. Modern limiting methods include male and female sterilization. Modern spacing methods include pill, IUD, injections, diaphragm and condom. Traditional methods include rhythm, withdrawal, LAM and standard days method. As shown in Figure 1, around 47.1 percent of non-tribal women use modern methods which is slightly higher when compared to 40.6 percent of tribal women. In contrast, women not using any type of contraceptives amongst tribal is around 47 percent when compared to 41 percent among non-tribes. There is no significant difference seen in the use of traditional methods (~12 percent) among tribal and non-tribal women (Basu, Kapoor, and Basu, 2004).

Figure 2 shows the percentage of tribal and non-tribal women using modern spacing, modern limiting and traditional methods of contraceptives. It is observed that both modern limiting (25.8 percent) and modern spacing (14.5 percent) methods are used less among the tribal women when compared to overall usage and usage among non-tribal women. In contrary, use of traditional methods among tribal women is 12.4 percent which is slightly higher than the usage among non-tribal women (12.1 percent). Overall use of modern spacing techniques is found to be low among the currently married women in Odisha. Though the knowledge of contraception is universal in Odisha, the health implications of using a contraceptive in terms of spacing is found to be significantly low which contributes to the increasing unplanned child birth. In Odisha around 45 percent of currently married women use modern contraceptives. It is observed that female sterilization (28.3 percent) still seems to be popular method. Use of female sterilization methods has reduced from 33.1 percent (NFHS III 2005-06) to 28.3 percent (NFHS IV 2015-16) whereas use of pill has increased from 7.0 percent to 12 percent, condom from three percent to 3.4 percent.

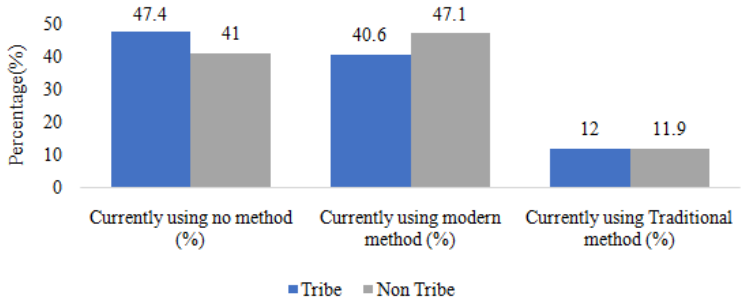

Figure 1. Use of contraceptive methods among tribal and non-tribal women of Odisha

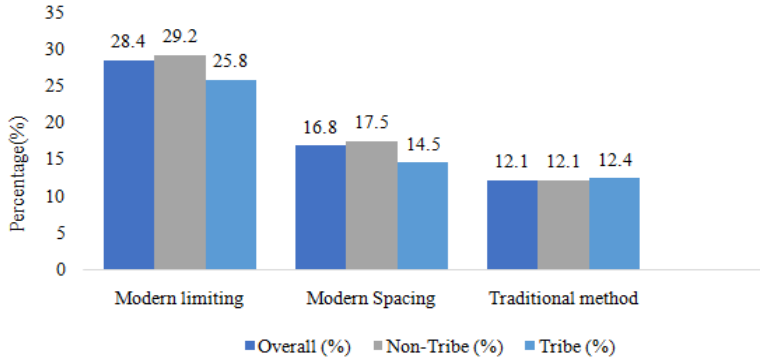

Figure 2. Use of various contraceptive methods in Odisha

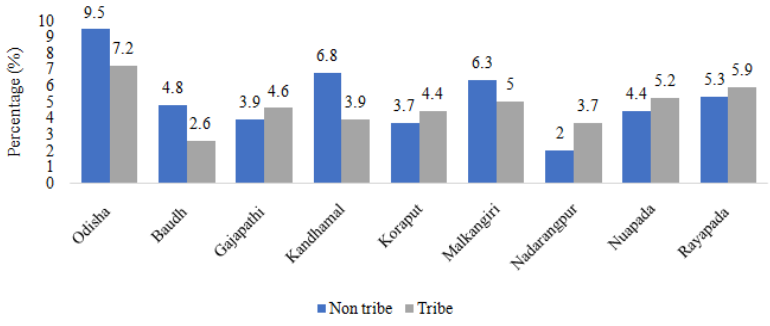

Figure 3. Unmet need for limiting among currently married women (15-49 years) of Odisha

