Original Research Article

Study of number of children preferred and knowledge, attitude, practice regarding birth spacing and contraception among primigravida in urban setting

C. G. Raghavendra Vailaya[1], C. R. Shubha Vailaya[2]*

[1]Department of Pediatrics, [2]Department of Obstetrics and Gynaecology, Subbiah Institute of Medical Sciences, Purle, Shimoga, Karnataka, India

*Correspondence:
Dr. C. R. Shubha Vailaya,
E-mail: drvailaya1981@gmail.com

ABSTRACT

Background: Overpopulation is a major problem in 21st century India. 2012 census shows birth rate of 20.97/1000 people and death rate of 7.48/1000 people. Fertility rate in 2019 was 2.28 children per women. Many states implemented 2 child norms. Purpose of study is to understand the number of children preferred.
Methods: A Cross sectional study was done amongst 200 primigravida women who attended antenatal clinic at SMC, Shimoga. A predesigned and pretested standard Questionnaire was used to know the number of children preferred, KAP about birth spacing, contraceptive use and unsafe abortions using objective questions.
Results: Most women preferred 2 child norms across most subclasses. Most Muslims (85.7%) preferred ≥3 children. Though 100% were aware of family planning, only 46% chose to space their next pregnancy. 56.5% were in support of 2-child norm. Family pressure plays crucial role in 83.5% cases and 65.5% still opted sterilization as the first choice for contraception.
Conclusions: India with high population density is staring at demographic disaster due to limited life resources. Right attitude towards birth spacing, contraceptive use, avoidance unwanted pregnancies and unsafe abortions is needed. Better female literacy, societal awareness and good medical facility at last mile is crucial. Male partner's involvement in every step is vital.

Keywords: Abortion, Contraception, Population growth, Spacing, Total fertility rate

INTRODUCTION

Overpopulation is one of the biggest problems faced by India with its inevitable consequence on all aspects of development.[1] As per 2012 census birth rate is 20.97 per 1000 population and death rate is 7.48 per 1000 population.[2] Fertility rate in 2019 was 2.28 children born per women.[2] MMR in 2016 was 174 and IMR was 34.6 deaths per 1000 live births.[3] Each year 78,000 women die of pregnancy and child birth related complications.[2] Birth spacing helps to reduce MMR and IMR. Authors have made an effort to assess the knowledge and attitude of women with regards to number of children preferred, birth spacing methods, contraception and safe abortions.

India's population has tripled since 1950, yet the birth rate has fallen by 58%.[4,5] India's current population as on 2020 January 28 is 137.4 crores as per UN data.[6] India though has only 2.4% of the world's land area (US has 7.2%), has 17.7% of world's population (US has only 4.5%). India has high population density (464 per square kilometer).[6] India's urban population will be 53.5% in 2050. India is currently in second position. In 2030 India is projected to overtake China.[6] India's population growth

(1.64%) is thrice that of China (0.53%) today. India's population is expected to peak by 2060 (91.68 billion) after which it would contract.[6] India's population growth showed first signs of slowdown in 2001.[7]

India's population growth so far has not hampered its progress significantly since it is mainly composed of youth (median age6 28.4 years) in their productive age.[5] It is also important to note that 48.75% of population is dependent.[5] But in future if unemployment worsens further, it could decay demographic dividend.[4] India's GDP and GNI per capita5 has more than tripled since 1990.

India is currently in stage 3 of the demographic transition model with a low death rate (7.48/1000 population as per 2012 census) and high birth rate (20.97/1000 population as per 2012 census).[8] It is projected to transit into stage 4 in 2026 with low death and low birth rate when the population will be stable. EAG (Empowered Group of 8 States) have still very high TFR and together constitute about 40% of total growth.[9] This is the primary target for NPP (National Population Policy) 2000 with goal of achieving stable population with sustainable overall growth by 2045 with medium term goal of achieving TFR of 2.1 by 2012.[10]

Everyone has the right to decide on the number without and also the right to choose of contraception. "Delay the first, postpone the second and prevent the third" is the new norm. Pregnancy that occur in the first year postpartum are more likely to have adverse outcome.[11] Therefore it is the critical period for addressing the unmet need for family planning. Unwanted pregnancy leads to maternal and neonatal complications, 222 million women have unmet need for family planning.[12]

