Prevalence, determinants and outcomes of unplanned pregnancy and perspectives on termination of pregnancy among women in Nganglam, Bhutan

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ABSTRACT

Introduction: The objectives of this cross sectional study were to determine prevalence, determinants, and outcomes of unplanned pregnancy among women in Nganglam, a town in southeastern Bhutan. It also gauged opinions of women and healthcare providers towards abortion. **Methods:** A total of 683 women attending health clinics were consecutively interviewed using a semi-structured questionnaire. The core group for analysis was 490 women who indicated their recent pregnancy as planned or unplanned. Percentages, $\chi 2$ tests, and multivariate logistic regression analyses were used to determine prevalence and differences in unintended pregnancy by demographic characteristics. **Results:** The prevalence of unplanned pregnancy was 20.2%. Higher education, employed status of partner, higher parity, and non-use of contraceptives significantly increased the odds of unplanned pregnancy. Over half (58.4%) of the women said they knew someone to have crossed Indian borders to avail abortion services. Overall, 23% women supported legal abortion but majority (64%) were ambivalent. Given specific circumstances, both participants and health care providers supported some scenarios (life of mother, severe anomaly in fetus, rape and incest, maternal mental health) and opposed some circumstances as reasons for abortion (desired number of children met, contraception failure, not wanting to marry, poverty). **Conclusions:** One in five women in our setting in Bhutan experienced unplanned pregnancy. Programs to promote family planning are required among populations most at risk for unplanned pregnancy. Awareness programs are required to encourage use of effective contraceptive methods among Bhutanese women.

Keywords: Abortion; Bhutan; Unplanned pregnancy.

INTRODUCTION

Unplanned pregnancy is a major concern from human rights and public health perspectives because of its serious consequences on health and well-being of women and their families[1]. Unplanned pregnancy is defined as pregnancy occurring when no more children are desired at the time of conception or conceived earlier or later than the desired time[2]. Consequences include late initiation of antenatal care, spontaneous abortions and low birth weight[3]. In 2008, nearly half of 208 million pregnancies worldwide were estimated as unintended and half of those resulted in induced abortion[4]. An estimated 80,000 women die every year from unsafe abortion[5]. Bhutan faces a high maternal mortality rate; one way to reduce it is by addressing the issue of unplanned pregnancy. Reduction of unplanned pregnancy would improve maternal health, reduce child mortality and create an enabling environment for women, thus achieving UN Millennium Development Goals 3, 4 and 5 respectively. Unplanned pregnancy also serves as an indicator of a country's overall reproductive health and the degree of independence women have in deciding whether and when to bear children. However, to date there are no studies on unplanned pregnancy in Bhutan.

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Our study looked at prevalence, determinants, and outcomes of unplanned pregnancies in a cross-sectional survey of women seen at a health clinic in Nganglam, Bhutan. The study also explored attitudes of the participants and health care providers regarding termination of pregnancy. The overall goal is to provide stakeholders with basic information to guide reproductive health policies and programs in Bhutan.

METHODS

The study was approved by Research Ethics Board of Bhutan (REBH) vide Protocol No. PO/2013/017. The overall design was a cross-sectional survey that consecutively interviewed 683 women aged 15-49 years old who came either as patients or companions of patient at Nganglam BHU and its outreach clinics from October to December 2013. Consent was obtained prior to the interview. For minors under 18 years, REBH waived off the requirement of written informed consent based on perceived legal risk and loss of confidentiality of the minor (verbal assent was obtained). The consent forms were printed both in English and Dzongkha. Participants were explained about the study prior to taking the interview and those who did not wish to be interviewed were not persuaded further.

Based on a published protocol, a standard questionnaire was modified into four parts and semi-structured to suit the study purposes[6]. The questionnaire began with less sensitive information, such as demographic characteristics. Successive parts included

more personal information related to contraception, unplanned pregnancy history and ultimately pregnancy termination. A section asked about opinions on abortion globally and in eight different scenarios. The questionnaire also asked participants if they knew anyone with unplanned pregnancy who wanted to or terminated the pregnancy. Participants were asked to indicate their personal feelings about the abortion decision that was being taken.