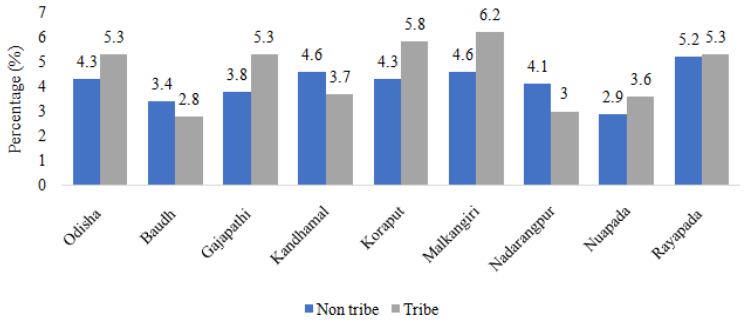

Figure 4. Unmet need for spacing among currently married women (15-49 years) of Odisha

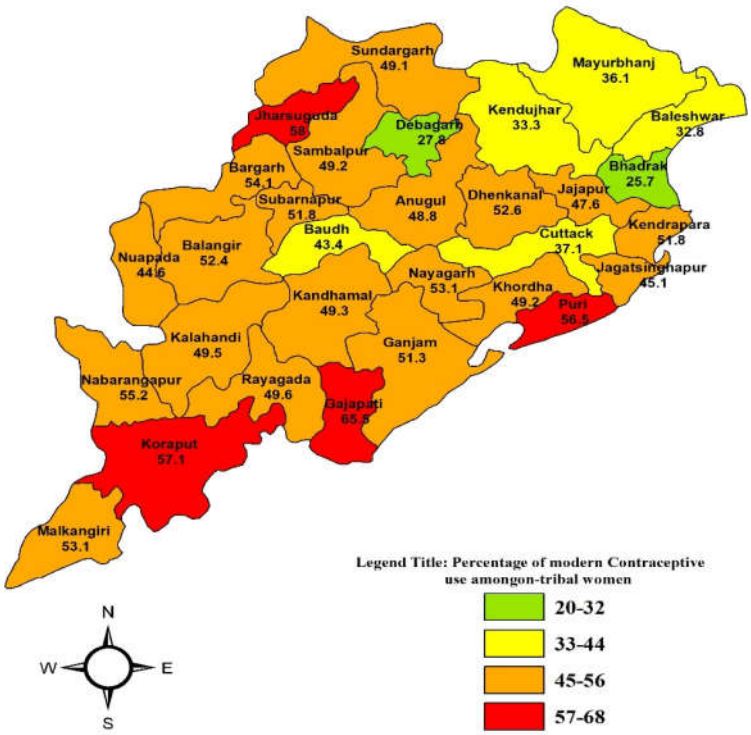

Figure 5. Modern use of contraceptives among non-tribal women of Odisha in percentage

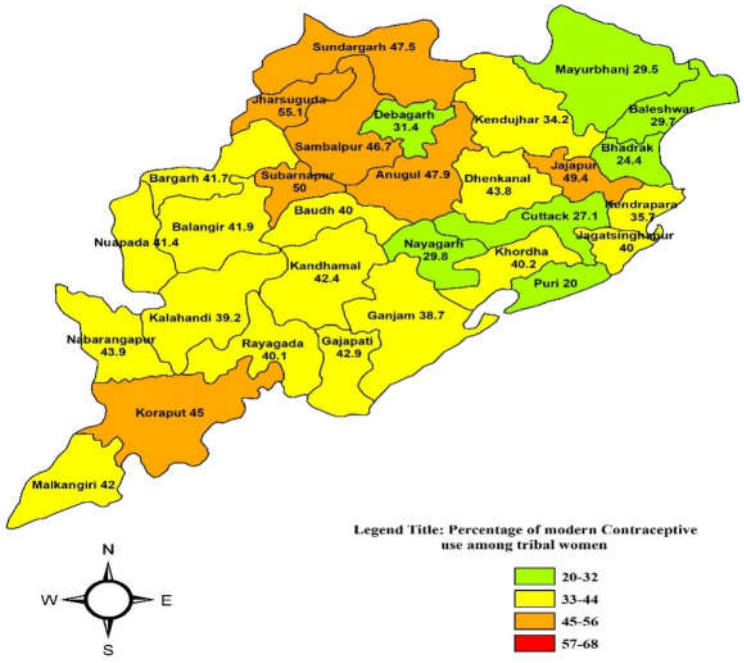

Figure 6. Modern use of contraceptives among tribal women of Odisha in percentage

