

Abstract

Introduction

Unsafe abortions frequently endanger the lives of Asian women. Research on diverse aspects of this important public health problem is considered an urgent need.

Methodology

Six hundred and sixty five women with a history of an unsafe abortion were compared with a control group of pregnant women who had never undergone an abortion. The processes of abortions were summarized. The two groups were compared to identify factors that may raise the risk of resorting to an unsafe abortion. The significance and the strength of respective associations were determined using regression analysis.

Results

Unmet needs in family planning accounted for 73% of unsafe abortions. Over 84% of women knew undergoing an unsafe abortion could lead to serious life threatening conditions. Seventy five percent knew that abortion was illegal. Nearly 92% of unsafe abortions were performed surgically, mostly by unqualified personnel. Risk factors identified included; economic hardships, lower educational standards, poor religious devotedness, perceived burden of child rearing, poor lower family and social support, strained marital relationship, peers influence in reproductive decisions and having an important life goal that is likely to be obstructed by having a pregnancy.

Conclusion

Awareness on potential complications or legal restrictions did not prevent women from resorting to unsafe abortion. The quality of services received by abortion seekers was very poor. Ensuring access to family planning alone may result in a significant reduction in the burden of unsafe abortion.

Keywords

unsafe abortion, Sri Lanka, Asia, reasons, risk factors

Introduction

Compared to induced abortions performed in the developed region of the world, those performed in Asia could be considered more fatal or damaging. About 324 out of 100,000 women undergoing induced abortions in Asia die from its complications. The corresponding rate for developed regions is less than one per 100,000 abortions. Around the world, about 68,000 maternal deaths are attributed to the complications arising out of induced

abortions. Nearly a half of those are reported from Asian countries [1, 2, 3, 4, 5]. In addition to the greater burden of deaths, the morbidity resulting from induced abortions are also commoner among Asian women. About 20 % to 50 % of Asian women seeking induced abortions are known to experience complications such as hemorrhage, sepsis, peritonitis, trauma to the reproductive tract and neighboring abdominal organs and sub-fertility.

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In addition, pelvic inflammatory disease, ectopic pregnancy, premature delivery, and spontaneous abortions in subsequent pregnancies often add to the suffering (6). Hence, it could be concluded that most induced abortions in performed in the Asian region are unsafe. In some Asian countries, including Sri Lanka, abortions are legally restricted. As a result, abortions are practised in clandestine situations, mostly by unqualified persons. Even when induced abortions are performed by qualified persons, they are often conducted in environments where even minimum medical and hygienic standards are not observed. Consequently, the majority of induced abortions in the Asian context become unsafe. Despite strict legal restrictions, a very large number of abortions are reported in Sri Lanka. A national survey conducted in 1999 reported an abortion rate of 45/1000 women in the 15-49 year age group. This rate translates into an abortion: live birth ratio of 75% and indicates that induced abortions could be attributable to a larger proportion of population control in the country. A larger proportion (94%) of induced abortions in Sri Lanka was reported among married couples. The abortion rate among 'ever married' women was reported as 58/1000 while that of unmarried women remained at 12/1000 [7]. Around 10- 13 % of maternal deaths occurring in Sri Lanka result from unsafe abortions. However, due to an impressively low maternal mortality ratio in the country (38/100000 live births), the absolute number of women dying of the complications of induced abortions is on average less than 20 per year [8]. Sri Lanka's health system is regarded as one of the most cost effective systems in the region. However, at present, the policy

attention given to induced abortions which is a significant public health problem could not be considered adequate. The national health programme mainly relies on the provision of free family planning services and health education on the adverse outcomes of abortion as primary preventive measures. The prevailing religious and social pressures preclude the possibility of providing safe abortion services through the government health system. Advocacy and awareness missions addressing the impact of unsafe abortion often find it difficult to find context specific information to reinforce their policy and strategic attempts. This study aimed to study the circumstances, processes, and psychosocial and cultural risk factors resulting in induced abortions in Sri Lanka.

Methodology

Study design

The study used two designs. The first, a cross sectional component focussed on circumstances, processes and outcomes of induced abortions in a group of women. The second, a case control component aimed at identifying the potential factors that influenced women's propensity to resort to induced abortions.