Each participant was assigned unique, non- identifying study ID used for all documents and the data base to ensure confidentiality. No names or identifying information was collected.

Statistical Analysis

The 683 women aged 15 to 49 years made up the whole study population, with several analyses being done on the subset (*n*=490) of women who reported ever being pregnant and indicated their recent pregnancy as intended or unintended. Analysis is largely descriptive, using percentages to gauge the prevalence of experiences and level of opinion for or against certain items. The prevalence of unintended pregnancy (among those who had been pregnant) was stratified by potential demographic covariates and compared using the $\chi 2$ test. Logistic regression was used to examine the independent correlates of unintended pregnancy. Potential covariates included in the model were those whose bivariate $\chi 2$ test had a *p*-value <0.25 or were strong confounders of other relationships (such as age). Levels of significance in univariate and multivariate analyses were obtained using likelihood ratio tests. Results are reported as Adjusted Odds Ratios (AOR) with 95% Confidence Intervals (CI). A two-sided *p*-value <0.05 was regarded as indicating statistical significance in the final multivariate logistic regression model. All statistical analyses were performed using Stata version 11.0 (Stata Corp, College Station, TX, USA).

RESULTS

Socio-Demographic Background

Among 683 women, 490 (71.7%) were ever pregnant. Of these women, 26.5% were under 25 years old (Table 1). Nearly half

Table 1. Demographic characteristics and prevalence of unplanned pregnancy, Bhutanese women aged 15-49 years, 2013 (*n*=490 with past pregnancy)

Characteristics	All Respondents N (%)	Women with unplanned pregnancy n (%)	*p*-value*
Total	490 (100)	99 (20.2)	--
Age in years			
<25	130 (26.5)	23 (17.7)	0.405
25 years and above	360 (73.5)	76 (21.1)	
Education level			
None	242 (49.4)	42 (17.4)	
Primary or secondary level	197 (40.2)	38 (19.3)	0.005
Higher secondary or above	51 (10.4)	19 (37.3)	
Employment status			
Unemployed	384 (78.4)	68 (17.7)	0.009
Employed	106 (21.6)	31 (29.2)	
Employment status of current partner*			
Unemployed	113 (24.9)	18 (15.9)	0.203
Employed	340 (75.1)	73 (21.5)	
Birth place			
Nganglam	174 (35.5)	38 (21.8)	0.504
Elsewhere	316 (64.5)	61 (19.3)	
Monthly family income*			
<Nu. 5,000,	103 (21.1)	16 (15.5)	
Nu. 5,000 to Nu. 9,999	122 (24.9)	26 (21.3)	0.442
Nu. 10000 to Nu 15,000	124 (25.4)	23 (18.5)	
>Nu. 15,000	140 (28.6)	33 (23.6)	
Number of life time partners*			
One partner	450 (92.0)	92 (20.4)	0.710
Two or more partners	39 (8.0)	7 (17.9)	
Parity			
0	189 (38.6)	32 (16.9)	0.098
1-2 births	160 (32.6)	30 (18.75)	
3 and above births	141 (28.8)	37 (26.2)	
Contraceptive use			
Use of any methods	172 (35.1)	17 (9.9)	<0.001
No use	318 (64.9)	82 (25.8)	

**Totals do not always add to 490 due to missing data χ=29 years, SD 6.92)*

(49.4%) did not go to school and only 10.4% had secondary education or higher. Most (78.4%) women were unemployed but 75.1% of their spouses were working. Only 35.5% were born in the study area. Over two-third (71.2%) had monthly income less than Nu.15,000 (US$300 approx.). A majority (92%) had only one lifetime partner. Women without any births made up 39% of the study population, 32.6% had 1 to 2 previous births, and 28.8% had more than 3 births.

Prevalence of unplanned pregnancies

Among 490 women who ever conceived, 99 (20.2%) reported their most recent pregnancies as unplanned (Table 1). Unplanned pregnancy was more commonly reported among women with secondary education or higher (37.3%), women who were employed (29.2%), and did not use contraceptives (25.8%) (all *p*-values <0.05 compared to referent group). A borderline association of unplanned pregnancy was noted among women with 3 or more live births (p=0.098) and more women with employed partners reported unplanned pregnancy (21.5%, p=0.203).