Notably male sterilization has reduced from one percent (NFHS III 2005-06) to 0.2 percent (NFHS IV 2015-16). Around 34 percent of men (15-49 years) have an opinion that contraception is something that women should deal with and men has no role to play in it. Only 61 percent of men are aware of condom. Among the tribes and non-women 47.4 percent of tribal seems to not use any kind of contraceptive method which is more that non-tribal women (41 percent). Among tribes use of modern methods like female sterilization (25 .6 percent), pill (10.6 percent), condom (2.4 percent) is less when compared to the non-tribal women. Use of traditional method namely rhythmic method (4.1 percent) among tribes is dominant than the non-tribes (3.4 percent). Use of different methods of contraceptives by tribal and non-tribal currently married women of Odisha is listed in table 1

Unmet need for family planning: Unmet need is defined as women who does not want children or willing to space their next birth but are not using any type of contraceptive method. According to NFHS III and IV, unmet need for family planning in Odisha has failed to show significant change in the past 10 years. Recent statistics states that, unmet need for family planning is 14 percent (NFHS IV 2015-16) which has reduced from 16 percent (NFHS III 2005-06). In alignment to minimal change in the unmet need, it is found that unplanned pregnancies are comparatively high in Odisha. Unmet need for family planning can be further divided into two categories. Firstly, unmet need for limiting where women has no desire to have children anymore children but not using any contraceptives. Secondly, unmet need for spacing where women has a desire to have children but after a period of one or two years, but not using any contraceptives. The research study analyzes the unmet need for limiting and unmet need for spacing among the currently married tribal and non-tribal women of Odisha and HPD's. The eight districts of Odisha are categorized as HPD's as recommended under RMNCH+A by Government of Odisha. It is observed that unmet need for spacing is high among tribal women (5.3 percent) than non-tribal women (4.3 percent). In contrast, unmet need for limiting is high among non-tribal women (9.5 percent) compared tribal women (7.2 percent). The unmet need for limiting and unmet need for spacing among the tribal and non-tribal women of Odisha and HPS's are shown in figure 3 and figure 4.

The unmet need for limiting is higher among non-tribal in Baudh (4.8 percent), Khandhamal (6.8 percent), Malkangiri (6.3 percent) when compared to tribal women. Even the unmet need for spacing is higher among non-tribal women than the tribal women of Baudh (3.4 percent) and Khandhamal (4.6 percent) districts. The districts of Baudh, Khndhamal and Malkangiri shows predominantly special concern towards non-tribal women of Odisha. The unmet need for spacing is high among tribal women in Gajapathi (5.3 percent), Koraput (5.8 percent), Malkangiri (6.2 percent), Nuapada (3.6 percent), Rayapada (5.3 percent) than non-tribal women. The use of modern contraceptives among the tribal and non-tribal women is shown in figure 5 and 6. From these figures, it is observed that non-tribal women are more likely to use modern contraceptives than tribal women of Odisha.

Factors associated with the current use of any modern contraceptives: Binary logistic regression was used to determine the odds ratio for the factors associated with the current use of any modern method of contraception among the tribal and non-tribal women of Odisha.