Early marriage and childbearing has been traditionally practiced in India.[11] NFH-3 in shows that 2/5 of women aged 20-24 years married before age of 18 and almost 50% of them became mothers.[11] Only <10% of them have used contraception.[11] They contributed to 25% of the total unmet need for contraception. In India 20-29 years is considered as peak childbearing age which in 2005-2006 contributed >60% of the total fertility and 24% of the unmet need for contraception.[11]

Sex of the first baby has great impact on the family size.[9] In india male children are preferred in general through sex specific feticide. This leads to many more extra child births for the desire of having a male child. First male child leads to smaller family size. As per 2011 census gender ratio was 943 females per 1000 males.[13] India has 48.2% female population.

TFR was 5.89 births per women in early 1960s which has now come down to 2.28 in 2019.[4,5] This drop is steep in rural areas where two third of the Indians reside, but declining steadily in urban areas. In 2026 TFR is projected to be 2.16. India adds 10 lakh people every 20 days. In 2017 Mission Pariwar Vikas was launched by GOI for reducing national fertility rate to 2.1 by 2025 which is the average replacement rate.[10]

Younger women have stronger desire for child.[14] Religion specific differences exist in India due to differences in their beliefs. Fertility rate amongst Muslims in India continues to be high though there is a gradual decline (TFR was 3.4 in 2005-2006 and 2.62 in 2015-2016 as per NFHS-4 data).[15] Hindu fertility rate has now almost reduced below replacement level (2.59 in 2005-2006 to 2.13 in 2015-2016 as per NFHS-4 data).[15]

India declared population control policy in 1952.[10] Supreme Court of India in 2002 has sought for 2 child policy.[5] Many states have implemented this policy the latest being Assam.[16]

Authors follow cafeteria approach for contraception.[11] Contraceptive usage has more than tripled from 12.4% of married women in 1971 to 48% in 2009 and 58% in 2015. In last 15 years it has nearly stagnated. In 2017, 13.6 crore Indian women used modern birth control methods, which prevented 3.9 crore unintended pregnancies, 1.1 crore unsafe abortions and 42000 maternal deaths. Indians use contraception more for control than spacing which should ideally be vice versa.

In 2015, 75% of them opted sterilization as their first choice. Majority (77%) of them had never used any other method prior to sterilization and >50% were <26 years of age.[11] Most of them had virtually no access to other methods. Improvement in female literacy is single most important factor which lead to decline in fertility and increase in contraceptive use. Mass media has considerable role to play. Use of male contraceptive methods need more focus.[9] Demand for contraceptives is higher as the age of women increases (2.2% under 20 years to 84.8% in those above 30 years). According to WHO 2/3 women stopped using contraceptives due to fear of side effects.[17]

In 2005-2006 median interval between 2 child births was 31 months.[11] The average in 2018 was 22 months. Focus should be shifted from permanent sterilization to temporary methods of spacing. Short inter pregnancy interval is associated with negative maternal as well as infant health outcome.[18] Concept of optimal birth spacing of ≥24 months is mentioned in WHO 2005 report. Spacing improves health and economy which helps to achieve MDG-511.

Unintended pregnancy rate in India is 70.1 per 1000 women aged 15-49 years as per 2015 data.[17] Globally 74 million women in low- and mid-income countries have unintended pregnancies.[17] This leads to 25 million unsafe abortions, 47,000 maternal deaths each year. In 2005-2006, 10% of all pregnancies were mistimed and 11% were unwanted.[11] Unmet need for contraception in 2005-2006 was 13% of which 6% was for spacing method.[11]

Annually, 25 million unsafe abortions take place worldwide causing 47,000 maternal deaths mostly in developing countries one third of which is preventable by contraceptive use.[17] In India abortion rate is 47 per 1000 women aged 15-49 years as per 2015 data (15.6 million annually).[17] 22% of them happen in proper health facilities, 73% take place outside health facilities and 5% happen outside with non-medical methods, which is highly unsafe.[17] This is mainly due to sex specific MTP.[9]

