Abortion Practices in Nepal: What does Evidence Show?

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Twenty-five years have passed since the global community agreed in Nairobi to address the high maternal mortality by implementing the Safe Motherhood Initiative. However, every year around 22 million women seek unsafe abortion in developing countries. Globally, the unsafe abortion accounts for 13% maternal deaths. Out of the total aborted women, around five million women were admitted to hospitals as a result of unsafe abortion. Similarly, more than three million women suffer from severe complications from unsafe abortion every year. In 2002, responding to the public voices and high attribution of unsafe abortion on maternal mortality, Nepal granted legal access to safe abortion introducing safe abortion act. Women can seek abortion up to 12 weeks of gestation for any indication. However, sex selective pregnancy termination is prohibited in Nepal. This study aimed to assess the results of various studies on abortion practices in Nepal. Literature published in PubMed, Lancet, Medline, WHO and Google Scholar web pages from 1990 to 2014 were used to prepare this paper. From 2004 to 2014, more than half a million women sought safe abortion care in Nepal. Despite the considerable progress, unsafe abortion is still a major issue in Nepal as it has been estimated that it constitutes half of all abortions undertaken every year. Published literature further showed that still an unmet need of safe abortion services exists in Nepal. However, the overall awareness of legal abortion was found to be high among Nepalese women. We found negative attitude of most people towards women who sought abortion care. Similarly, a large number of unmarried women were found at risk for seeking abortion care due to socio-cultural norms, values and stigmas in Nepal.

Keywords: abortion practices; legalization of abortion; medical abortion; surgical abortion; unsafe abortion.

INTRODUCTION

Globally, everyday approximately 800 women die from pregnancy related causes. In 2013, nearly 289,000 women died during and following pregnancy. Almost 99% deaths occurred in developing countries.[1] Achieving millennium development goal five still remains a challenge in most developing countries although maternal mortality reduction has been identified as a priority agenda.[2]

If a woman with an unwanted pregnancy does not have access to safe abortion care, she is at a high risk of undergoing an unsafe abortion. Every year around 22 million women seek unsafe abortion and this occurs mostly in developing countries. Unsafe abortion accounts for 13% maternal deaths. Around 5 million women admit to hospitals as a result of unsafe abortion and more than three million women who have complications following unsafe abortion do not receive skilled care each year.[3–5]

Despite various efforts and liberalization of abortion laws, unsafe abortion remains a major public health concern in developing countries. Access to safe abortion remains elusive for many women because of the urban centered health facilities, poor awareness, costs, cultural issues, and availability of skilled human resources.[6,7]

In 2002, responding to public health, human rights imperatives and the high attribution of unsafe abortion on maternal mortality, Nepal's legal code (*Muluki Ain 1854*) 11thAmendment Bill was adopted by the parliament and granted women legal access to safe abortion.[8,9] Women can seek safe abortion up to 12 weeks of gestation for any indication upon request, up to 18 weeks of gestation in case of rape or incest and at any time during pregnancy in case of mental/ physical illness or if the life of the pregnant woman is at risk as approved by a medical practitioner and at any time during pregnancy if the fetus is deformed and incompatible with life. Additional considerations

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include- only the certified providers are eligible to provide induced abortion services. The pregnant woman alone has the right to choose to continue or discontinue pregnancy, however in the case of minors (< 16 years of age) or mental incompetence; a legal guardian must give consent. Moreover, sex selective pregnancy termination is extremely prohibited in Nepal.[8–12]

Since 2002, in order to regulate abortion laws, the Government of Nepal has initiated various efforts. In 2003, Ipas for the first time conducted training for trainers on abortion care and in the same year government approved the Safe Abortion Procedural Order for establishing safe abortion care. Safe Abortion Advisory Committee allowed the commencement of safe abortion services in approved health facilities. In 2004, legal abortion services started for the first in some selected government hospitals of Kathmandu, Nepal. In the same year, manual vacuum aspiration training course was also started for service providers. The Abortion Task Force was dissolved and a technical committee for planning and implementing the comprehensive abortion care services was formed throughout the country. In 2007, government introduced second-trimester abortion services. Similarly, midlevel provider training was started and medical abortion scale of strategy was approved in 2007 and 2008 respectively.[8,9,13]