Independent variables used for the analysis were place of residence, age of the respondent, religion, education of the respondent, wealth index, number of surviving daughters and number of surviving sons to a woman (Pradhan, Gouda, and Prusty, 2016; Sharma and Rani, 2009; Haque and Patel, 2015). Respondent currently using any type of modern contraceptive was a dichotomous dependent variable. Analysis was carried separately for tribal and non-tribal women of Odisha. Independent variables considered in the analysis were further categorized into sub categories as follows: place of residence into rural (tribal 91.3, non-tribal 80.3 percent) and urban (tribal 8.7 percent, non-tribal 19.7 percent); age into 15 to 24 years (tribal 22.3 percent, non-tribal 16.3 percent), 25 to 34 years (tribal 37.6 percent, non-tribal 37.4 percent) and 35 years and above (tribal 40.1 percent, non-tribal 46.4 percent); education into no education (tribal 57.5 percent, non-tribal 24.9 percent), primary education (tribal 14.7 percent, non-tribal 17.6 percent), secondary education (tribal 26.3 percent, non-tribal 50.5 percent) and higher education (tribal 1.6 percent, non-tribal 7.0 percent), religion into Hindu (tribal 92.4 percent, non-tribal 95.9 percent) and other religion (tribal 7.6 percent, non-tribal 4.1 percent), number of surviving sons as women with one surviving son, women with two surviving sons, women with more than two surviving sons similar categorized for women with number of surviving daughters, mass media, where the exposure of the women towards television, radio and newspaper was classified into four categories as no exposure, low, moderate and high exposure. It was observed that age, education, wealth index, number of surviving sons, number of surviving daughters and exposure to mass media is more statistically significant variables towards the use of modern contraceptives. The odds ratio predicts use of modern contraceptives among tribal women increases with increasing age, middle, richer and richest families, families with more than one surviving sons. Also, tribal women with more than two surviving daughters are more likely to use modern contraceptives. Non-tribal women with increasing age, education, wealth index, number of surviving sons and mass media exposure there is significant increase in the use of modern contraceptives. Decreasing trend is observed in the use of modern contraceptives among the non-tribal and tribal women with more than two surviving daughters.

Use of modern limiting, modern spacing and traditional methods of contraceptives with background characteristics: In the analyses, modern limiting methods include female sterilization and male sterilization whereas modern spacing methods include use of pill, Intra Uterine Device (IUD), injections, diaphragm, male or female condom and foam.Traditional methods include withdrawal, rhythm method, Lactational Amenorrhea Method (LAM) and standard days method (International Institute of Population Sciences (IIPS) and ICF, 2017; Ministry of Health and Family Welfare Government of India, 2014). Odds ratio was generated for current use of modern limiting, modern spacing and traditional methods associated with the various socio-economic and cultural factors using binary logistic regression (Sharma and Rani, 2009; Basu, Kapoor, and Basu, 2004). It was found that among tribes and non-tribes age, religion, education, wealth index and mass media play a statistically significant role with the use of modern limiting and spacing methods. Use of modern limiting and spacing methods is more likely to increase with increasing age among both tribes and non-tribes. With the increasing wealth index, more women are likely to adopt various spacing and limiting methods.

Table 1. Contraceptive usage among the currently married tribal and non-tribal women (15 – 49 years) of Odisha

Current use of Contraceptives	Tribe (%)	Non – tribe (%)
Not using any contraceptive	47.4	41.0
Female Sterilization	25.6	29.3
Pill	10.6	12.5
Withdrawal method	8.0	8.6
Rhythm method	4.1	3.4
Condom	2.4	3.7
IUD	1.4	1.0
Injections	0.2	0.2
Male Sterilization	0.2	0.1
LAM	0.3	0.2

Table 1. Factors associated with the current use of modern contraceptives among the currently married tribal and non-tribal (15-49 years) women of Odisha

Background characteristics	Tribal women			Non-tribal Women		
	[Exp(β)]	95 % C.I for Exp(β)		[Exp(β)]	95 % C.I for Exp(β)	
		Lower	Higher		Lower	Higher
Place of residence						
Urban®						
Rural	1.06	0.85	1.32	0.85***	0.78	0.94
*A*ge						
15-24®						
25-34	1.57***	1.33	1.90	1.48***	1.33	1.63
35 and above	1.73***	1.43	2.11	1.23***	1.09	1.37
Religion						
Hindu®						
Others	1.17	0.94	1.45	0.86*	0.73	1.01
Education						
No education®						
Primary	1.06	0.89	1.23	1.05	0.94	1.15
Secondary	1.10	0.93	1.30	0.82***	0.75	0.90
Higher	1.30	0.78	2.17	0.67***	0.56	0.79
Wealth Index						
Poorest®						
Poorer	1.30***	1.12	1.51	1.16***	1.06	1.27
Middle	1.52***	1.21	1.92	1.24***	1.12	1.37
Richer	1.64***	1.14	2.35	1.28***	1.13	1.44
Richest	1.73**	1.03	2.92	1.43***	1.22	1.66
No of surviving sons						
No son®						
One son	2.96***	2.53	3.46	2.66***	2.46	2.89
Two Son	4.90***	4.09	5.88	6.05***	5.44	6.73
Three or more sons	4.14***	3.26	5.26	6.19***	5.23	7.35
No of surviving Daughters						
No Daughter®						
One daughter	2.13***	1.85	2.46	2.12***	1.97	2.29
Two Daughters	2.09***	1.75	2.49	2.58***	2.33	2.85
Three or more Daughters	1.87***	1.52	2.30	2.20***	1.92	2.52
Mass media						
Not exposed®						
Low exposure	1.22***	1.07	1.40	1.23***	1.11	1.35
Moderately exposed	1.08	0.85	1.36	1.38***	1.23	1.56
Fully exposed	0.66	0.29	1.52	1.16	0.92	1.43

