Pregnancy in women with previous two healthy children, associated factors, and acceptability of contraception among these women: A questionnaire-based, cross-sectional KAP study in world’s second most populated country advocating two-child norm

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ABSTRACT

Introduction: Indian subcontinent carries 17% of world’s population, being the second largest populated country. The maternal mortality rate of the country is still high. The study was aimed to study factors leading to pregnancy in women with previous two living children and their knowledge about limiting family and their practice for use of contraceptives. Methods: Questionnaire-based study was conducted in the Department of Obstetrics and Gynaecology. Results: 961 pregnant women attending antenatal outpatient department were interrogated and amongst them 167 (17.3%) multigravida with previous two healthy children were enrolled in study and were asked to document in Questionnaire. Reasons for current pregnancy were gender bias, no desire to limit family, incorrect contraceptive use, contraceptive failure, doctor’s mistake and religious belief. Desire for male child emerged as most common reason (37%) followed by improper or no use of contraception. Most significant associated factor was poor education of female partner (p = 0.010). Conclusion: This cross-sectional study evaluated the possible reasons of multiparity. We conclude that preference for male gender child is still very much prevalent in India, along with unmet need of family planning. Improving education of women might help to change attitude towards birth spacing and family size.

Keywords: Contraception, KAP study, maternal mortality, multiparity

Introduction

The Indian subcontinent carries 17.86% of world’s population and is the second largest populated country of the world while it has only 2.4% of the world’s area. The population of India was 1,342,463,457 in 2017, based on the latest United Nations estimates, and India ranks number two in the list of countries by population. The median age in India is 26.9 years, and hence reproductive-age women also form a major bulk. It is not an injustice to say that mothers in this country are still dying because of the causes which are almost not heard of in the developed countries.

With rising advancements in science and technology, the country is indeed flying high; however, if we look upon the
health indices, they are still far behind many developed nations. The maternal mortality ratio (MMR) of India is 130 and the infant mortality rate is 34.1,2 These indices are far behind many of the developed nations like the United States and the United Kingdom and few neighboring nations like Singapore and Sri Lanka.

One major cause of poor healthcare indices is the rising population of the country and its consequences in the form of unemployment, illiteracy, poverty, hunger, and inability to approach and afford healthcare. A major contributor to this problem is the attitude of its citizens.

The key to wealth and growth of a nation is largely governed by the health of women and children in the country. Over the years, the Government of India is striving hard and has taken many initiatives, and the improved health indicators partly are a result of that. There are tiers of health system in India which cover from grassroot level to tertiary care centers and various schemes run to improve maternal and child health like The Janani Surkasha Yojna (JSY) scheme in which money is paid to all women delivering in government hospitals for the care of mother and baby; it has brought about a surge in institutional deliveries and huge financial uptakes in most states. The launch of Janani-Shishu Suraksha Karyakram (JSSK) in 2011 has further strengthened maternal health initiatives by entitling all pregnant women to free deliveries in the public sector. The transport from the health facility, drop back, and any referrals between facilities is also free for pregnant women (108 ambulance service) coming to government health facility. This ensures nil out-of-pocket expenditure for women and their families. Even the sick newborns are treated free without any expense on diagnostics, drugs, consumables, diet, and transport. The MMR highlights the number of mothers dying per 100,000 live births, may be on a decline, but still about five women die every hour in India from complications developed during childbirth. According to the National Institution for Transforming India (NITI Ayog), Government of India, the MMR in India overall is 130, while in Uttar Pradesh it is 201 per 100,000 live births. We see that despite extravagant policies by the government, the ratio is still not the desirable one. It appears that all the endeavours fall short because the need is too big compared with the supply. Multigravida compose a significant percentage in women who die or are near miss along with increasing the population load. Unless women do not discipline themselves to restrict family size, no policies can make a significant change. One major government's initiative in this aspect was to launch a two-child norm long back. Great expansion of family had been a traditional trend in the country since centuries. However, with realization of population blast, the government emphasized that for the well-being of the mother and baby, the age of marriage of a woman should be more than 18 years and appraised the citizens to plan for only two children. This although appeared to be an intelligent step does not carry a legal bounding, and it cannot be called successful in true sense. The government has also provided wide contraceptive options free of cost in government hospitals which include combined oral contraceptives (Mala N), centchroman (Chaya), IUCD (CuT380 A), Medroxyprogesterone (Antara), emergency contraception, and ligation. Yet, it is not uncommon to find women with completed families again pregnant; not only they stake their own health but also drain great manpower and resources of the country. With this background, the study was planned to determine various factors affecting the desire for further childbearing among women with previous two living and healthy children and to understand the knowledge of these women about the limitation of the family size, two-child norms, their practice, and adoption of contraception.