Study populations and study units

Sri Lankan women who seek unsafe abortion were the primary study population. The population from which the control group was selected included women, who were pregnant and had never undergone an unsafe abortion. Abortion seekers (cases in the case control component) were defined as

women who had been subjected to an unsafe abortion during the 18 months prior to the study. A woman was considered to have undergone an unsafe abortion, if she admitted on questioning that she had her pregnancy terminated either by an unskilled person or by a qualified doctor at a private place. Induced abortions, even when they were performed by qualified persons, were considered unsafe. They were most likely to be carried out in clandestine situations without adequate safety standards and hence had a high potential of being unsafe. The respondents were excluded if the abortion was carried out in a government facility for a medical reason to save the life of the mother or when they did not give their consent to be interviewed.

Women carrying wanted pregnancies over 28 weeks or more at the time of interview were considered as controls of the case control component. If a woman desired to have another child at the time she became pregnant, that pregnancy was defined as wanted [9].

By definition a control should be a person who is at the risk of becoming a case or a person, who would be considered as a case had the person, developed the outcome [10]. Based on this contention, a pregnant woman, who had never undergone an unsafe abortion previously, was considered as at risk of resorting to an abortion at any time until she reached the 28th week of pregnancy. Provided this woman had preserved her pregnancy until after this time she could be considered as having experienced the risk, but not faced the outcome. Had she resorted to abortion anytime before the 28th week she would have been considered as a case. Therefore, she

becomes an appropriate control for modeling the risk of abortion. Exclusion criteria for controls included ever having a history of an induced abortion or declining to give the consent.

Sampling procedures and sampling adequacy

Separate samples of respondents were obtained from the four main ethnic groups of the country, as it was assumed that abortion seeking was influenced by ethnicity. In Sri Lanka, Sinhalese are found in most districts except in the Northern Province. The majority of Sri Lankan Tamils are found in the districts of the Northern and Eastern provinces while Indian Tamils are found mostly in the Nuwara Eliya and Badulla Districts. Only a relatively smaller proportions (less than 10%) of Sri Lankan and Indian Tamils live in other districts. Most Muslims are found in the Ampara, Kandy and Colombo Districts while a smaller proportion of Muslims live in other districts. The above-mentioned geographical segregation of ethnic groups was considered as a stratification criterion for sampling. Four separate strata were identified. The Sinhalese living in 18 districts were considered as the first (Sinhalese) stratum. Sri Lankan Tamils living in Northern and Eastern Provinces were considered as the second (Sri Lankan Tamil) stratum. The Indian Tamils from Nuwara Eliya and Badulla Districts were the third (Indian Tamil) stratum while Muslims living in Ampara, Kandy and Colombo Districts were considered as the fourth (Muslim) stratum.

The smaller proportions of different ethnic groups found outside their respective strata were disregarded during the sampling. It was assumed that they were not different from their counterparts in corresponding strata.

Within each of these strata a separate multistage cluster sample of cases were identified. In each stratum, the hierarchical arrangement of population distribution (i.e. Province-District-Medical Officer of Health (MOH) Division- Public Health Midwife (PHM) Area) was considered as the frame work for sampling.

A pilot study indicated that identifying abortion seekers was difficult, as they often decline to be exposed due to the legal restrictions and stigma associated with induced abortions. Hence, it was decided that not more than two abortion cases could be found in one PHM area during the time allocated for the study. Therefore two-stage random samples of 150 PHM areas (clusters) were identified from each stratum. Within each PHM area the PHM was requested to systematically and confidentially inquire from women under her care who had undergone an abortion during the past 18 months until she found two such cases. She was also asked to randomly identify two pregnant women who conformed to the control criteria from her pregnant mothers' register. More than 95% of pregnant mothers are reported to be covered by PHM registration. The refusal rate was around 10 percent among women who admitted having undergone an unsafe abortion and those declining to be interviewed. The actual refusal rate would have been higher as it may have included those who had concealed their unsafe abortion experiences.

