

DOI: 10.5455/2320-1770.ijrcog20140601

Review Article

Current abortion practices in India: a review of literature

Naina Kumar*

Department of Obstetrics Gynaecology, Mahatma Gandhi Institute of Medical Sciences Sevagram, Wardha - 442102, Maharashtra, India

Received: 28 February 2014

Accepted: 25 March 2014

***Correspondence:**

Dr. Naina Kumar,

E-mail: drnainakumar@gmail.com

© 2014 Kumar N. This is an open-access article distributed under the terms of the Creative Commons Attribution Non-Commercial License, which permits unrestricted non-commercial use, distribution, and reproduction in any medium, provided the original work is properly cited.

ABSTRACT

Among issues related to reproductive health, none has more controversial connotations than abortion nor carries a heavier burden of stigmatization. Abortion, is a universal phenomenon and is defined as and has existed throughout recorded history, yet it continues to be a highly charged, controversial issue, raising extreme passions among lay people, as well as politicians, religious leaders, and health and rights advocates. Although abortion services in India were liberalized more than three decades ago, access to safe services remains limited for majority of women. This paper synthesizes recent evidence on abortion scenario in India, explores factors why women seek abortions. It highlights factors, notably unmet needs for contraception, lack of awareness of legality of abortion services, limited access to safe services, poor quality of services, leading women to seek services from untrained providers. Thus by making abortion services broadly legal, understanding size, type of unmet need, characteristics of women with unmet need, can surely help tackle this problem to some extent.

Keywords: Abortion, Contraception, Pregnancy, Post-abortion care, Unmet need

INTRODUCTION

Abortions, be it spontaneous or induced, are most common adverse outcome of pregnancy, yet its prevalence and underlying causes are subjected to continuing investigation and understanding. The reported prevalence of spontaneous abortions is 10 to 15% of clinically recognized pregnancies.¹ However, many spontaneous abortions occur so early in pregnancy that woman is not even aware that she was pregnant and has aborted. Further WHO reports that globally approximately 42 million pregnancies are voluntarily terminated each year, 22 million within legal system and 20 million by unskilled providers or in unhygienic conditions, or both.² It is estimated that 19 of every 20 unsafe abortions take place in less developed regions of world³ and this is where 98% of abortion-related deaths occur. An estimated 6.8 million abortions occur every year in South Central Asia (including India) at a rate of 17 unsafe abortions per 1000 women.⁴

INDIAN STATUS OF INDUCED ABORTIONS

Estimates of number of abortions performed annually in India vary considerably, from 0.6 - 6.7 million.⁵ The exact incidence is unknown because of gross under-reporting of abortions, the most widely cited figure suggests that around 6.7 million abortions take place annually, of which only about one million are performed legally and remaining are performed by medical and non-medical practitioners.⁶ Levels of unsafe abortion are very high in India, especially given that abortion is legal for broad range of indications, and available in public and private health sector.⁶ A study revealed that around 6.4 million abortions are performed in India annually, of which 3.6 million (56%) were unsafe.⁷ Latest data from government statistics on family welfare in India recorded 620472 abortions in 2010-11 at approved institutions with Uttar Pradesh having 576 approved institutions and performing maximum number (81420) Medical

Termination of Pregnancies (MTPs) in country followed by Maharashtra (78047) during 2010-11.⁸

In India, around 10000- 12000 women die each year as a consequence of unsafe abortion while many women suffer from long term morbidity with abortion-related complications.⁹ Estimates for contribution of unsafe abortions to maternal death in India vary from 8-20%.^{7,10} Recent data suggest that 3-9% of all pregnancies in India are terminated through induced abortion, and 18% of maternal mortality can be attributed to this.¹¹

PROFILE OF ABORTION SEEKERS

While women of all age groups seek abortion in India, review suggests that majority of those seeking abortion are 20-29 years.¹² Nationally, data from National Family Health Survey (NFHS) 1998-99 show a lifetime induced abortion ratio of 1.1 among married adolescents.¹³ The vast majority of women seeking abortion in India are married, though about 2-30% are unmarried.¹² Among the unmarried, adolescents constitute a disproportionately large percentage of those seeking abortion, many of whom are below 15 years.¹⁴

REASONS FOR SEEKING INDUCED ABORTION

Reasons for induced abortions are many and include postponement of childbearing, socioeconomic factors, lack of support from the partners and not wanting to raise a child conceived as a result of rape or incest.¹⁵ Some abortions are performed because of woman's own desire or family pressure for having baby of a specific sex, disapproval of single mother or early motherhood, stigmatization of people with disabilities, lack of access to or rejection of contraceptive methods.