METHODS

Subjects were 200 newly registered primigravida pregnant women who attended ANC clinic from July 2018 to Dec 2018. This cross-sectional study was conducted at Subbiah Medical College, Shimoga, Karnataka. Systematic random sampling of every alternate pregnant women was used. Participants were explained about the study and the first 200 were included after taking consent. A predesigned and pretested, standard Questionnaire was given to them. Primigravida were selected to avoid bias of sex of their first child, complication of previous pregnancies and other such factors influencing their choice. Authors also looked at various religious, socio-economic and cultural factors. Data was analysed using SPSS 16.0.

Questionnaire included influence of elders in the family, awareness about high population growth, various methods of family planning, birth spacing, pregnancy termination and motivation for spreading this awareness. Authors assessed their attitude about birth spacing and family planning/ contraception. Authors also asked them if gender of their first baby was important for their decision. Authors asked them if they wanted stricter laws to prevent female feticide and their support for 2 child norms. Authors also asked them if they feared contraceptive side effects.

RESULTS

Out of 544 newly registered primigravida women attending ANC, first 200 consenting pregnant women were selected by randomized sampling of every alternate newly registered women. They were given questionnaire to know their preference of number of children, KAP about birth spacing, contraception and unsafe abortions. Primigravida was chosen to avoid sex of their previous child, mode and complications of past pregnancy influencing their choice.

Most women (42%) were in age group of 26-30 years (Table 1). 37% were between 21-25 years, 8% were aged <20 yrs and 11% belonged to 31-35years. Only 2% were aged ≥36 years, 31% women belonged to low SES, 58% were in middle and 11% were upper SES as per modified Kuppuswamy's classification updated for the year 2018.

In this study majority (86%) were urban dwellers and 14% were from nearby villages (Table 1). All were literates. 18% had completed education up to primary school, 33% till higher secondary school, 20% up to pre university level. Graduates were 17% and 12% had done post-graduation. 76% were housewives, 5% were daily wage laborer's/ garment workers and 19% were working women. 11% women were professionals. Thus, the study population was largely Urban, fairly educated and had few economically independent women. 58% women were Hindu, while Muslims were 35%, Christians were 9% while 1% belonged to Jain community.

Table 1: Composition of study population and the number of children preferred.

Variables	Numbers	Preferred number of children		
		1	2	≥3
Age in years				
<20	16	0	11	5
21-25	75	7	33	35
26-30	84	8	51	25
31-35	21	3	18	0
>36	4	2	2	0
Literacy status				
Illiterate	0	0	0	0
Primary	36	0	21	15
Secondary	66	1	29	36
Pre-university	40	1	29	10
Graduation	34	2	30	2
Post-graduation	24	4	18	2
Professionals	24	12	12	0
Socio economic status				
Low	62	2	36	24
Middle	115	10	70	35
upper	23	8	9	6
Religion				
Hindu	117	18	92	7
Muslim	69	0	9	54
Christian	18	2	13	3
Jain	2	0	1	1
Occupation				
Homemaker	152	4	86	62
Employed	38	15	12	1
Labourers	10	1	7	2
Dwelling				
Urban	171	18	93	60
Rural	29	2	22	5

Around 20 (10%) women wanted only 1 child, whereas majority 115 (57.5%) preferred 2 and 65 women (32.5%) wanted ≥3 children. Of those who wanted a single child higher proportion belonged to age group of >36 years, followed by 31-35 years (14.3%), 26-30 year (9.5%), 21-25 years (9.3%). None under 20 years opted for one child. Most of those who wanted ≥3 children fell in age group of 21-25 years (46.7%), followed by <20 years (31.3%), 26-30 years (29.8). None ≥31 years chose for

more than 2 children. 2 child universal norm is mostly opted by those aged 31-35 (85.7%) years, followed by <20 years (68.7%), 26-30 years (60.7%), >36 years (50%) and lastly 21-25 years (44%).