Eight hundred eight-one physicians and 371 staff nurses were trained for safe abortion care and 255 auxiliary nurse midwives received midlevel abortion training from 2002 to 2011. Similarly, 532 safe abortion care health facilities including private sectors were registered and established covering all 75 districts. At the end of 2011 throughout the country, 497,804 women sought the safe abortion.[8,9,13] Despite such considerable progress, unsafe abortions are still a major issue in Nepal as it has been estimated that they constitute only half of all the abortions undertaken every year. In Nepal, estimated 97,400 illegal abortions occurred in 2008 which was likely equal to those done by unregistered providers.[9,14] This indicates the unmet need of safe abortion services in Nepal. This paper examines the published research findings on abortion care practices in Nepal from 1990 to 2014.

METHODS

For assessing the scientific publication on abortion practices in Nepal, we searched and analyzed all available scientific writings published from 1990 to 2014. We decided to start from 1990 considering that Nepal's first National Health Policy was launched in 1991. We used the various key words such as "Nepal" and "abortion/medical abortion/unsafe abortion/ pregnancy termination/access of safe abortion/ induced abortion." We developed search strategy based on search terms and used filter to confine the publication period.

The main sources for our literature searching are PubMed, ScienceDirect, Google Scholar, Cochrane Library, World Health Organization and Ministry of Health and Population of Nepal homepages. First, we collected available literature and screened them for unrelated as well as duplicate items. Second, we classified all literature into three groups, i.e. original articles, review articles and other publications. We found 58 relevant publications, out of which we located 38 original articles, six review articles and 14 other publications such as comments, talking points, editorials, view points, working papers, conference papers, unpublished thesis, reports and case reports. We selected 38 peer-reviewed original articles to assess the abortion practices in Nepal, of which five articles were based on community based studies and the remaining articles were based on the health facilities based studies (Figure 1).

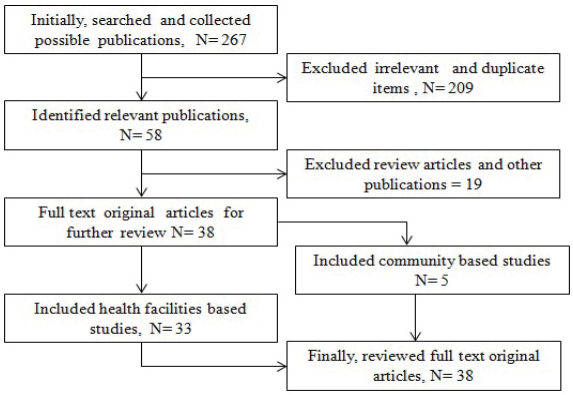

Figure 1: Flow diagram of literature search and management

RESULTS

We analyzed 38 articles considering objectives, designs, methods, study sites, sample size and major findings of the studies which are presented below (Table 1 and 2).

Table 1. Analysis of community based original articles on abortion practices in Nepal published from 1990 to 2014.