Several studies indicate that most abortions are sought to limit family size or space next pregnancy.^{12,16} A study in Madhya Pradesh revealed that, achievement of desired family size was reason stated by 41% and need for spacing by 30% of women attempting abortion.¹⁶ A few studies indicate that risk to women's health is also a relatively common reason for seeking abortion.¹⁶ Less commonly reported reasons include contraceptive failure, pregnancies occurring soon after marriage or occurring outside of marriage or problems with fetus.^{12,16} Another study, in Tamil Nadu, reported that nonconsensual sex, sexual violence and women's inability to refuse husband's sexual demands were the factors that led to unwanted pregnancy and abortion.¹⁷

SEX PREFERENCE AS A CAUSE OF ABORTION

In cultures where there is a strong preference for child of a particular sex and where prenatal sex identification techniques are widely accessible, abortion may be used for sex selection.¹⁸ This is thought to be an important reason why women seek abortion in India.¹⁹ A study reported that till 2006 an estimated 10 million female

fetuses were illegally aborted in India.²⁰ Around 500000 girls are being lost through sex-selective abortions annually. According to a study, for every four post-natal deaths there is one prenatal death among girls, which suggests that about one million fetuses or unreported infanticides occurred between 1981 and 1991.²¹ Another study revealed that overall, there were between 4.2 million to 12.1 million selective abortion of girls from 1980 to 2010.²² The last four census surveys point to rapidly increasing disparities: The child sex ratio dropped from 962 (girls to 1000 boys) in 1981 to 945 in 1991 to 927 in 2001,²³ and according to the latest census, in 2011, the ratio decreased further, to 914.²⁴

However information from many studies indicates that unintended pregnancy rather than sex of child underlies demand for most abortions. NFHS-II analyzed recordings of 90000 women in India and found that between women who had all boys and women who had all girls, there was no significant difference in the probability of their having an abortion. In only one state, Haryana, (of 26 states information), women whose previous child was a girl, were about two times (1.8) more likely to terminate the current pregnancy than other women.²⁵ A similar study reports that Maharashtra has a higher incidence of sex-selective abortions, unwanted sex of the fetus was reason stated by 12.5% of abortion seekers, 19% rural and 5.8% urban respondents.²⁶

UNINTENDED PREGNANCY: THE ROOT OF ABORTION

An estimated 80 million unintended pregnancies occur each year worldwide, resulting in 42 million induced abortions and 34 million unintended births.²⁷ In India, 21% of reported births in the past five years are unplanned or unwanted by women.⁷ Unintended pregnancy can result from non-use of contraception, or from contraceptive failure.²⁸

Millions of women and men either do not have access to appropriate contraceptive methods, or do not have adequate information and support to use them effectively and no contraceptive method is 100% effective. Many studies have examined the reasons why some women do not use contraception even though they do not want to become pregnant, referred to as unmet need for family planning.^{29,30} According to reports from Alan Guttmacher Institute, 54% women who had abortions used a contraceptive method (usually condom or pill) during the month they became pregnant, however 76% of pill users and 49% of condom users reported having used methods inconsistently, 13% of pill users and 14% of condom users reported correct use,³¹ 46% of women who sought abortions had not used any contraceptive during the months they became pregnant. Of these women, 33% had perceived themselves to be at low risk for pregnancy, 32% had concerns about contraceptive methods, 26% had unexpected sex and 1% had been forced to have sex.³¹ About half of unintended pregnancies occur among 11%

of women who are at risk for unintended pregnancy but are not using contraceptives. Most of these women have practiced contraception in the past.³² Roughly 140 million women in 2008 in developing countries were not practicing contraception, despite their desire to delay or stop childbearing, and 75 million more were using traditional, failure-prone methods.³³ In Southeast Asia, 48% of all pregnancies are unintended and each year, an estimated 2.7 million unintended pregnancies occur in adolescents.³⁴ Annually in India 78% conceptions are unplanned and 25 % unwanted.³⁵

ADOLESCENT PREGNANCY AND ABORTION

The transition from childhood to adulthood may be referred to as 'adolescence' or 'teenage', which has been defined by the World Health Organization as the period between 10-19 years.³⁶ This is the period when structural, functional, and psychosocial developments occur in a child to prepare her for assuming the responsibility of motherhood. Pregnancy in very young women is generally considered to be a very high risk event, because teenage girls are physically and psychologically immature for reproduction.