Materials and Methods

This questionnaire-based, cross-sectional study was conducted in the Department of Obstetrics and Gynecology of a tertiary care teaching center in North India over a period of 6 months. Ethical approval was taken from institute ethical committee ethical approval sought on 2 may 2019. Women attending the antenatal outpatient department on Friday were questioned about their age, parity, educational status, occupation, husband’s education, monthly family income, intimate partner violence, reasons for desiring more than two children, and gender of previous living children. Inclusion criteria were all those pregnant women who came for antenatal registration or admitted in emergency hours and were having two or more healthy living children. Only women attending on Friday were enrolled. Exclusion criteria included primigravida, second gravida, and multigravida with two living children but one or both with mental or physical disability and handicap.

These women were later counseled about the benefits of limiting family size and for adoption of contraception after this pregnancy. They were followed till delivery and the maternal outcome was recorded.

Results

A total of 961 antenatal women visited the antenatal outpatient department, and among them 167 (17.3%) multigravida with previous two or more healthy children were enrolled. The questionnaire was given to them; their opinions were noted and they received a counseling session. The reasons for continuation of current pregnancy with previous two children came out as male gender preference, no desire to limit, desire to limit but failure to use contraception or incorrect use, contraceptive failure, blaming their previous doctor mistake for not providing contraception, and religious restrictions.

Out of total 167 women, only 56.9% women had proper antenatal care. Overall, 74.9% women were aware about contraceptive methods, whereas 10% of the women were unaware and the remaining were partially aware.

The distribution with respect to the number and gender of previous healthy issues is shown in Table 1. Women with previous two female children were maximum (37.1%). The second highest
class was of one male and one female child (26.3%) and 9% of women had previous three female children.

Table 2 shows the reasons given by women for going ahead with pregnancy despite having two healthy children. Among all reasons, maximum couples wanted a male child. The next most common was improper use (25.1%) and no use of contraception (10.2%) by the couple. On enquiry about the method of contraception, 54.5% women were not using any mode despite awareness. The majority were using barrier method (15.6%) and IUCD was used by 13.2%.

Further enquiry revealed that 93.4% of women were aware about the two-child norm and 21.6% of women suffered from intimate partner violence in the form of physical abuse (19%), verbal abuse (6.6%), and family pressure by in-laws (3.6%) as a potential reason for poor use of contraception. After interview and counseling, 95.2% of women were keen for contraception, whereas 4.2% remained reluctant. Women with higher parity were keener for adopting contraception ($P = 0.001$). On follow-up, 64.15% of women adopted tubectomy after delivery and 18% got IUCD inserted. The rest of the women did not accept any method of contraception. The reasons were pressure from husband (9.6%), various myths regarding ligation (7.8%), and religious belief against tubectomy (4.4%).

On evaluation of high-risk factors in their previous and current pregnancies, 75.4% of women had uneventful obstetric history, while 6% preeclampsia, 3% gestational diabetes mellitus, 2.4% antepartum hemorrhage, and 3.6% had postpartum hemorrhage in their past pregnancies, whereas 57.5% had high-risk factors in current pregnancy and the high-risk factors were directly proportional to increasing parity ($P = 0.033$). Previous history of surgery was present in 39.5% of women, 4.2% were previous three cesarean, 24% had previous two cesarean, and 10.2% had previous one cesarean delivery.

On following the maternal outcome after delivery, 18 (10.7%) women needed HDU admission and 8 required ICU admissions and 6 women expired. Maternal morbidity was significantly associated with the number of previous children ($P = 0.009$).

The educational status of women is shown in Table 3 in which we see that 25.1% of women had completed their primary education and a high percentage was illiterate amounting 34.1% which is contrasting to their husband’s education where 29.9% were graduates and illiterate class was 17.4%. Table 3 shows the correlation of wife’s and husband’s education with the number of children they had, and the correlation with women’s education with the number of children was found to be significant ($P = 0.010$), whereas the correlation with husband’s education was not significant ($P = 0.396$). The number of children was more as the educational level declined with the illiterate group in women having a greater number of children.

For the study purpose, schooling standard was defined as adequate when it was age-appropriate class and educational-board-affiliated recognized school and with more than 70% of school attendance, substandard when one of the criteria was missing, and poor when more than one criterion was lacking.