Authors had 100% literacy. Most of those who wanted 1 child were professionals (50%), followed by graduation and above (10.3%), pre-university (2.5%), secondary (1.5%). None of those who only had primary education would settle for 1 child. Most of those who wanted ≥3 children were educated till secondary (54.5%), followed by primary (51.7%), pre-university (25%), graduation/ above (7%) and none amongst professionals. 2 child norms are mostly opted by those educated till graduation/ above (82.7%), followed by pre-university (72.5%), primary (58.3%), professionals (50%) and lastly secondary (44%).

One child norm is mostly preferred by women of upper SES (34.8%), followed by middle (8.7%) and low (3.2%). ≥3 children were opted by those from low SES (38.8%), trailed by middle (30.4%) and lastly upper (26.1%). Universal norm is opted by mostly by middle SES (60.9%), followed by low (58%) and upper (39.1).

Authors see a clear pattern in religious subclasses. Most Hindus (78.6%) opted for 2 child norms, followed by 1 child (15.4%) and only 6% opted for ≥3 children. Amongst Muslims none would suffice with single child,

while majority (85.7%) wanted ≥3 children and only 14.3% would settle for 2 children. Christians mostly preferred 2 child norms (72.2%), followed by ≥3 children (16.7%) and lastly 1 child (11.1%). Jains has equal preference (50:50) for a couple as well as ≥3 children, while none would settle for single child.

Amongst homemakers 1st choice was 2 child norms (56.6%), followed by ≥3 children (40.8%) and only 2.6% opted for 1 child. Of those who were employed majority opted for 2 children (57.9%), followed by 1 child (39.5%) and 2.6% wanted ≥3 children. Laborer's first choice was 2 children (70%), followed by ≥3 children (20%) while 10% wanted only 1 child. Urban women had higher preference for 2 child norm (54.4%), followed by ≥3 children (35.1%) and lastly 10.5% wanted only 1 child. Rural women's first choice was 2 child norm (75.9%), followed by ≥3 children (17.2%), whereas 6.9%wanted only one child.

In the KAP Questionnaire 96% of respondents were aware of population issue (Table 2). 83% thought that it will affect nation's progress. 100% women were aware of family planning. Though 46% pregnant women preferred spacing after their first childbirth, only 40.5% preferred longer spacing ≥3 years. 22.5% of women would prefer termination of their next unplanned pregnancy if at all they were to conceive accidentally. 43% were fully aware of complications of unsafe abortions.

Table 2: KAP about population growth, birth spacing, contraception.

Questions	Responses No.	
	Yes	No
Are you aware of high population growth/ density in India?	192	8
Do you think is increasing population will affect the progress of India?	166	34
Do you know about family planning?	200	0
Would you want to space your next pregnancy?	92	108
Would you prefer spacing for 3 years or more?	81	119
Would you prefer termination of your next unplanned pregnancy if at all?	45	155
Are you aware of the complications of unsafe MTP?	86	114
Is there family pressure for deciding family size?	167	33
Is the sex of your first baby vital in deciding your family size?	172	28
Will mode of 1st delivery and complications affect your planning of family size?	38	162
Do you want stricter laws curtailing unsafe/ illegal abortion?	100	100
Would you support the State if 2 -child norm is introduced in India?	113	87
Would you opt/ ask for male contraception?	15	185
Do fear of side effect of contraception keeping you away from going for it?	152	48
Do you consider sterilization as a first choice of contraception?	131	69
Do you believe that population control is important for the nation's progress?	164	36

Majority of the respondents (83.5%) sited family pressure as the dominant determinant of their family size (Table 2). 86% of the women told that sex of the first child was important for the same. Surprisingly 19% also considered

mode of first delivery/ complications as an important factor. Women were divided (50:50) when it was asked if they wanted stricter laws for curtailing illegal abortions. Most women (56.5%) pledged their support if the Central

Gov't were to introduce a 2-child norm for jobs, subsidies and reservation. Only 7.5% women would opt for male contraception. Unfortunately, 76% were circumspect about side effects of contraceptives. The study reveals that 65.5% still considered sterilization as their first choice of contraception. At last it heartening to know that most (82%) opined that population control is important.