Child marriage and early confinement is a long established custom in India, with poverty and ignorance magnifying the problem.³⁷ In developing countries 20% to 60% of young women's pregnancies and births are unintended.³⁸ According to NFHS-I in India, nearly 58% of adolescents have commenced childbearing and only 7% adolescent females use contraception.³⁹ In 2001, there were 219 million youth aged 15-24 years in India, representing 21% of the population.⁴⁰ The proportion of 20-24 year-olds who had married before turning 18 declined from 50% in 1998-1999 to 47% in 2005-2006.¹¹ About one in six 15-19 year-olds had already given birth or become pregnant, and about half of India's total fertility rate was attributable to those aged 15-24.¹¹ Studies from 1970s and 1980s suggested that unmarried (mostly young) women constituted 20-30% of all clients seeking abortion,^{41,42} a pattern observed in both rural⁴¹ and urban areas.^{42,43} In addition, at least half of the unmarried women seeking abortions were adolescents, many below 15 years.¹⁴ Several studies have confirmed, that unmarried adolescents and young women are a highly vulnerable group, as many sought abortion in their second trimester.⁴¹⁻⁴³ Indeed, in a study that compared married and unmarried abortion seekers, 59% of unmarried adolescents, compared with 26% of their married counterparts, underwent second-trimester abortions.⁴³

UNMET NEEDS AND ABORTION

Unmet needs are global, which look at issues as they relate to the family planning needs of its reproductive population in a quantifiable mode, "unmet need for prevention of pregnancy or birth or consequences, in currently married women who do not want any more

children but are not using any form of family planning (unmet need for contraception for limiting) or currently married women who want to postpone their next birth, but are not using any form of family planning".²⁹ Further conventional estimates of unmet need include only married women, but the special needs of sexually active unmarried women, especially teenagers, women with postpartum amenorrhea, those using a less effective contraceptive method or using an effective method incorrectly, or dissatisfied, or with contraindications to its use, with unwanted pregnancies without access to safe and affordable abortion services; and those with related reproductive health problems also need to be included.

In developing countries about half of sexually active women of reproductive age, or 818 million women, want to avoid pregnancy of which 17%, or 140 million, are not using any method of family planning, while 9%, or 75 million, are using less-effective traditional methods. Together, 215 million women are said to have an unmet need for modern contraception.⁴⁴

According to NFHS - III (2005-2006)¹² the overall unmet needs for family planning in India is about 13.2% and that in currently married rural women, 14.6%. Another study conducted in Punjab revealed that the extent of unmet need in India is about 16%.⁴⁵ The NFHS-III also revealed that the unmet need was highest among women below age 20 years, the need was almost entirely for spacing rather than for limiting and was getting reduced with advancement of age.¹¹ A prospective study in Madhya Pradesh, found that 278 (73%) of 381 women had sought an abortion because they did not want a child at that time, suggesting a high unmet need for family planning.⁴⁶ Another study revealed that Sterilization is the most popular method of contraception in India with a prevalence of 37% and accounts for 66% of all contraceptive use.¹¹

The Guttmacher institute in 2009 report that if all women who wanted to avoid pregnancy were using modern contraceptives, the number of unintended pregnancies in developing countries would fall from 75 million to 22 million annually.⁴⁷ This would translate to 22 million fewer unplanned births, 15 million fewer unsafe abortions, and 90000 fewer maternal deaths.⁴⁴ Family planning alone can prevent a quarter to a third of all maternal deaths saving 140000 to 150000 lives a year, worldwide.⁴⁸

POST ABORTION CARE

In South and Southeast Asia, one-third of the women having abortions are believed to experience complications, and more than half of them do not receive hospital treatment.⁴⁹ Though majority of morbidity and mortality resulting from unsafe abortion are preventable, yet millions of women in the country suffer due to unavailability of treatment at all levels of health care system. So the concept of Post Abortion Care (PAC) has

evolved which is a global approach towards reducing maternal morbidity and mortality due to complications of spontaneous and induced abortion with series of medical and social interventions with a vision to improve women's sexual and reproductive health. The essential elements of post abortion care include: emergency treatment of incomplete abortion, potentially life-threatening hemorrhage, sepsis, contraceptive counseling services and linkage to other emergency services.⁶ Studies show that integration of family planning services with PAC can (1) increase the uptake of a contraceptive method prior to hospital discharge, (2) increase a woman's intentions to use contraceptive method after hospital discharge, (3) decrease unmet need for family planning among PAC patients, (4) reduce subsequent repeat abortions and unplanned pregnancies.⁵⁰