Determinants of unplanned pregnancy

In multivariate analysis, independent predictors of unplanned pregnancy were secondary education or higher (AOR 2.53, 95% CI 1.01-6.36), employment of partner (AOR 2.23, 95% CI 1.26-3.97), parity of 1 to 2 births (AOR 2.37, 95% CI 1.20-4.68) and 3 and above (AOR 5.23, 95% CI 2.49-10.96) and non-use of contraceptives (AOR 4.34, 95% CI 2.35- 8.04) (Table 2). A borderline association was noted for the woman's employment status (AOR 1.83, 95% CI 0.95-3.52). Age was retained in the model to adjust for confounding, with a notable reversal of the direction in the multivariate model (i.e. younger women were more likely to report unplanned pregnancy when controlling for other factors)

Contraception barriers and unplanned pregnancy

Among 99 women whose recent pregnancy was unintended, 64.9% did not use contraceptives. Of those 64.9% related to non-use of contraceptives, 30.0% had cited unawareness of contraceptives, 5.0% cited unavailability of contraceptives at

Table 2. Multivariate analysis: associations between unplanned pregnancy and demographic characteristics, women in Bhutan, 2013 (n=490 with past pregnancy)

Characteristics	Adjusted Odds Ratio for unintended pregnancy	95% Confidence Interval	*p*-value
Age			
25 years & above	Ref.	--	
<25 years	1.26	0.66, 2.40	0.480
Education level			
None	Ref.	--	0.146*
Primary or secondary level	1.29	0.72, 2.32	0.392
Higher secondary or above	2.53	1.01, 6.36	0.048
Employment status			
Unemployed	Ref.	--	
Employed	1.83	0.95, 3.52	0.072
Employment status of current partner			
Unemployed	Ref.	--	
Employed	2.23	1.26, 3.97	0.006
Parity			
0	Ref.	--	<0.001*
1-2 births	2.37	1.20, 4.68	0.013
3 & above births	5.23	2.49, 10.96	<0.001
Contraceptives use			
Use any method	Ref.	--	
No use	4.34	2.35, 8.04	<0.001

** p-value from Likelihood ratio test*

the health centers, 10.0% reported that their husband opposed its use, 3.3% said they did not know where to get contraceptives and 3.3% said they felt shy to obtain contraceptives. Nearly half of them (48.3%) did not give any reasons for non-use of contraceptives.

Outcomes of Unplanned Pregnancy

Among 99 women who had unplanned pregnancies, 82% had live births. During the reproductive lifetime of the 490 respondents who ever got pregnant, 5 acknowledged having induced abortions, 2 with 2 induced abortions for a total of 7. Reasons for undergoing abortions included: achieved the desired number of children; fear of delivering an abnormal child due to ingestion of medicine during early pregnancy; husband alcoholic and irresponsible, unfaithful partner and financial problem. When asked about other women having abortions, 58.4% of the participants knew about the women who traveled across an Indian border for abortion services (Table 3). Other methods of abortion respondents said they knew other women used included traditional medicine (7.3%), infanticide (3.4%), and at hospitals in Bhutan (1.0%), which mostly saw post abortion complication such as hemorrhage, septic abortion and incomplete evacuation of fetal parts from unsafe abortion.

Table 3. Places where abortion services can be availed according to Bhutanese women, 2013 (*n*=385 respondents)

Area/Place	*n* (%)
Across Indian Borders	225 (58.4)
Traditional medicine	28 (7.3)
Infanticide	13 (3.4)
Hospitals in Bhutan	4 (1.0)
Missing data	94 (24.4)
Did not know where	21 (5.5)

Opinions of women on legalization of abortion, generally and for specific scenarios

Of the 683 women interviewed, 23% broadly felt abortion should be legalized, 13% felt otherwise and 64% were unsure (Figure 1). However, women's support for legal abortion varied by circumstances (Figure 2). Support for legal abortion was strongest when the women's life was at risk (75%), the presence of severe fetal anomalies (70%), rape and incest (55%) and pregnant mother with unsound mental condition (51%). The support for legal abortion decreased to 28% for reason of poverty, 21% for single women who do not want to marry, 22% for contraceptive failure and 15% for not wanting more children.