The original intention was to recruit 300 abortion cases from each of the three ethnic strata (total 900) included in the study. However, only 665 abortion cases could be identified during the period of time allocated for the data collection. This sample included 282 Sinhalese, 163 Sri Lankan Tamil, 81 Estate Tamil and 139 Muslim women who had undergone unsafe abortions during the 18 month prior to their interviews. Corresponding numbers of controls (women who were carrying an unwanted pregnancy and those carrying wanted pregnancy) were also recruited from the same PHM areas in 1: 1 proportions. The final sample included 665 women who underwent abortions and 667 women who were carrying wanted pregnancies.

Measurements and Instruments

In addition to the questions verifying the eligibility of respondents as cases or controls, the information on area of residency, age, ethnicity, religion, education, socio-economic status, reproductive information such as current marital status and parity were collected as important background variables. The questions aimed at eliciting the process of abortion were limited to the cases and they were categorized into several major themes.

These themes included: a) pathways leading to abortion decision making; b) barriers for accessing abortion services; c) method used for abortion; and d) complications of abortion. Each of these themes was further subdivided to generate a comprehensive account of the abortion process.

Data pertaining to a large number of psychosocial, cultural and environmental variables were considered as potential factors influencing the risk of resorting to unsafe abortion. They include a) the respondent's subjective assessment on the overall financial adequacies relevant to the needs of the family during the preceding month-- considered as a proxy for income adequacy. b) difficulties encountered in simultaneous management of child rearing and other family responsibilities, c) burden imposed by an additional child for achieving future goals of the family and on the care of the existing children, d) feeling of the responsibility of educating one's children as a burden, e) level of support available for respondents from family members in child rearing activities, f) premarital sexual experience, g) age at sexual debut, h) number of children, and i) age of the last child. The proportional differences in the distribution of these factors between cases and controls were used to evaluate their roles as potential factors that influence abortion behavior.

The data of the study were collected by the same PHMs who identified the respondents. The area PHMs usually have a close and trusting relationship with women in the reproductive ages as a result of maternal and child health field services they provide to them. Therefore, they were considered as the most likely and skilful personnel to elicit sensitive information related to a topic such as abortion from the respondents. The Principal investigator trained the PHMs selected for the study on the theoretical and practical aspects of data collection.

The data collection was carried out with the consent of the respondent using a structured interviewer schedule at the respondents' households by prior appointment. To ensure privacy, only the respondent and the PHM were present during the interview.

Analysis

As a disproportionate number of respondents from different ethnic groups of the country were included, the final descriptive statistics were obtained using weighted analysis. The weights were based on the current ethnic proportions of the country.

The risk assessments were done by conducting binary conditional logistic regression procedure. Case (abortion seeker) control (pregnant mother who never had an induced abortion) status was considered as the outcome variable. Each of the independent variable was modelled in a uni-variate manner. Odds ratios and 95% confidence intervals were calculated. As the strata were based on the ethnicity and the controls were also selected from the same strata, the cases and controls were matched by ethnicity (and partially by the religion). Hence the stratum variable is considered as the group variable in the conditional logistic regression to ensure matched analysis. The resulting measures of association were adjusted for ethnicity. This would have also accounted for the initial assumption that the abortion behaviours may have been influenced by the ethnic background.

Results

Profile of the sample

The sample consisted of 665 women who had undergone an induced abortion during the period of 18 months prior to the data collection (cases) and 667 women who were carrying a wanted pregnancy over 28 weeks at the time (controls). They were recruited from the four strata defined above and consisted of women from the four major ethnic groups in Sri Lanka. On average, cases (31.1 years) were three years older than the controls (27.9 years) and this difference was statistically significant ($t = -9.9$, $d.f. = 1262$, $p < 0.0001$).

The following table present the distribution of cases and controls by their ethnicity, religion, marital status and educational level. (table 1)

Chi squared comparisons indicated that the two groups were comparable with respect to the distribution of these variables except in educational achievements.

A relatively higher proportion of cases were in the 'primary or no education' category compared to controls.