In India, abortion is legal under medical and social conditions but most women lack sufficient knowledge about abortion care and services.^{16,51} Within the reproductive healthcare context, post abortion care - including family planning and related counseling services - has been seriously neglected in India.^{49,52} Healthcare providers are inclined to offer abortion services with a precondition that the women should accept contraceptives after the procedure. Rates of post abortion contraceptive use vary widely among Indian couples, ranging from 75% to 93% among women interviewed in clinical studies⁵² and 50% to 58% in community studies.⁵³ However, these studies show high rates of method discontinuation in short intervals following pregnancy termination.⁵² Another study revealed that in India post abortion care mostly consists of post abortion contraceptive acceptance, especially in public abortion care facilities, without adequate counseling and scope for informed choice.⁵

A study in Uttar Pradesh found that the post abortion care offered in villages tends to exacerbate rather than alleviate post abortion complications. For many reasons women in communities turn to untrained or poorly trained village-level providers for post abortion care, even when more effective care is available at higher-level facility. Paradoxically, the improper diagnosis, treatment, and management of post abortion complications by "affordable" village-level providers often winds up increasing the cost of treatment by necessitating multiple visits or by prolonging complications.⁵⁴

Hence, India's post abortion care policy needs to be delineated, supported, and publicized. At national, state, and local levels, the legality and importance of providing post abortion care needs to be emphasized.⁵⁴

UNSAFE ABORTION AND COMPLICATIONS

The World Health Organization defines unsafe abortion as a procedure for terminating a pregnancy that is performed by an individual lacking the necessary skills, or in an environment that does not conform to minimal

medical standards, or both.⁵⁵ Nearly half of all abortions worldwide are unsafe, and nearly all unsafe abortions (98%) occur in developing countries with 55% occurring in Asia (mostly in South-Central Asia)⁵⁶ and about half of all deaths from unsafe abortion are in Asia.⁵⁷

WHO's most recent estimates highlight that deaths due to unsafe abortion accounted for 13% of all maternal deaths worldwide. Moreover, in 2008, almost one-third - 6.82 million - of the estimated 21.6 million unsafe abortions worldwide occurred in South Central Asia and a total of 14000 deaths that were entirely preventable.⁵⁵ Deaths as a result of unsafe abortion in developing countries are estimated at 47000 annually, that is, 220 deaths per 100000 abortions with South-Central Asia accounting for 200 deaths per 100000 abortions.⁵⁵

In India, more than 5.5 million of the 6.5 million abortions that take place annually are conducted by uncertified providers or in unregistered facilities,⁵⁸ accounting for 8% of all maternal deaths.⁵⁹

Morbidity is much more common consequence of unsafe abortion than mortality. Complications include hemorrhage, sepsis, peritonitis, and trauma to the cervix, vagina, uterus, and abdominal organs.⁶⁰ High proportions of women (20-50%) who have unsafe abortions are hospitalized for complications.⁶¹ Information on long-term health consequences of unsafe abortion is scarce. The WHO estimates that about 20-30% of unsafe abortions result in reproductive tract infections and that about 20-40% of these result in upper-genital-tract infection and infertility. An estimated 2% of women of reproductive age are infertile as a result of unsafe abortion, and 5% have chronic infections.⁵⁷ Unsafe abortion also increases the long-term risk of ectopic pregnancy, premature delivery, and spontaneous abortion in subsequent pregnancies.⁶⁰ Little is known about women who have complications but who do not seek medical care. Clinicians estimate, the proportion of such women was 19% in south and south east Asia.⁶²

Various studies indicate that the prevalence of post-abortion complication is relatively high among general population in India.^{26,63} A community based study of unwanted pregnancy and induced abortions in Rajasthan revealed that 13% of women who had induced abortion, 26.1% experienced post-abortion complication. Of those who reported complications, 45.3% of women had sought treatment. The rural women (64.3%) were more likely to sought treatment for post-abortion complications than the urban women (38.5%)⁶³ A similar study in Tamil Nadu revealed that 62% of women who had spontaneous abortion and 63.1% with induced abortion, reported one or more post-abortion complications after 24 hours but within a week following the event; 16.7 % and 22.7 % had complications during 2nd and 3rd weeks following the event.⁶⁴ Another study in Maharashtra observed that women from poor economic conditions are twice more likely to have post-abortion complication than women

from high economic conditions. The utilization of post-abortion care services for complication was high among rural women and women with low standard of living than urban women and women with high standard of living.²⁶