Studies	Objectives	Designs	Study sites	Sample size	Key findings
Tamang and Tamang 2005[15]	- Gauge current awareness of the availability of medical abortion drugs in Nepal, - Explore feeling of health professionals about the use of Medical Abortion (MA) to expand access to safe abortion in the country.	Community based cross-sectional survey	Across the country: urban and peri-urban areas of Terai, inner Terai and Kathamndu valley	Private obstetrician–gynaecologists 49, general practitioners 55, paramedics 168, ayurvedic and homeopathic practitioners 62 and chemists 177	- Allopathic and indigenous medicines available, knowledge of the availability of mifepristone misoprostrol was low. - Many were interested in MA themselves.
Puri et al 2007[16]	Explore factors associated with abortion decisions among young couples in the context of recently legalized abortion in Nepal.	Community based cross-sectional survey and qualitative study	Five districts of Nepal: Ilam, Morang, Chitwan, Kaski, and Lalitpur	For survey Women- 997 Men-499 For qualitative study Women -19 Men- 11	- Half had experienced an unwanted pregnancy and some attempted abortion, however only few succeeded. - In decision-making husband and providers played a major role.
Thapa et al 2009[17]	Reveal the understanding of abortion in Nepal among marginalized and underserved community.	Community based qualitative	Throughout country (selected six districts and NGO/INGOs)	FGD- 13 KII- 22	- Despite misconceptions, many consulted providers for safe abortion. - Legalization of abortion was not enough to address the unmet need.
Thapa and Sharma 2012[18]	Assesses the effectiveness of programmatic interventions in the early years of the country's abortion program.	Cross-sectional survey	DHS data 2006 which covered whole country	- 9926 (15-44 years old married women)	- 32% were aware on safe abortion and 56% knew where to go for safe abortion service (SAS). - There was variation by ecological regions, education, age and number of living children.
Hald and Sonder-gaard 2014[9]	Explore a local community's perception of the situation for unmarried Nepalese women wanting to practice their legal right to abortion	Cross-sectional survey / qualitative and quantitative	Makwanpur District, Nepal.	- For survey 55 - For in-depth interview 16	- Overall awareness of legal abortion was found high. - People's attitude was negative to women who sought abortion. - Unmarried women were found at higher risk to seek abortion due to socio-cultural norms, values and stigmas.

Table 2. Analysis of health facility based original articles on abortion practices in Nepal published from 1990 to 2014.

Studies	Objectives	Designs	Study sites	Sample size	Key findings
Rayamajhi et al 2003[19]	Study the reasons of abortion and outcomes of unsafe abortion.	Health facility based cross-sectional analysis	Tertiary level hospital, Dharan	877 abortion related cases	- 11% of complication was sepsis. - 2/3 abortions were performed by quacks.
Rana et al 2004[20]	Study maternal mortality and morbidity in induced septic abortions.	Retrospective record analysis	Purposively selected a teaching hospital	92 cases of induced abortion from 1992 to 1999	- Of induced abortion 6% faced life-threatening conditions and some died.
Thapa et al 2007[21]	Assess whether unsafe abortions are getting lesser after the establishment of CAC unit.	Descriptive retrospective records review	A tertiary level maternity hospital in Kathmandu	12,481women's records were reviewed who attained hospital for abortion care	- There was a decline in the admission of serious cases of induced abortion.
Duwadi and Shrestha 2007[22]	Determine the reasons that lead to choose abortion, assess the involvement of partner.	Health facilities based cross-sectional study	8 clinics of Family Planning Association of Nepal	304 women from FPAN clinics	- Maternal education was a strong predictor of SAS. - Half accompanied by husband for CAC.
Vaidya and Giri 2008[23]	Assess the morbidities as results of unsafe abortion after legalization.	Descriptive prospective study	A tertiary level maternity hospital in Kathmandu	5592 women who sought abortion related care	- Unsafe abortion was 2% . - 61% were in their second trimester and peritonitis (12%) was the major morbidity.
Karki et al 2009[24]	Assess the feasibility and acceptability of a simplified mifepristone–misoprostol regimen.	Cross-sectional prospective data collection	2 teaching hospitals and 2 family planning clinics	400 women in early pregnancy	- 91% had successful MA. - 89% preferred misoprostol at home.
Chawdhary et al 2009[25]	Compare the efficacy of mifepristone and misoprostol with misoprostol alone for MA up to 63 days	Quasi-randomized controlled trial	A public teaching hospital, Kathmandu.	Group A 50 women and group B 50 women	- Fewer side effects and a more complete abortion rate (94%) was observed in group A (mifepristone and vaginal misoprostol).
Regmi and Madison 2010[26]	Evaluate patient satisfaction with the new second-trimester abortion services in Nepal.	Purposive institutions based study	One public and one private hospital in Kathmandu	50 women who sought abortion care service	- Abortion clients were satisfied and well counselled. - There was some lack of privacy and confidentiality
Tuladhar and Risal 2010[27]	Study the level of awareness about legalization of abortion in women attending gynecology OPD.	Descriptive cross-sectional study	Purposively selected a teaching hospital in Kathmandu	200 women who sought gynecology services from OPD.	- 66% were aware of legalization. - Young women with higher education were more aware about it.
Shrivastava et al 2010[28]	Find out the profile of abortion clients	A prospective study	A tertiary level maternity hospital	57 clients who sought second trimester abortion	- Most common reason of abortion was multiparty (61%) .
Regmi et al 2010[29]	Find out the contribution of unsafe abortion to maternal mortality/morbidity.	Health facility based study	A tertiary level hospital, Dharan Nepal	70 women who sought unsafe abortion	- 52% had high grade complications. - 11% died due to unsafe abortion.
Lamichhane et al 201130	Examine provider's perspectives on sex-selective abortion on legal abortion in the public sector.	Qualitative study: in-depth interview	Four public hospitals: two in Kathmandu valley and two outside valley.	35 in-depth interview with providers and administers of hospitals.	- Despite ban, sex selective abortion as an increasing problem. - Availability of abortion, USG were contributors of sex selective abortion.
Warriner et al 2011[31]	Assess early first-trimester medical abortion provided by midlevel providers was as safe/effective.	Multicentre randomized controlled equivalence trial	Five rural district hospitals in Nepal	Assigned to doctor- 514 and midlevel providers- 518	- 1% were failed abortion in the doctor cohort and none in the midlevel provider cohort.