Reasons

Unmet needs in family planning accounted for the majority of abortions. Out of 665 women who underwent abortions, nearly 73% did not want to have a child at the time of conceiving the pregnancy, which they aborted. They were also not practising any form of contraceptive method at the time. For nearly one third of the sample the commonest reason for resorting to abortion was getting pregnant while

nursing a very young infant. About 23% had completed families and did not want another child. Lack of help at home for child rearing, perceived sense of aging, and having already grownup children were other common reasons for abortion. Table 2 presents the reasons for resorting to abortions.

Facts behind the decision to seek an abortion

Among the 665 women who underwent abortions, 84% made the decision for abortion despite the knowledge that abortion can result in serious life threatening sequelae. About 23% were aware of a woman who had experienced a serious complication following abortion. Nearly 75% were aware that abortion was illegal. Little more than half (56%) had a friend or a relative who had undergone an abortion previously. Finding a provider in a clandestine environment was not difficult. The providers were found in abundance and about 71 % were aware of a provider even before they had decided on an abortion. About 69% had access to information about a provider through a friend or a relative.

A considerable social stigma seemed to surround the act of abortion among women. Investigators reported difficulties in finding consenting participants to the study even after they admitted that they had undergone an abortion. This reluctance was ethnic specific and was observed mostly among Muslim women followed by Tamil and Sinhalese women in that order. One of the main concerns focussed in identifying a provider and the timing of the abortion was the need for secrecy. Most women (84%) had tried to find a

Table 1
Distribution of respondents by socio demographic characteristics

| Characteristic | Women who have undergone an abortion (Cases) <i>n (%)</i> | Women with wanted pregnancy (Controls) <i>n (%)</i> | Total <i>n (%)</i> |
|---------------------------------|---|---|------------------------------|
| Ethnicity | | | |
| Sinhalese | 282 (42.4) | 306 (45.9) | 588 (44.2) |
| Sri Lankan | 163 (24.5) | 132 (19.8) | 295 (22.2) |
| Tamils | 81 (12.2) | 92 (13.8) | 173 9(13.0) |
| Indian Tamils | 139 (20.9) | 137(20.5) | 276 (20.7) |
| Moors | | | |
| Religion | | | |
| Buddhism | 210 (31.6) | 232 (34.8) | 442 (33.2) |
| Hinduism | 205 (30.8) | 191(28.6) | 396 (29.7) |
| Christianity | 111(16.7) | 107 (16.0) | 218 (16.4) |
| Islam | 139 (20.9) | 137 (20.5) | 276 (20.7) |
| Marital Status | | | |
| Married or living together | 625 (94.0) | 664 (99.5) | 1289 (96.8) |
| Unmarried at present | 40 (6) | 3 (0.5) | 43 (3.2) |
| Educational Achievements | | | |
| Primary or no education | 174(26.2)*** | 87(13.0)*** | 261(19.6) |
| Secondary | 358(53.8) | 308(46.2) | 666(50.0) |
| Post secondary | 133(20.0) | 272 (40.8) | 405(30.4) |

(***Chi square test indicated a significant difference (at 5% level) between cases and controls)

Table 2. Reasons /circumstances that led to unsafe abortions

| Reason/circumstance | % (n= 665) |
|--|---------------|
| I am still nursing an infant, . Hence it was difficult to rear another one | 31.6 |
| Due to economic hardships | 23.1 |
| We had already completed our family | 22.5 |
| I felt shy to have a child as I have grown up children | 18.2 |
| I had medical problems that made pregnancy a problem | 13.1 |
| I felt I was too old to rear a child | 12.0 |
| I had no one to help me to look after children | 11.1 |
| I was unmarried | 6.4 |
| I did not expect a child so soon after marriage | 5.3 |
| Pregnancy resulted from an extramarital affair | 4.7 |
| I was waiting to go abroad for a job , the pregnancy was obstructing the opportunity | 4.3 |
| As my partner refused paternity | 2.9 |
| I was expecting a job and the pregnancy would have prevented it | 1.1 |

*(More than one response was obtained from a respondent.
Hence % may not be add up to 100)*

provider located away from their area of residence. About 6 % of women who underwent abortions had to delay the decision and present after 12 weeks of pregnancy for this reason.