® Reference Category; *** 1% Significant level; ** 5% Significant level; *10% Significant level; 95% of Confidence Interval (C.I) for Exp(β)

Among tribal women with the use of traditional methods wealth index is more statistically significant whereas among non-tribes with the use of traditional methods education is more statistically significant. Among both tribes and non-tribes with increasing levels of wealth index there has been increase in the use of modern limiting and spacing methods. Among the tribal and non-tribal women, with the increasing exposure to mass media it is more likely to increase the use of modern spacing method, and less likely to increase the use of limiting and traditional methods.

Reason for not using contraceptives: The study analyzed the underlying reasons for lack of contraceptive usage among the tribal and non-tribal women of Odisha as shown in Figure 7. It was observed that, the major reason for not using contraceptives among both tribal and non-tribal women was observed to be 'strong desire to become pregnant'. Desire to become pregnant is found dominantly among the tribal (42.9 percent) than non-tribal women (32.5 percent). The successive reasons for not using contraceptives are disproval faced from husband, infrequent sex involvement as husband is away from home, was not satisfied completely with the method used and wanted more effective method, health concern or side effects of using a contraceptive, became pregnant, created menstrual problem, did not like the method used and lack of sexual satisfaction. Among tribal women major reasons for less likely to use contraceptives was desire to become pregnant (42.9 percent), disproval faced from husband (9.2 percent), infrequent sexual activity as husband was away (8.4 percent), wanted more effective method (8.3 percent), health concern or side effects (7.7 percent), became pregnant (7.4 percent),

Table 3. Use of modern limiting, modern spacing and traditional methods among the tribal and non-tribal women (15-49 years) of Odisha associated with background characteristics

Background characteristics	Modern Limiting				Modern spacing				Traditional methods			
	Tribe [Exp(β)]	95 % C.I for Exp(β) (Lower, Higher)	Non – Tribe [Exp(β)]	95 % C.I for Exp(β) (Lower, Higher)	Tribe [Exp(β)]	95 % C.I for Exp(β) (Lower, Higher)	Non – Tribe [Exp(β)]	95 % C.I for Exp(β) (Lower, Higher)	Tribe [Exp(β)]	95 % C.I for Exp(β) (Lower, Higher)	Non – tribe [Exp(β)]	95 % C.I for Exp(β) (Lower, Higher)
Place of residence												
Urban®												
Rural	1.12	0.86,1.44	1.02	0.92,1.12	0.88	0.68,1.16	0.79***	0.71,0.88	1.25	0.91,1.74	0.963	0.85,1.09
Age												
15-24®												
25-34	9.82***	6.99,13.81	6.38***	5.30,7.69	1.10	0.91,1.33	1.20***	1.08,1.33	0.97	0.79,1.21	1.11	0.96,1.27
35 &above	19.64***	13.98,27.58	14.27***	11.87,17.16	0.54***	0.43.0.67	0.46***	0.41,0.52	0.88	0.71,1.10	0.95	0.84,1.09
Religion												
Hindu®												
Others	1.25**	0.99,1.58	0.66***	0.55,0.80	1.02	0.76,1.36	1.59***	1.33,1.90	1.32**	1.01,1.76	0.94	0.74,1.18
Education												
No education®												
Primary	0.81**	0.67,0.99	0.93	0.85,1.03	1.38***	1.11,1.73	1.24***	1.08,1.43	0.93	0.73,1.20	1.08	0.93,1.27
Secondary	0.74***	0.61,0.90	0.51***	0.47,0.57	1.37***	1.12,1.69	1.51***	1.34,1.72	1.04	0.83,1.30	1.46***	1.27,1.67
Higher	0.25***	0.11,0.61	0.18***	0.15,0.23	1.84**	1.08,3.15	1.71***	1.41,2.09	0.95	0.48,1.88	1.93***	1.55,2.40
Wealth Index												
Poorest®												
Poorer	1.31***	1.12,1.54	1.07	0.98,1.18	0.99	0.82.1.21	1.10*	0.98,1.24	0.96	0.79,1.19	0.92	0.80,1.05
Middle	1.30**	1.0,1.69	1.08	0.98,1.21	1.22	0.93,1.62	1.17***	1.04,1.34	0.97	0.70,1.34	1.12	0.98.1.29
Richer	1.19	0.78,1.82	1.22***	1.07,1.39	1.49*	0.99,2.25	1.02	0.88,1.19	0.94	0.56,1.60	1.19**	1.01,1.41
Richest	1.20	0.63,2.27	1.21**	1.02,1.44	1.55	0.87,2.77	1.22**	1.01,1.48	2.23***	1.20,4.17	1.14	0.92,1.42
Mass media												
Not exposed®												
Low exposure	1.19***	1.03,1.38	1.27***	1.15,1.41	1.09	0.91,1.31	0.97	0.86,1.12	0.99	0.82,1.19	0.92	0.80,1.06
Moderately exposed	0.74**	0.56,0.99	1.15**	1.01,1.31	1.43***	1.08,1.88	1.26***	1.08,1.47	1.01	0.73,1.39	0.78	0.66,0.93
Fully exposed	1.07	0.40,2.87	0.78*	0.59,1.03	0.57	0.19,1.70	1.42***	1.09,1.84	1.14	0.41,3.21	0.76	0.56,1.04