Bingham et al 2011[32]	Reveal results from Dialogues for Life, undertaken in Nepal from 2004 to 2006, after abortion was legalized in 2002.	Intervention study	Kathmandu Valley and Rupandehi District.	478 people were participated in Dialogue Group Sessions and 20 session were conducted	- Despite the legalization, women faced barriers. - Interpersonal communication interventions play an important role.
Andersen et al 2012[33]	Estimate the frequency and type of abortion complications arising from CAC	A prospective study and cluster sampling strategy	Sampled CAC facilities throughout the country	7386 abortion clients	- 2% had complications. - Women receiving CAC at 4-5 weeks were less likely to have complications.
Tamang et al 2012[34]	Investigate factors associated with women's choice of medical abortion (MA) or manual vacuum aspiration (MVA).	Exit interview with women who sought abortion care (1 each every 4/5 clients)	7 clinics of 3 districts of Nepal	MA clients: 499 MVA clients: 542	- Many were not aware of MA and MVA methods and the odds of choosing MA were more than 3 times high among those who knew both methods. - MA was high compared to MVA.
Khanal et al 2012[35]	Explain the perceptions, practices and factors affecting the use of family planning among abortion clients attending SAS.	Health facility based cross sectional study	A tertiary level public health facility in Kathmandu	58 women who are going to seek abortion care in the near future.	- Main reason of the abortion was unwanted pregnancy. - Knowledge of modern contraception was high 98%, knowledge of emergency contraception was low
Möller et al 2012[36]	Investigate the experiences, opinions and attitude of providers on SAS centres in the Kathmandu.	Facility based qualitative study	One hospital and four clinics from Kathmandu valley	15 doctors and nurses	- prevent abortions from being used instead of contraceptives; - stop illegal medical abortions; - deal with the dilemma of sex-selective abortions
Puri et al 2012[37]	Examine health care workers' views on abortion legalization, and changes that they have observed in their practices.	Facility based qualitative study: in-depth interview	Four tertiary level hospitals: two from Kathmandu and two from outside valley	35 in-depth interviews with doctors, nurses and other providers	- Most had positive views about abortion legalization. - The proportion of women obtaining abortion services was increasing.
Thapa and Neupane 2013[38]	Investigate similarities and differences between abortion clients.	Facility based cross-sectional study	Health facility based study	1,172 women from two clinics	- 50% of the public and 35% clients of the NGO clinic reported use of contraceptives.
Paudel 2013[39]	Assess the immediate impact of MA on women's health and clients' satisfaction.	Descriptive study	A Center in Lalitpur	100 women who sought medical abortion	- MA was successful in 91%. - 79% were satisfied with MA.
Panta et al 2013[40]	Compare efficacy and safety of MA with surgical abortion in a district hospital	Facility based observational study	Purposively selected a district level health facility	MA 48 cases and manual vacuum aspiration-35	- From MA, 95% and 97% MVA aborted completely.
Henderson et al 2013[41]	Assess the maternal health effects of unsafe abortion.	Cross-sectional study	Retrospective study from 4 public centers	23,493 women who sought abortion service	- Reductions in sepsis occurred sooner, during early implementation.
Paudel et al 2013[42]	Find out the prevalence and the pattern of abortion	Retrospective records review	A tertiary care hospital in Kathmandu	4830 records of induced abortion.	- Abortion contributed to about 1.68% of the total patient.
Rocca et al 2013[43]	Investigate abortion practices of Nepali women requiring post-abortion care	Cross-sectional study	Four major public hospitals	527 women presenting with complications	- Out of medically induced abortion, 89% took unsafe, ineffective or unknown substances.