LAW AND ABORTION

Almost all abortion-related deaths are preventable when performed by a qualified provider using correct techniques under sanitary conditions.⁶⁵ Recognizing the preventable nature of most maternal morbidity and mortality related to unsafe abortion,⁶⁰ the Indian parliament passed the Medical Termination of Pregnancy (MTP) Act in 1971.⁶⁶ This relatively liberal law permits a woman to seek an abortion to save her life, preserve her physical and mental health, for economic or social reasons, and in cases of rape or incest, fetal impairment, or when pregnancy results from contraceptive failure. Subsequent amendments in 2002 and 2003 have aimed to expand safe services by devolving abortion service regulation to the district level, changing physical requirements for facilities providing first trimester abortions, and allowing medical abortion at facilities not approved for surgical abortion.⁶⁶

In addition to these legal and policy interventions, a number of interventions to increase the availability of safe abortion services have been implemented in India. For example, Ipas, a global non-profit reproductive health organization focused on safe abortion and women's reproductive rights, has helped establish 84 public sector and 5 private sector comprehensive abortion care training centers in India. Along with the Government of India, many non-governmental organizations (NGOs) like Janai, Pathfinder, Family Planning Association of India, and Parivar Seva Sanstha are also intervening to improve access to safe abortion services.

Unfortunately, these policy and service delivery interventions have not led to significant reduction in unsafe abortion or related maternal morbidity and mortality in India,⁶⁷ primarily because of limited access to and utilization of safe abortion services. While three-fourths of the Indian population live in rural areas, abortion services are rarely available at rural health facilities.⁶⁸ Available safe abortion services are underutilized due to numerous individual and community level factors, such as lack of awareness of the legality of abortion, limited understanding on implications of unsafe abortion and lack of information on availability of safe providers and methods.

MEDICAL ABORTION IN INDIA

Medical abortion or abortion by orally administered regimens of Mifepristone and Misoprostol has recently been accepted worldwide as an effective and safe option for early abortion. It is a safe procedure, with mortality rates comparable with spontaneous abortion.⁶⁹

Introducing medical abortion in countries with high abortion-related mortality is feasible step towards achieving millennium development goal 5. While safe abortion services in any form would save women's lives, medical abortion offers resource-poor countries the tools to achieve this with minimal expenditure.

WHAT NEEDS TO BE DONE?

Although daunting, the predicament is not without solutions. Preventing unintended pregnancy should be priority for all. Educating women regarding their reproductive health should be incorporated in schools. Governments and nongovernmental organizations need to find effective ways to overcome cultural and social misconceptions that restrict women from receiving necessary health care. Providing women better access to health centers that perform abortions is imperative. In addition, post abortion family planning counseling needs to be an integral part of service.

ACKNOWLEDGEMENTS

I acknowledge and thank Dr Namit Kant Singh for his advice and expertise regarding analysis methods.

Funding: No funding sources

Conflict of interest: None declared

Ethical approval: Not required

REFERENCES

1. Garcia-Enguidanos A., Calle M. E., Valero J., Luna S., Dominguez-Rojas V. Risk factors in miscarriage: a review. *Euro J Obstet Gynecol Reprod Biol*, 2002;102:111-9.
2. World Health Organization. Unsafe abortion: global and regional estimates of the incidence of unsafe abortion and associated mortality in 2003. In: WHO, eds. WHO Book. 5th ed. Geneva: World Health Organization; 2007: 1-43.
3. Safe Motherhood. Unsafe Abortion: a major public health problem. *Safe Motherhood*. 2000;28(1):4.
4. Shah I and Ahman E. Unsafe Abortion in 2008: global and regional levels and trends. *Reprod Health Matters*. 2010;18(36):90-101.
5. Khan, M. E., Barge S., Kumar N., Almroth S. Abortion in India: current situation and future challenges. In: Pachauri, S., Subramaniam, S., eds. *Implementing a Reproductive Health Agenda in India: The Beginning*. 1st ed. New Delhi: Population Council Regional Office; 1998: 507-529.
6. Johnston H. B. Abortion practice in India: a review of literature. In: Johnston H. B., eds. *Working Paper, Abortion Assesment Project*. 1st ed. Mumbai: Centre for Enquiry into Health and Allied Themes (CEHAT); 2002: 23.
7. Duggal R., Ramachandran V. The Abortion Assessment Project-India: key findings and