® Reference category; *** 1% Significant level; ** 5% Significant level; *10% Significant level; 95% of Confidence Interval (C.I) for Exp(β)

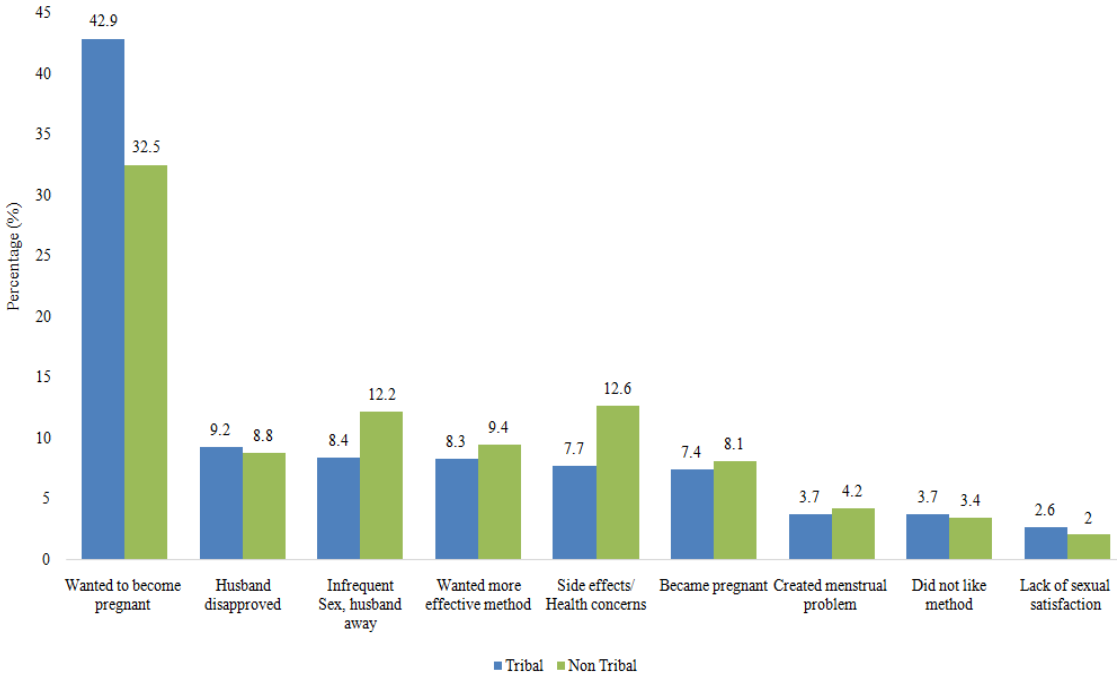

Figure 7. Major reasons for not using contraceptives among women of Odisha

created menstrual problem (3.7 percent), did not like the method (3.7 percent) and lack of sexual satisfaction (2.6 percent). Health concern or side effects of using a contraceptive, wanted more effective method, infrequent sexual activity as husband is away, became pregnant are found more likely among non-tribal women than the tribal women. In contrast, desire to become pregnant, husband disapproved, did not like the method, lack of sexual satisfaction are major reasons found more likely among tribal women that the non-tribal women.