Personal feelings of participants on the abortion experience of others

Participants were further interviewed about their feelings towards abortion in other cases they knew personally. Among 385 women who knew a woman who had an abortion, 62% did not agree with the reasons for abortion, 27% agreed with the abortion

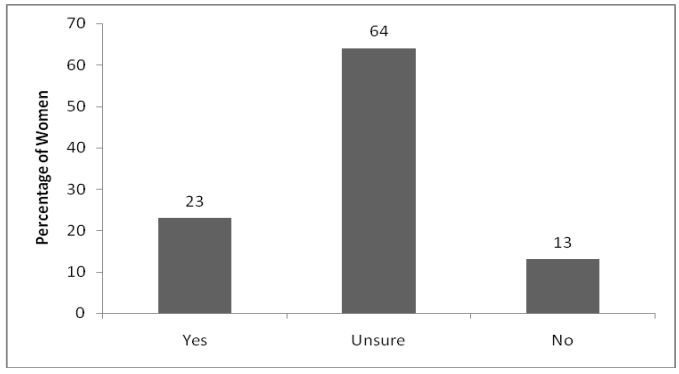

Figure 1. Opinion on legalization of abortion, Bhutanese women, 2013 (*n*=683)

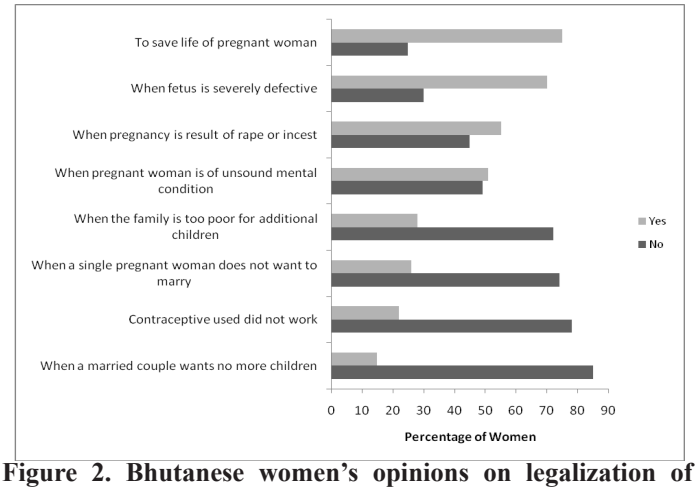

Figure 2. Bhutanese women's opinions on legalization of abortion in specific scenarios, 2013 (*n*=683)

decision and 11% neither agreed nor disagreed. Participants who disagreed felt abortion is equivalent to homicide and a grave sin with less chance of rebirths. Some felt, it posed a serious health risks to the mother causing infertility and death. They viewed the woman as immoral and not taking advantages of available modern contraceptives. On the other hand, Participants who supported the abortion felt that women and girls have rights to make their own choices. From their perspectives, no woman opted for abortion without compelling reasons like unstable relationship and economic dependency. They felt that the government should make abortion services available along with pre-abortion counseling and social support to avoid infanticide and maternal mortality associated with unsafe abortion.

Healthcare providers' opinions on abortion

Of 21 health care providers surveyed, majority (47%) were health assistants, followed by nurses (29%), obstetricians (5%) and general doctor (5%). Participants were mostly Buddhist (86%). Only 10% said they would undertake termination of unplanned pregnancy if there were no legal restriction. However, to specific circumstances, opinions varied (Figure.3). Among the health care workers, 38% had contact with women with unwanted pregnancy. 24% of health workers perceived non-availability of emergency