- recommendations. *Reprod Health Matters.* 2004;12(24):122-9.
8. Shah R. Family welfare statistics in India - 2011. In: Shah R., eds. Statistics Divisions Ministry of Health and Family Welfare. India: Government of India; 2011: xviii.
9. Banerjee S. Increasing access to safe abortion services in Uttarakhand: identifying medical termination of pregnancy (MTP) training centers. New Delhi: Ipas India; 2007.
10. Dahiya K, Madan S, Hooda R, Sangwan K, Khosla AH. Evaluation of the efficacy of mifepristone/misoprostol and methotrexate/misoprostol for medical abortion. *Indian J Med Sci.* 2005;59:301-6.
11. International Institute for Population Sciences (IIPS) and Marco International. 2007. National Family Health Survey (NFHS-3), 2005-2006. India IIPS. 2007;1:1-535.
12. Ganatra BR. Abortion research in India: what we know and what we need to know. In: Ramasubban R, Jejeebhoy S, eds. *Women's Reproductive Health in India.* 1st ed. Jaipur, India: Rawat Publications; 2000: 186-235.
13. Pachauri, S. and K.G. Santhya. Socio-demographic and reproductive health profile of adolescents in India: a review. *Demography India.* 2002;31:2.
14. Jejeebhoy S. Maternal mortality and morbidity. *J Family Welfare.* 1996;43(2):31-52.
15. Finer L. B., Frohwirth L. F., Dauphinee L. A., Singh S., Moore A. M. Reasons U. S. women have abortions: quantitative and qualitative perspectives. *Persp Sex Reprod Health.* 2005;37(3):110-8.
16. Malhotra A, Nyblade L, Parasuraman S, MacQuarrie K, Kashyap N. Realizing reproductive choices and rights: abortion and contraception in India. In: Malhotra A, Nyblade L, Parasuraman S, MacQuarrie K, Kashyap N, eds. *ICRW. Washington, DC: International Center for Research on Women (ICRW);* 2003: 5-35.
17. Ravindran TK, Balasubramanian P. "Yes" to abortion but "no" to sexual rights: the paradoxical reality of married women in rural Tamil Nadu, India. *Reprod Health Matters.* 2004;12(23):88-99.
18. Bairagi R. Effects of sex preference on contraceptive use, abortion and fertility in Matlab, Bangladesh. *Int Family Plan Persp.* 2001;27(3):137-43.
19. Arnold F, Kishor S, Roy TK. Sex-selective abortions in India. *Populat Develop Rev.* 2002;28(4):759-85.
20. Jha P., Kumar R., Vasa P., Dhingra N., Thiruchelvam D., Moineddin R. Low male-to-female sex ratio of children born in India: national survey of 1.1 million households. *Lancet.* 2006;367:211-8.
21. Gupta M. D., Bhat Mari P. N. Fertility decline and increased manifestation of sex bias in India. *Population Investigation Committee. Populat Studies.* 1997;51(3):307-15.
22. Jha P, Maya AK, Kumar R, Faujdar R, Ram U, Aleksandrowicz L et al. Trends in selective abortions of girls in India: analysis of nationally representative birth histories from 1990 to 2005 and census data from 1991 to 2011. *Lancet.* 2011;377(9781):1921-8.
23. Government of India, Ministry of Home Affairs, Office of the Registrar General and Census Commissioner, Census. Gender composition, 2011. Available at: <http://censusindia.gov.in/>. Accessed 1 May 2012.
24. Office of the Registrar General and Census Commissioner, Census of India. Gender composition (Recent), 2011. Available at: <http://censusindia.gov.in/>. Accessed 1 May 2012.
25. Pallikadavath S, Stones RW. Maternal and social factors associated with abortion in India: Population-based study. *Int Family Plan Persp.* 2006;32(3):120-5.
26. Saha S, Duggal R, Mishra M. Abortion in Maharashtra: incidence, care and cost. In: Saha S, Duggal R, Mishra M., eds. *Mumbai: Centre for Enquiry into Health and Allied Themes (CEHAT);* 2004: 1-23.
27. Speidel, J. J., Harper C. C., and Shields W. C. The potential of long-acting reversible contraception to decrease unintended pregnancy. *Contracept.* 2008;78:197-200.
28. Cleland J., Ali M. M. Reproductive consequences of contraceptive failure in 19 developing countries. *Obstet Gynecol.* 2004;104(2):314-20.
29. Westoff CF. New Estimates of unmet need and the demand for family planning. In: Westoff CF, eds. *DHS Comparative Reports No. 14.* Calverton, Maryland, USA: Macro International Inc; 2006: 1-68.
30. Sedgh G., Hussain R., Bankole A., Singh S. Women with an unmet need for contraception in developing countries and their reasons for not using a method. In: Sedgh G., Hussain R., Bankole A., Singh S., eds. *Occasional Report No. 37.* New York: Guttmacher Institute; 2007b: 5-40.
31. Jones R. K., Darroch J. E., Henshaw S. K. Contraceptive use among U. S. women having abortions in 2000-2001. *Persp Sex Reprod Health.* 2002;34(6):294-303.
32. Finer L. B., Henshaw S. K. Disparities in rates of unintended pregnancy in the United States, 1994 and 2001. *Persp Sex Reprod Health.* 2006;38(2):90-6.
33. Singh S., Sedgh G., Hussain R. Unintended pregnancy: worldwide levels, trends, and outcomes. *Studies Family Plan.* 2010;41(4):241-50.
34. Guttmacher Institute. *Facts on the Sexual and Reproductive Health of Adolescent Women in the Developing World,* New York, 2010. Available at: <https://www.guttmacher.org>.
35. Chandhick N., Dhillon B. S., Kambo I., Saxena N. C. Contraceptive knowledge, practices and utilization of services in the rural areas of India (an ICMR task force study). *Indian J Med Sci.* 2003;57:303.
36. WHO. Programming for adolescent health and development. *WHO Technical Report Series.* 1999;886:1-217.