Table 4 shows that adequate schooling decreased with increasing number, couples with previous three children gave adequate schooling standard to 28.9% only and those with four children was 16.7%, so correlation is considered significant, $P = 0.017$.

When correlation of awareness regarding contraception and two-child norms was studied with the number of previous healthy children, as shown in Table 5, it was not found to be significant (as $P = 0.520$ and $P = 0.915$, respectively) although awareness was increased, but the majority of women becoming pregnant after two children were even being aware about the existence of contraception and two-child norms were going ahead with pregnancy. Hence, attitude regarding contraception appears to be timid despite awareness.
When we observed for the reasons for contraceptive failure, one of the reasons was intimate partner violence. The various forms of domestic violence reported by women are shown in Table 6. It was found that 19 women suffered from physical violence in the form of slaps, kicks, and verbal abuse and 11 suffered from forced sex along with verbal abuse and 6 women reported torture from their in-laws.

On comparing the relationship between the number of children with monthly income as shown in Table 7, the association came out to be nonsignificant \((P = 0.762)\), which shows that financial constraint is not an important factor behind family planning in our society. However, this is further decreasing literacy, wasting important resources, and disturbing the economical and manpower balance in our country.

**Discussion**

Rising population of any country is both a boon and bane. By virtue of high number of young populations, it becomes one of the strengths of the nation; at the same time in situation of restraints and crises, it can lead to disastrous consequences. Family planning is defined by the World Health Organization as “a way of thinking and living that is adopted voluntarily, upon the basis of knowledge, attitudes and responsible decisions by individuals and couples, in order to promote the health and welfare of family groups and thus contribute effectively to the social development of a country.”

India being second most populous country with multilingual, multietnic, and multireligious demography, the level of
awareness regarding contraception, literacy, and attitude practices are important factors for tackling the burden of overpopulation. Moreover, increasing parity is associated with high maternal morbidity, mortality, and poor perinatal outcome which emphasize the need for family planning programs, which can bevel the brunt of overpopulation in our country. The undefined population expansion has significant impact over public health. As the population of the country rises, the services which could be provided are compromised; all parameters such as sanitation, food supply, pollution, violence, and communicable diseases are affected apart from the quality of life. We tried to analyze various aspects related to public health. The healthcare system of India in different tiers mandates the provision of services even to the grassroot levels, but with unnecessary increase in family size these primary care services are not successful. In many states, most women remain deprived of the care needed during the antenatal period due to the fact of demand in excess of supply.

**Increasing family size and unmet need of family planning**

This study showed an unacceptably high unmet need of family planning with only 54.5% of women using family planning methods. Despite the initiatives promoting literacy and awareness regarding family planning, couples are still lagging in contraceptive use. Moreover, lack of decision and family pressure over women to bear a male child also contributes to it. The prevalence of gender preference in the society is inclined more toward males and also even those who have one male and one female child are keen to increase their family. Our study is about the new challenges in family welfare inculcating various relevant factors in the KAP-GAP.

This study clearly showed that the unmet need of family planning with only 54.5% of women with previous two children used contraception at all. Our data showed that the prime cause of having more children (42.5%) is because women had desire for male child, 10.8% was due to husband’s ignorance for contraception, 10.2% made no efforts for contraception, and 5.9% had misconception for contraception. The persistence by husband’s and in-laws to have a greater number of children was near significant ($P = 0.064$). Our society is still a male-dominant and gender preference is prevalent. As per the review article done by Rakhi Jain and Sumanthi Murlipathar, various reasons for contraceptive failure by male partner are loss of pleasure, ego-centric thinking, lack of knowledge regarding use, faulty use, and embarrassment to buy contraceptives.\footnote{[3]}

As per the study by Curtis et al., Demographic Health Surveys from Zimbabwe, Kenya, Bangladesh, Philippines, Dominican Republic, and Kazakhstan display moderate to high contraceptive use with prevalence of any contraceptive method among married reproductive-age women ranging from a low of 39.3% in Kenya to a high of 69.8% in the Dominican Republic.\footnote{[7]} According to the NFHS-IV in India, current use of family planning method in Uttar Pradesh, the largest state of India, is 45.5% and use of any modern method is 31.7%, and the unmet need for family planning is 13.4%.\footnote{[5]} The awareness regarding contraception is as high as 78.4% in our study as well as reported in other studies by Rhenjhen et al. in 2012\footnote{[8]} and Srivastava et al. in 2014.\footnote{[9]} All these figures indicate the lacunae in practices of contraception which include factors such as women’s education, family pressure, desire for male child, and incorrect use of contraceptive methods. According to Rhenjhen et al., almost all women had knowledge and favorable attitude toward family planning, whereas Srivastava et al. found that population was aware of sterilization but had