The decision for accepting an abortion was made mostly within the nuclear family. Coercion for undergoing an abortion was not mentioned as a contributory factor by any of the respondents. Among 51% of the cases, the decision for undergoing abortion was shared with the husband. Nearly 16 % women made a unilateral decision in seeking an abortion. In 18% of cases the decision was made solely by the husband. Extended family members also contributed to the decision among 11% cases while a health worker had a role only among 1 % of cases.

Providers and their interactions

About 58% of abortions were carried out by persons who did not have a basic medical training needed for performing a safe abortion. They included quacks, ayurvedic physicians, paramedics such as pharmacists, and traditional healers. Government medical officers conducted abortions on 18% of cases in their private clinics. The other 24% of respondents were not aware of the profiles of their providers.

The client-provider interaction during the process of abortion was varied. In general providers had maintained a monologue while dealing with their clients. However 70% of respondents reported that providers discussed cost implications of the procedure at the out-set. Only 27 % of the providers

explained the procedures to be followed during the abortion. Clinical examinations were carried out on 41% of respondents. The examination procedures described by the respondents included abdominal palpation, vaginal examination, urine tests and ultrasound examinations. However, there was no consistent pattern in the examination procedures followed. They were haphazardly done and carried out among only a certain percentage of cases.

Communication between the client and the provider occurred relatively more often once the abortion was completed. Nearly half of the clients were reassured by the providers by informing them that the abortion was successful and that there was nothing to be afraid of. About 70 % of the clients were asked to start a contraceptive method, while almost all of them were requested not to reveal the fact that abortion has been carried out and never to tell who the provider was, if anything happened. Only 10 % of them were advised to go to a hospital if any problem occurred.

Three of the respondent informed that they had to comply with their providers sexual advances before they were subjected to abortions. These providers seemed to take the advantage of these women's desperate need for secrecy about abortion as their pregnancies had resulted from extramarital affairs.

Methods used for abortion

Nearly 92% (n=665) of abortions were carried out using surgical methods. According to the descriptions provided by the respondent, 56% were done by Dilatation and Curettage and 36% were

vacuum extractions. Another 8% of respondents described non surgical procedures such as the use of drugs and inserting solid or liquid materials into the vagina. It is interesting to know that even though most providers were not trained medically they managed to perform a large number of abortions successfully.

Complications

Respondents reported six types of complications following abortions. About 87 % had experienced bleeding of varying severity. About 79 % of them had mild to moderate bleeding for a few hours (36%) or a few days (48%) and managed to recover without intervention. The rest (8%) had experienced heavy bleeding and had to seek medical attention including blood transfusion. Significantly severe pain that was ill attended was reported by 39% of respondents. Drowsiness (35%), fever (11%), and vaginal discharge (5%) were among other complications experienced after abortions.

Factors influencing the risk of abortion

Risk factors were identified by comparing a group of women who have undergone unsafe abortions (cases; n=665) with a group of women who had never attempted an abortion during life time and presently in a pregnancy of more than 28 weeks of gestation (Controls; n = 667). The comparative logic was that both the cases and controls had experienced pregnancies while cases decided to abort and the controls continued the pregnancy. Hence, their systematic differences may reflect risk factors for women to seek

abortion. The univariate odds ratios in the presence of several risk factors among cases and controls after adjusting for the stratification factor (ethnicity) were determined using conditional binary logistic regression procedure. Table 3 presents the factors that were found to have influenced the tendency to resort to abortions.

Discussion

The study focussed on a relatively unexplored, yet important public health problem in Sri Lanka. It provides a rare insight into induced abortions, which are a culturally sensitive reproductive health problem.

The study attempted to identify the factors that influence the tendency of women to resort to an abortion. This study utilized a relatively novel control group, i.e. women who are currently pregnant and have never had induced abortions. One of the limitations would have been the relatively higher non-response rate among abortion seekers due to legal implications and the stigma attached to women seeking induced abortions.

It is important to note that most induced abortions would have been prevented through primary prevention by providing effective family planning services. In a way this justifies the Sri Lankan government health service's primary strategic response to the problem of abortion which is the reduction of unmet needs in family planning. The majority of women who sought abortions were aware that the abortions were associated with dangerous complications and yet they resorted to it. This indicates that the

mere provision of information on the implications of abortion alone is not effective in preventing induced abortions.