DISCUSSION

India's high population density is showing signs of significant stress on the economy, as the limited national resources pose a serious problem to GDP. Increasing unemployment is adding to social pressure as well. Serious emphasis is needed on population control and family planning. This study depicts the urban preference in tyre 2 smart city in 21st century India. Mean age of subjects was 27.21±3.2 years since the more educated urban class marry and conceive much later. Most of them 74.5% had nuclear families. Authors don't have similar studies available. Hence authors can take this as an index study for future comparison. Indian parliament is seriously considering the introduction of 2 child norm as legislation. Hence, authors wanted to look at the women's choice today.

In this study 20 (10%) women wanted only 1 child, whereas majority 115 (57.5%) preferred 2 and 65 (32.5%) wanted ≥3 children which indicates that most prefer 2 child norm. Of those who wanted 1 child most belonged to age group of >36 years, followed by 31-35 years (14.3%), 26-30year (9.5%), 21-25 years (9.3%). None <20 years opted for single child. This means that older women want smaller family size. Most of those who wanted ≥3 children were in the age group of 21-25 years (46.7%), followed by <20 years (31.3%), 26-30 years (29.8). None ≥31 years chose for >2 children which means that younger females have strong desire for more children. A study conducted by Nazli et al, shows similar trends (26% women aged 15-24 years wanted another child within 2 years compared to 16% among aged 25-34 years).[19] 2 child norm is mostly opted by those in age group of 31-35 (85.7%) years, followed by <20 years (68.7%), 26-30 years (60.7%), >36 years (50%) and lastly 21-25 years (44%). Study by Vasundhara et al, found that, use of contraceptives was more in middle aged women (84.8% in >30 yrs) than those under 20 years (2.2%).[20] Mature parents are more economically oriented and socially conscious.

Majority of those who wanted single child were professionals (50%), followed by graduation/ above (10.3%), pre-university (2.5%), secondary (1.5%). Professionals have minimum time to look after their kids and will prefer fewer children. None of those who were just educated till primary school would settle for 1 child. Most of them who wanted ≥3 children were secondary educated (54.5%), followed by primary (51.7%), pre-university (25%), graduation/ above (7%) and none amongst professionals, 2 child norm is mostly opted by

those educated till graduation/ above (82.7%), followed by pre-university (72.5%), primary (58.3%), professionals (50%) and lastly secondary (44%). Most well educated prefer 2 child norm. Higher education leads to later age at marriage and childbirth.[19] Study by Priyanka et al, suggests that higher education leads to 20% less unwanted births.[21]

1 child norm is preferred amongst upper SES (34.8%), followed by middle (8.7%) and low (3.2%). Rich women are more health/ beauty conscious and opt for fewer children. ≥3 children were opted mostly by those low SES (38.8%), followed by middle (30.4%) and lastly upper (26.1%). Poor people are less aware about benefits of small family and less access to contraception. Two child norm is opted by mostly middle SES (60.9%), followed by low (58%) and upper (39.1). Middle class generally follows norm in most cases. Study by Mosher et al, has shown that level of education is inversely proportional to number of children.[22]

Authors see a clear pattern in religious subclasses in this study. Most Hindus (78.6%) opted for 2 child norm, followed by 1 child (15.4%) and only 6% opted for >2 children. Modern Hindus prefer small family and have less fertility rate which is currently lower than replacement value of 2.1.[15] Amongst Muslims none would suffice with 1 child, while most (85.7%) wanted ≥3 children and only 14.3% wanted 2 children. Christians mostly preferred 2 child norm (72.2%), followed by ≥3children (16.7%) and lastly 1 child (11.1%). Muslims have generally less formal education, lesser access and acceptance to contraception. Women have very little control over fertility. In the last 50 years though overall TFR has reduced drastically, TFR in Muslims is still high at 2.62.[15] Similar results were seen in studies by Priyanka et al21 where Muslim women had 27% higher chance of unwanted pregnancy. Study also shows that Muslims are more likely to want another child sooner and are less likely to use contraception. Family planning and adoption was lower in Muslims. Jains had equal preference (50:50) for 2 as well as ≥3 children, while none wanted 1 child alone.