37. Nitwe MT. Teenage pregnancy: A health hazard. *J Obstet Gynecol India.* 1989;39:303-6.
38. Gupta N, Jain S. Teenage pregnancy: causes and concerns. *J Indian Med Assoc.* 2008;106(8):516, 518-9.
39. Narayanan P, Sharma A, Vemuri MD. Adolescent fertility in India: an analysis based on NFHS data. In: Narayanan P, Sharma A, Vemuri MD, eds. New Delhi: Centre for the Study of Regional Development; 2000: 27-28.
40. Office of the Registrar General and Census Commissioner. Primary census abstract: total population. In: Table, A-5 Series 1. New Delhi: Office of the Registrar General and Census Commissioner; 2001: 1-5.
41. Chhabra R., Gupte S. N., Mehta A., Shande A. MTP and concurrent contraceptive adoption in rural India. *Studies Family Plan.* 1988;19(4):244-7.
42. Solapurkar ML, Sangam RN. Has the MTP Act in India proved beneficial? *J Family Welfare.* 1985;31(3):46-52.
43. Aras RY, Pai NP, Jain SG. Termination of pregnancy in adolescents. *J Postgrad Med.* 1987;33(3):120-4.
44. Jacqueline E. D., Sedgh G., Ball H. Contraceptive technologies: responding to women's needs. In: Jacqueline E. D., Sedgh G., Ball H, eds. 1st ed. New York: Guttmacher Institute; 2011: 3-51.
45. Anand B, Singh J, Mohi M. Study of unmet need for family planning in immunization clinic of a teaching hospital at Patiala, India. *Int J Health.* 2010;11(1):1-4.
46. Sushanta KB, Clark KA, Warvadekar J. Results of a government and NGO partnership for provision of safe abortion services in Uttarakhand, India: a pre-and post-intervention evaluation of increasing access to safe abortion services (IASAS) program. In: Sushanta KB, Clark KA, Warvadekar J, eds. IASAS. New Delhi, Ipas; 2009.
47. Singh S., Darroch J. E., Ashford L. S., Vlassoff M. Adding it up: the costs and benefits of investing in family planning and maternal and newborn health. In: Singh S., Darroch J. E., Ashford L. S., Vlassoff M., eds. UNFPA. New York: Guttmacher Institute and UNFPA; 2009: 4-40.
48. Collumbien M, Gerressu M, Cleland J. Non-use and use of ineffective methods of contraception. In: Ezzati M, Lopez AD, Rodgers A, Murray CJL, eds. Comparative Quantification of Health Risks: Global and Regional Burden of Disease Attributable to Selected Major Risk Factors. Geneva: WHO; 2004: 1255-1320.
49. Singh S, Deirdre W, Jones H. Health professionals' perceptions about induced abortion in South Central and Southeast Asia. *Int Fam Plan Perspect.* 1997;23(2):59-72.
50. McDougall J., Feters T., Clark K. A., Rathavy T. Determinants of contraceptive acceptance among Cambodian abortion patients. *Studies Family Plan.* 2009;40(2):123-32.
51. Jejeebhoy SJ, Francis Xavier AJ, Acharya R, Kalyanwala S. Increasing access to safe abortion in rural Maharashtra: outcomes of a comprehensive abortion care model. In: Jejeebhoy SJ, Francis Xavier AJ, Acharya R, Kalyanwala S, eds. Population Council. New Delhi: Population Council; 2011: 1-67.
52. Ganatra BR, Hirve SS, Karvande S, Garda L, Rao VN. Induced Abortions in Rural Western Maharashtra. In: Koenig MA, Jejeebhoy S, Cleland JC, Ganatra BR, eds. Reproductive Health in India: New Evidence. 1st ed. New Delhi: Rawat Publications; 2008: 281-302.
53. Dhillon BS, Chandhiok N, Kambo I, Saxena NC. Induced abortion and concurrent adoption of contraception in the rural areas of India: an ICMR task force study. *Indian J Med Sci.* 2004;58(11):478-84.
54. Johnston H. B., Ved R., Lyall N., Agarwal K. Post-abortion complications and their management. In: Johnston H. B., Ved R., Lyall N., Agarwal K., eds. PRIME Technical Report #23. Intrah, NC: Chapel Hill, PRIME II Project; 2001: 1-23.
55. World Health Organization. Unsafe abortion: global and regional estimates of the incidence of unsafe abortion and associated mortality in 2008. In: WHO, eds. WHO Book. 6th ed. Geneva: World Health Organisation; 2011: 1-56.
56. Sedgh G., Singh S., Shah I. H., Ahman E., Henshaw S. K., Bankole A. Induced abortion: incidence and trends worldwide from 1995 to 2008. *Lancet.* 2012;379(9816):625-32.
57. World Health Organization. Unsafe abortion: global and regional estimates of the incidence of unsafe abortion and associated mortality in 2000. In: WHO, eds. WHO Book. 4th ed. Geneva, Switzerland: World Health Organization; 2004: 1-36.
58. Chhabra N., Nuna S. C. Abortion in India: an overview. In: Chhabra N., Nuna S. C., eds. Ford Foundation. 1st ed. New Delhi: Ford Foundation; 1994: 117.
59. Office of the Registrar General, India (RGI). Maternal mortality in India: 1997-2003 trends, causes and risk factors. In: RGI, eds. Sample Registration System, Series I. New Delhi: Office of the Registrar General, India; 2006: 1-29.
60. Grimes D. A., Benson J., Singh S., Romero M., Ganatra B., Okonofua F. E. et al. Unsafe abortion: the preventable pandemic. *Lancet.* 2006;368(9550):1908-19.
61. Liskin L. Complications of abortion in developing countries. *Popul Rep F.* 1980;F(7):F105-55.
62. Alan Guttmacher Institute. Sharing responsibilities: women, society and abortion worldwide. In: Alan Guttmacher Institute, eds. The Alan Guttmacher Institute. New York: The Alan Guttmacher Institute; 1999: 4-56.
63. Elul B, Bracken H, Verma S, Ved R, Singhi R, Lockwood K. Unwanted pregnancy and induced abortion in Rajasthan, India: a qualitative