The legal sanctions seem to have a minimal effect on preventing abortions. Abortionists seemed to be available in abundance and almost everyone was aware of and had an access to some form of abortion provider.

There was no evidence of coercion of women to seek abortion. Most women had a fair share in decision making prior to resorting to an abortion. Information provided by the users indicate that these abortions were conducted in clandestine settings with poor hygienic standards. Use of surgical methods by a majority of unqualified personnel always carries a potential risk of serious complications such as uterine rupture and other adverse sequelae. Lack of access safe abortion services and need secrecy due to social stigma attached to women who seek abortion seemed to be the main reason for some women being sexually abused while seeking abortions. These facts indicate the need for legalized and standard safe abortion services provided to women.

Analysis of the risk factors identified that woman who is likely to resort to an induced abortion is a woman who: faces frequent economic hardships, has minimal or no education, is less devoted to her religion, perceives child rearing responsibilities as a burden, has relatively poor family and social support for child rearing, experiences strained

Table 3: Factors that are found to be Associated with the tendency for resorting to induced abortions and respective strengths of associations (Uni-Variate Odds Ratios)

| Risk factor – OR (95% CI) | Risk factor – OR (95% CI) |
|---|--|
| Educational achievements | History of pre marital sexual experience |
| No education or | Present 3.0 (2.0-4.4) |
| Primary level 4.8(3.4-6.8) | Absent 1.0 |
| Secondary 2.5 (1.9-3.3) | Age at the first sex |
| Post secondary 1.0 | Before 24 years 1.9 (1.5-2.4) |
| Financial adequacy over last 30 days | At or after 24 years 1.0 |
| Not adequate at all 12.3 (7.9-19.2) | Number of children |
| Barely adequate 1.8 (1.3 - 2.3) | 3 or more 6.6 (5.2-8.4) |
| Adequate 1.0 | Less than 3 1.0 |
| Religious devotedness | Quality of the marital relationship |
| Not much 1.9 (1.5 - 2.6) | Strained 11.0 (6.3-19.4) |
| Somewhat 1.5 (1.1-1.9) | Ordinary 2.9-2.3-3.7 |
| Highly 1.0 | Warm 1.0 |
| Feel difficult to manage other responsibilities along with child rearing | Degree of sharing of reproductive decisions |
| Very difficult 10.6 (6.8-16.5) | Usually shared with husband 1.0 |
| Difficult 4.4 (3.3-5.9) | Otherwise 3.3 (2.6-4.2) |
| Not a problem 1.0 | Whether reproductive decisions are influenced by peers |
| An important life goal is hindered by having a child at this time | Yes 2.3 (1.6-3.5) |
| Yes 13.0 (8.5-19.8) | No 1.0 |
| No 1.0 | Sensitivity to others' views regarding one's sexual life |
| Having more children would result in neglect of existing ones | Sensitive 1.5 (1.1-1.9) |
| Yes 9.5 (6.65-13.6) | Not sensitive 1.0 |
| No 1.0 | Social capital (number of people who are likely to come forward in case of an emergency to help as a proxy) |
| Perceives educating children as a severe burden | Less than 10 2.0 (1.5-2.8) |
| Yes 4.3 (3.4-5.4) | 10 or more 1 |
| No 1.0 | |
| Perceives that the husband is very supportive to her | |
| Yes 1.0 | |
| No 3.4 (2.7-4.3) | |
| Having parental support in child rearing | |
| Yes 1.0 | |
| No 3.0 (2.4-3.8) | |

(All above associations are significant at p <0.05)

marital relationships, and is often influenced by peers in making reproductive decisions. She may also have an important life goal likely to be hindered by her pregnancy. It is interesting to note that in developing settings, most of these risk scenarios are common place and either difficult or impossible to eliminate. However, if women in such environments tend to practise effective family planning they will not have to resort to an abortion.

Acknowledgement

The author would like to thank Dr. Aatur Rahman and Ms Rupsa Malik of the International Planned Parenthood Federation: South Asia Regional Office (IPPF-SARO) for their technical observations. This research was commissioned by the IPPF-SARO.

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