Amongst homemakers 1st choice was 2 child norm (56.6%), followed by ≥3 children (40.8%). Only 2.6% wanted 1 child. Of those who were employed most opted for 2 children (57.9%), followed by 1 child (39.5%) and 2.6% would go for ≥3 children. This is due to better awareness of social standards, proper spacing and use of contraceptives.

Urban population had a higher preference for 2 child norm (54.4%), followed closely by ≥3 children (35.1%) and lastly 10.5% wanted only 1 child due to better awareness, education and quick access to healthcare. In cities due to lack of living space, water, high cost of education/ health care, working women with little support at home many opt for lesser children. Rural people's first choice was again 2 child norm (75.9%), followed by ≥3

children (17.2%), whereas 6.9%wanted only 1 child. In study conducted by Priyanka et al, women from rural areas had lesser unwanted pregnancies compared to urban women.[21]

Statistically 96% women were aware of rising population density in India. 83% believed that it will affect the progress of India. Since the women were all educated and mainly urban dwellers they would know about this issue. 100% of participant women were aware of family planning which is a welcome finding. Study by Nayak et al, too reported 100% awareness about family planning.[23] However Patel et al, showed that awareness of contraception was a 63.2%.[24] This may vary from region to region depending on various demographic differences.

This study finds that, though 46% pregnant women preferred birth spacing only 40.5% preferred spacing for ≥3 years. Study by Jissa et al, finds that 23% of women with >1 child had birth spacing of 2.2 years.[25] Most believed that ideal spacing was 3-5 years. Chandana et al, reports a low average birth spacing duration of <2 years.[26] Conde et al, found that <18 months of spacing was linked to significant maternal/ child health concerns.[27] Yadav et al, study shows a good awareness about need for spacing (82.6%), however, only 40% were practicing it.[28] Most (92.6%) reported the need for husband's consent. 14.6% told in-laws's opposition as a reason for not spacing. 22.5% of women would prefer termination of their next unplanned pregnancy, 43% were fully aware of complications of unsafe abortions. Study by Manika et al, reported 28.5% incidence of unplanned pregnancy in a rural Bengal.[29]

Majority of the respondents (83.5%) sited family pressure as the dominant factor, 86% of the told that sex of the first child was important determinant of family size. Jissa et al, reported that 10% women revealed that decision of number of children was influenced by family pressure and 16% reported that sex of the 1st baby would influence this decision.[25] Surprisingly 19% also considered mode of first delivery/ complications as an important factor in planning their family size.

Only 7.5% women opted for male contraception. Majority (76%) were concerned about side effects of contraceptives. In 2005-2006 9.1% married men used male methods, 1.1% underwent vasectomy and 5.5% used condom.[11] Jissa et al, finds that sterilization was less preferred by more educated versus others (85% versus 95.7%), current use of any contraceptive method is 33% and of modern reversible methods is 14.9 %.[25] One out of 5 married woman aged 25-28 years opted for tubal ligation. Early marriage and childbirth lead to early contraception.

Most (65.5%) still considered sterilization (terminal method) as their first choice of contraception which is bothering. It is good that most (82%) agree that population control is needed. Most were practicing 2

child norm and more than half were in support of any prospective legislation. Furthermore, structured studies with larger subject base, wider ambit of questions and multi-centric in nature will bring out further clarity.

Limitations of this study was largely urban based, mostly conducted amongst educated, middle- and upper-income groups and lacks generalization. Small sample size is another limitation.

CONCLUSION

India has a high population growth and thick population density. The heterogeneous population has varied social, religious, geographic and economic factors which influence the family size. High fertility rate and massive illegal migrations may retard India's progress due to limited resources and poor employment opportunities.

Population density in cities is ever increasing. By 2050 Indian demography will tilt towards cities with widening of urban rural divide. This will hamper agricultural growth, food price index and cause rural distress. If this is not addressed properly and quickly, demographic dividend will be wasted. It is unjust to deny future generation their right to basic amenities. Now it is right time to implement 2 child norm to control TFR. Authors need to develop the right attitude towards birth spacing, contraceptive use, family planning, avoidance unwanted pregnancies and unsafe abortions.

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