Thapa and Neupane 2013[44]	Examine the incidence and risk factors of repeat abortion in Nepal.	Health facility based prospective survey	Two approved abortion clinics in Kathmandu	1172 women who had surgical abortions	- One-third women had repeat abortions.
Berin et al 2014[45]	Compare knowledge and attitudes about contraceptive among women seeking induced abortion	Cross-sectional cohort study with matched controls.	Kathmandu Medical College, Kathmandu	64 cases for abortion service, 89 controls (women who sought medical care)	- Women with higher education were less likely to seek an abortion than women with lower education.
Gerdts et al 2014[46]	Assess the denial of abortion in legal settings	Cross-section study	2 abortion provider clinics	300 women sought abortion	- In Nepal, 26% of women were denied abortions
Rocca et al 2014[47]	Assess contraceptive information received and methods chosen, received, and used among women having abortions.	Prospective follow –up study (base-line and end-line survey)	Two non-governmental clinics and two government hospitals from across Nepal.	830 participated from four health facilities.	- 1/3 did not receive any information on contraceptives, 56% left facilities without any method. - Depo-Provera (88%) and pills (75%).
Puri et al 2014[48]	Determine the effectiveness of engaging mid-level health workers to provide medical abortion services.	Operation research	As study site: Rupandehi district and as control site: Kailali district	16 health facilities and 126 FCHVs from study area and 8 health facilities and 96 FCHVs from control area	- MA care provided by nurses/ANM was reported to be accessible, effective, and of good quality by clients who received MA.
Puri et al 2014[49]	Assess the effectiveness of training for ANM as MA providers, and FCHV as referral agents for expanding access to MA	Intervention study (comparison between study group and control group)	As study site: Rupandehi district and as controlled site: Kailali district	16 health facilities and 126 FCHVs from study area and 8 health facilities and 96 FCHVs from control area	- ANM were confident in conducting MA safely and effectively. - FCHV were effective change agents for MA.
Conkling et al 2014[50]	Assess acceptability of self-administration of mifepristone at home.	A prospective study	Hospital based study	200 women	- For MA, 72% opted to take the mifepristone at home from which 95% succeeded, 94% succeeded in the clinic
Padmadas et al 2014[51]	Investigate timing of contraceptive use and estimate discontinuation rate of temporary methods.	Population-based cross-sectional study	Nepal Demographic and Health Survey data 2011	3190 women who had at least one pregnancy	- 43% had not initiated contraceptive use in following 12 months. - The discontinuation rate was higher in the post-abortion group.