| Awareness about contraception | 2 | 3 | 4 | ≥5 |
|-------------------------------|---|---|---|----|
| Yes                           | 80| 29| 3 | 4  |
|                               | 75.4| 76.3| 50.0| 80.0| 74.9| |
| No                            | 9 | 5 | 2 | 1  |
|                               | 7.6| 13.2| 33.3| 20.0| 10.2| |
| Limited                       | 20| 4 | 1 | 0  |
|                               | 17 | 10.5| 16.7| .0 | 15.0| |
| Total                         | 118| 38| 6 | 5  |
| Awareness regarding two child norm | 167 |
| Yes                           | 110| 35| 6 | 5  |
|                               | 93.2| 92.1| 100.0| 100.0| 93.4| |
| No                            | 8 | 3 | 0 | 0  |
|                               | 6.7| 7.9| .9| .0 | 6.6| |
| Total                         | 118| 38| 6 | 5  |

| Intimate partner violence     | 2 | 3 | 4 | ≥5 |
|-------------------------------|---|---|---|----|
| Physical violence (slaps, kicks), verbal abuse | 9 | 5 | 2 | 3 | 19 |
|                               | 7.6| 13.2| 33.3| 60.0| 11.4| |
| Verbal abuse and forced sex   | 6 | 4 | 1 | 0  |
|                               | 5 | 10.5| 16.7| .0 | 6.6| |
| Mental torture by in laws     | 4 | 2 | 0 | 0  |
|                               | 3.3| 5.3| .0| .0 | 3.6| |
| None                          | 99| 27| 3 | 2  |
|                               | 83.8| 71.1| 50.0| 40.0| 78.4| |
| Total                         | 118| 38| 6 | 5  |
poor knowledge of temporary methods. We found in our study that awareness was high but attitude was not favorable as half of the women (54.5%) were not using any methods and the rest used barrier method (15.6%) and IUCD (13.2%) in their previous pregnancies.

Use of contraception after dedicated counseling

After counseling for contraception and follow-up, 64.15% went for sterilization in the present pregnancy, 18% opted for IUCD, and the rest followed other methods which was similar to the studies done by Saluja et al. 2011[10] and Khan et al., 2014[11] where 45.6% women opted for sterilization. A dedicated counseling to women for utilization of contraception appears to increase the utilization of the service and a need can be converted to demand. Various reasons for nonacceptance of sterilization were 7.8% had various kinds of myths for sterilization, 9.6% had pressures from their husbands, and 12% did not want sterilization just for no reasons showing that reluctance toward contraception still persists in our society. In a study done by Srivastava et al. in 2005,[12] the most common reasons for nonpractice of contraception were fear of side effects, preference for male child, religious beliefs, and family pressure, and studies have also shown that few couples did not feel liking using contraception for no definite reason. According to Gupta et al.,[13] 47.5% of women did not go for contraception because they want more child and 37.1% had husband's opposition for use of contraception.

Employment and family size

According to a study conducted by Islam et al. in 2016 in Bangladesh, prevalence of current use of contraception among employed and unemployed women was 67.2% and 60.9%, respectively, and the most commonly used contraceptive method was oral pill (27.7%), followed by progesterone injection (11.4%), periodic abstinence (8.3%), and condom (7.2%), whereas these proportions were 26.8%, 11.2%, 7%, and 5.9%, respectively, among unemployed women.[14] They noticed a higher number of female sterilization than male sterilization. In comparison to this, in our study irrespective of employment status, 54.5% of women were not using any mode of contraception despite wide awareness. The most commonly used method was barrier (15.6%) followed by IUCD (13.2%), oral pills (8.4%), and injectable DMPA (6.6%).

Education and increasing family size

Education of women played a crucial role in the utilization of family planning methods. According to a study by Sharma et al.,[15] 82.8% of women who were educated up to high school and above used family planning methods compared with a group of illiterate women with lesser utilization (35.8%).[16] In our study, 34.1% of women were illiterate who had more than two children. It was seen that women with higher education were more likely to use contraception and limit family. Educating women and empowering them makes them self-dependent and sensible to respect their body and lessens the attitude of gender discrimination and this leads a positive cycle permeating from one generation to other, and hence it shows a major need of educating and empowering women will not only strengthen the use of contraception but also can make a major reform in our society.