- exploration. In: Elul B, Bracken H, Verma S, Ved R, Singhi R, Lockwood K, eds. Population Council. New Delhi. Population Council. 2004: 31-32.
64. Krishnamoorthy S., Thenmozhi N., Sheela J., Audinarayana N. Pregnancy outcome in Tamil Nadu: a survey with special reference to abortion complications, cost and care. In: Krishnamoorthy S., Thenmozhi N., Sheela J., Audinarayana N., eds. Coimbatore, India: Bharathiar University; 2004.
65. WHO. Safe abortion: technical and policy guidance for health systems. In WHO, eds. WHO Book. 2nd ed. Geneva: World Health Organization; 2003. 1-123.
66. Hirve S. Abortion law, policy and services in India: a critical review. *Reprod Health Matters.* 2004;12(24):114-21.
67. WHO, UNICEF, UNFPA. The World Bank. Trends in maternal mortality 1990-2008. In: WHO, UNICEF, UNFPA, eds. The World Bank. Geneva: World Health Organization; 2010: 3-45.
68. Kalyanwala S, Zavier AJF, Jejeebhoy S. Public health facilities and women's access to abortion: a situational analysis in Maharashtra and Rajasthan. In: Kalyanwala S, Zavier AJF, Jejeebhoy S, eds. Population Council. New Delhi: Population Council; 2010: 2-74.
69. Goyal V. Uterine rupture in second-trimester misoprostol-induced abortion after cesarean delivery: a systematic review. *Obstet Gynecol.* 2009;113:1117-23.

DOI: 10.5455/2320-1770.ijrcog20140601

Cite this article as: Kumar N. Current abortion practices in India: a review of literature. *Int J Reprod Contracept Obstet Gynecol* 2014;3:293-300.