Most scientific studies and publications on abortion practices in Nepal were conducted and published after legalization of the abortion care services since 2002. Nearly 90% studies were conducted in the health facilities of Kathmandu valley and other big cities and followed quantitative techniques. Nearly three-fourths papers were published in the last five years. Out of the total scientific publications more than two-thirds were published in international journals. Similarly, out of the total publications in national as well as international journals, the first authors of more than two-thirds of publications were also Nepalese researchers.

DISCUSSION

This study was focused to assess the abortion practices in Nepal and relevant scientific publications before and after the legalization of abortion care services. After analysis of available literature, we concluded that safe abortion practice has been increasing steeply since legalization of abortion care services in the country. However, unsafe abortions still take place in

various parts of the country, particularly in rural and remote areas.

More than two-third women were aware of legalization of abortion in Nepal. Studies showed

that the medical abortion has high successful rate and fewer side effects, even though both medical and surgical abortions are being practiced in Nepal. For seeking the abortion care husband and health service providers played a major role in the decision making process[16,25,29] which emphasizes the empowerment of women and their reproductive autonomy.

We noticed significant variation in abortion practices by ecological and development sub-regions, residence, education, household wealth quintile, age and number of living children. Merely legalization of abortion is not enough to address the unmet need of safe abortion and reduce the burden of unsafe abortion.[18,42,51]

The decision making for abortion was found to be at risk for most of the Nepalese women due to socio-cultural norms, values and stigmas; however, unmarried women were found to be at higher risk. Still, proportion of unwanted pregnancy is higher in Nepal.[9,27,32] A study showed that one-third of women did not receive any information on contraceptive methods, and 56% left facilities without any method from public health facilities.[47] Many women did not use any contraceptives before termination of pregnancy and nearly one-third women had repeated abortion[17,22,28,35] which indicates that many women sought abortion as alternative of family planning. It further gives us an idea about unmet need of family planning services in Nepal. Similarly, more than half of the women did not initiate contraceptive methods after abortion.[51]

Nearly two-third unsafe abortions were reported in second trimester and pelvic peritonitis was the major cause of morbidities. However, there was a downward trend in the proportion of serious infection, injury and systemic complications[19,21,23] which reflects the increased access of safe abortion care services in Nepal. More than two-thirds women were aware of sex-selective abortion in Nepal. Despite the strong restriction of sex selective abortion, the high sex ratio difference of the new-borne child indicates that the sex-selective abortion is being practicing consistently in Nepal. The increased access to abortion services and sex screening technology along with high value of male child in the society are contributing for sex selective abortion in Nepal.[30]

Despite the intensive review, we confined our search only on the free accessed literature and limited paid accessed WebPages from 1990 to 2014. So, this paper may not cover all the published literature on abortion care practices of Nepal. Out of the accessed literature, this paper primarily concentrated on the original articles either conducted in community or in health facility. The analysis focused mainly on objective, design, methods, sample size, study sites and major findings of the studies. However, this paper reveals the existing situation of abortion care practices in Nepal and scientific publications on this issue. For further assessment of the scientific literature on abortion practices of Nepal, we suggest more systematic reviews as well as meta-analyses studies.

CONCLUSIONS

After legalization of abortion care in Nepal, the utilization of safe abortion care was found to have increased steeply. Many abortion care health facilities were established and a large numbers of health care providers were trained in abortion care. Despite the various efforts, a significant number of unsafe abortion practices still exist in Nepal. Poor access to the abortion care services in remote and rural areas and socio-cultural norms, values, stigmas and so forth are the major contributing factors for unsafe abortion practices in Nepal. For addressing the unsafe abortion issues, state should ensure that all women should have access to the safe abortion services. The abortion should not be promoted instead of contraceptive methods and sex-selective abortion most be prohibited strictly.

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DISCLOSURE

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