Mohann et al. in 2003[14] found no influence of women's education on acceptance of contraceptive practices; rather, it was monthly income which has greater impact on their study. The study done by Rao et al. in 2008[17] on knowledge and use of contraception among a tribal community of Andhra Pradesh showed that literacy and monthly income did not make any influence on the increase in use of contraception, though in our study when we studied the effect of monthly income on the number of children and use of contraception in previous pregnancy, the relationship was not significant ($P = 0.587$ and $P = 0.762$, respectively) but mother's education had significant effect.

In a remarkable study reported by Elard Koch et al.[18] in Chile from 1957 to 2007, they assessed the main factors related to maternal mortality reduction in context of the United Nations’ Millennium Development Goals (MDGs). Time series of MMR from official data along with parallel time series of education years, income per capita, fertility rate, birth order, clean water, sanitary sewer, and delivery by skilled attendants were analyzed. It was found that increasing education level favorably impacts the downward trend in the MMR, modulating other key factors such as access and utilization of maternal health facilities, changes in women’s reproductive behavior, and improvements of the sanitary system. Education seems to be the key factor to overall impact women’s health, wellness, and empowerment, and with education, awareness comes spontaneously. Singh et al. in 2016 reported that there was a highly significant association ($P < 0.01$) of age group, educational status of respondents, the number of living children, the wealth of the respondent, media exposure, and husband’s education with the variable KAP-GAP; they have conducted their studies in six cities.[19]

Maternal and child wellbeing with increasing family size

It was also found that schooling standards worsened with
increasing number of children (P = 0.017). Children of any country are its strength and their educational standard guides a country’s future. Our society cannot withstand such bursting population and a major reform to change the attitude is needed for women wellness, health, and limited resources. Not limiting the family size affects the future of the country by affecting the education of children because it affects literacy to a great extent as in our study only 38.9% of children were getting adequate schooling but substandard and poor standard stood next with 31.7% and 20.4%, respectively.

Multiparity and increased number of surgical interferences bring morbidity, and it is evident in our study that women require ICU and HDU care and are dying too. We still have unmet needs for adequate care for an antenatal women and women are being forced to carry a pregnancy again and again, with short interpregnancy interval, with negligible attention to her health needs, discriminating female children, and the saddest part of this story is that in most of the time it is done for the desire of a male child or due to illiteracy and ignorance.

Conclusion

Resources are limited and overcrowding is not desirable. This cross-sectional study tried to evaluate the possible reasons of increasing family and we conclude that despite all measures, gender preference is still very much prevalent with its root deep inside our social infrastructure. At the same time, the unmet need of family planning is high. To safeguard the lives of women, girls, and unborn female fetus, the government and policy makers have laid strict norms like Preconception and Prenatal diagnostic test laws which very strictly prohibit determination of fetus sex to stop female feticide, and similarly, “Save Girl Child” is being promoted loud. This is an area which needs urgent global attention and needs to be dealt promptly albeit tactfully.

Greater education of women might help change the attitude toward birth spacing and family size. As many couples have myths and misconception regarding contraceptive methods, family planning programs should focus on correct information and knowledge regarding contraceptive practices for its improvement.

It is known that as the number of pregnancies increases, the risk to maternal health increases. The policy makers have to realize that a major bulk of women who are dying are actually not dying because of obstetrics complication but more so because of social injustice to their health. It appears that a civil war is needed to improve the health status of women. This was a cross-sectional study with random sampling of the participants which was able to show a correlation between socioeconomic demographic variables, family planning acceptance, and increasing family size which reflects its strength. The potential limitation of the study was that since it was a hospital-based study, it may not reflect the holistic picture of the society where contraception is still a challenge.

Summary

This cross-sectional study evaluated the possible reasons of multiparity. The reasons for current pregnancy were gender bias, no desire to limit family, incorrect contraceptive use, contraceptive failure, doctor’s mistake, and religious belief. Desire for male child emerged as the most common reason followed by improper or no use of contraception. The most significant associated factor was poor education of female partner (P = 0.010). Preference for male child is still very much prevalent in India, along with unmet need of family planning. Improving education of women might help change the attitude toward birth spacing and family size.

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Conflicts of interest

There are no conflicts of interest.

Informed consent

All procedures followed were in accordance with the ethical standards of the responsible.

Institutional Committee on human experimentation and with Declaration of Helsinki of 1975, as revised in 2008 (5). Informed consent was obtained from all patients for being included in the study.

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