DISCUSSION

The current research finding underline the factors such as age, women's education, wealth index, mass media, number of surviving sons and number of surviving daughters to play a significant role on the use of contraception. Though there has been considerable reduction observed in fertility levels of Odisha, use of modern contraceptives for spacing is still lacking behind. Around 12 percent of currently married women are using traditional method of contraceptives warrants

the lack of adaptability and lack of awareness among non-tribal and tribal women towards modern contraceptives. Adoption towards modern limiting methods is more likely than adoption towards modern spacing methods. This shows the lack of awareness about birth spacing among the tribal and non-tribal women of Odisha. The mode and content of communication for using modern contraceptives for spacing needs to be further strengthened and reachable among the population. The interpersonal communication skills and capacity building of Accredited Social Health Activist (ASHA), Auxiliary Nurse and Midwife (ANM) and Anganwadi Worker (AWW) is recommended. The TFRof Odisha is 2.1, which has reached a replacement level fertility. In the last 25 years from 1991 to 2015, TFR of Odisha has reduced from 2.9 to 2.1 which means around 2.1 children would be born to a woman. In urban area, it is 1.7 children born to a woman whereas in rural areas it is 2.1 children born to a woman. In contrast, unmet need in Odisha has not shown significant change in the past 10 years. Unmet need for family planning is 14 percent (NFHS 4 2015-16) which has reduced from 16 percent (NFHS III 2005-06). In alignment to minimal improvement in the unmet need, it is found that unplanned pregnancies are comparatively high in Odisha. It was observed that unmet need for limiting is high among non-tribal women whereas unmet need for spacing is high among the tribal women of Odisha. Among the High Priority Districts (HPS's) of Odisha, the unmet need for limiting and spacing is high among tribal women of Gajapathi (4.6 percent, 5.3 percent), Koraput (4.4 percent, 5.8 percent), Nuapada (5.2 percent, 3.6 percent), Rayapada (5.9 percent, 5.3 percent). The unmet need for limiting and spacing is high among the non-tribal women of Baudh (4.8 percent, 3.4 percent) and Khandhamal (6.8 percent, 4.6 percent).

In Odisha, preference for male child birth is comparatively high than female child birth. This strong preference towards son, has a significant impact in the use of contraceptives and thus family planning. Around 67 percent of women and 17 percent of men say that, they prefer more sons than daughters. Around 82 percent of men and women have a wish to have at least one son during their lifetime. Such strong gender discrimination further makes it difficult and leads to increasing unplanned pregnancies and child birth. Effective use of contraceptives is one of the proximate determinants and base predictor for transition in fertility levels. Use of contraceptives are proportional to meet the fertility needs of individual couples. The knowledge and freedom to choose a safe and appropriate contraceptive method itself plays a vital role in the entire systematic program planning efforts. For a cross cultural country like India, choice of contraceptives falls in a heterogenic environment which includes individual, family, community and other socio-economic factors. The decision to use any type of contraceptive is influenced by many of the host determinants like socio demographic and cultural factors. It was found that desire to become pregnant and disapproval from husband to be the major reason for the lack of use of contraceptives. Improved male participation in Family Planning program and empowering women to decide on her reproductive health can be a possible way to overcome the situation. Finally, the finding of the research study recommends a customized family planning program which can be a community specific intervention model for efficient use of contraceptives among married women in Odisha.

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List of Abbreviations used in the research article

HPD	High Priority Districts
IIPS	International Institute of Population Sciences
IMR	Infant Mortality Rate
MMR	Maternal Mortality Ratio
MoHFW	Ministry of Health and Family Welfare
NFHS	National Family Health Survey
NRHM	National Rural Health Mission
RCH	Reproductive and Child Health
RMNCH+A	Reproductive, Maternal, Newborn, Child and Adolescent healt
SRS	Sample Registration System
TFR	Total Fertility Rate
U5MR	Under 5 Mortality Rate
UNICEF	United Nations Children's Emergency Fund
USAID	United States Agency for International Development
WHO	World Health Organization

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