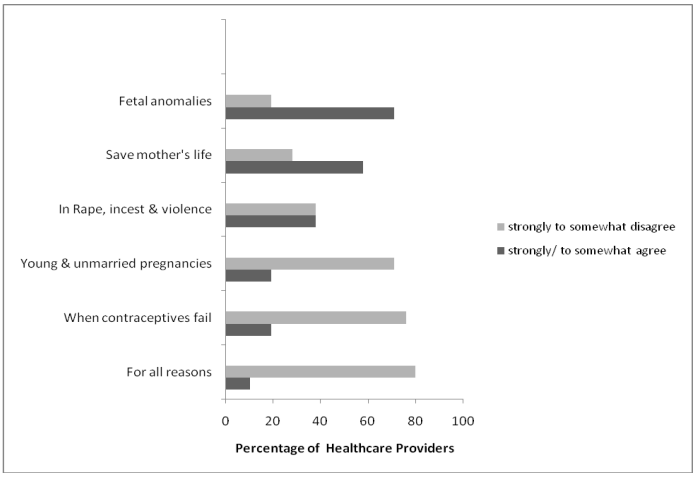

Figure 3. Bhutanese Health Care Providers' opinions on legalization of abortion in specific scenar- ios, 2013 (*n*=21)

contraceptives as likely reason for unplanned pregnancy and 15% believed societal pressures to be high among women with unplanned pregnancy. Some (30%) viewed women's inability to negotiate contraceptive use with partner as a main reason for unwanted pregnancy.

DISCUSSION

The study found one in five women in our setting experienced recent unplanned pregnancy and significant determinants of unplanned pregnancy point to a shifting pattern of desired family size. Women of higher education, engaged in work, whose partners were employed and who already had children were more likely to say their most recent pregnancy was unplanned. This suggests that ideal family size is decreasing along with declining total fertility rate from 4.7% in 2000 to 2.6% in 2005[7] and increasing cost of living, Nearly two-thirds of study participants came from other places to Nganglam for work-related reasons. As a result, the family may not be getting the benefit of extended family for raising more children further suppressing desired pregnancies.

At the same time, the study found non-use of contraception was significantly associated with unplanned pregnancy, highlighting an unmet need and on-going barriers to reproductive health services. The majority of women in the study with unplanned pregnancy did not use contraceptives, in line with other studies8. Women in the study expressed the concern of non-availability of contraceptives at public health centers and lack of awareness even when it is available. Women therefore, require education on use of modern contraceptives.

The study did not find younger women more vulnerable to unplanned pregnancy although they account for a large number of births in Bhutan[9]. Our finding of higher education and employment associated with unplanned pregnancy is similar to a study in Kenya[10]. The employment status of current partners associated with increased unplanned pregnancy may be due to having less autonomy in relation to reproductive decisions[11]. Other studies have linked unintended pregnancy with intimate partner violence. A study (RENEW in 2007) found 77% of female respondents in Thimphu faced domestic violence[12]. More studies are needed to explore why unplanned pregnancy is higher among women with employed partners. Particular attention should be paid to gender power imbalance where women could be undermined in her social, sexual and reproductive autonomy. These factors could reduce women's power to negotiate contraceptive use when more dependent upon their partners.

The current study also touched upon sensitive issues on the outcomes of unplanned pregnancy. In particular, unplanned pregnancy focuses women to confront induced abortion. In our study, more than four-fifth of women with initially unwanted pregnancy continued to term pregnancy and delivery. Even though some women strongly did not prefer the child, they decide against abortion mainly for religious reasons[13]. Often women have to raise a child without any financial support from their partners and family and sometimes relinquish a child for adoption[14]. In the present study, a few women confessed about their experiences of abortion. Many other women shared stories of women known to them who had induced abortion and expressed their approval for its legalization. In Bhutan, abortion is restricted to medical reasons where pregnancy is likely to cause severe physical or mental health problems to the mother or when the fetus is likely to have severe physical or mental abnormalities. It may also be permitted in pregnancy caused by rape. Nonetheless, this study documents other reasons why women might terminate their pregnancies. In the current legal and social framework, the health centers in Bhutan are likely to be the last resort to resolve unplanned pregnancy, only to manage post abortion complications. Most participants who knew women who had induced abortions said they crossed Indian border for the service. This indicates that abortion is likely more widespread among Bhutanese women and they need to cross international border to obtain one. Other women are either using traditional medicines to end pregnancy or practicing infanticide. As of writing, abortion policy in Bhutan has remained restricted to the same criteria since 1999. Our study indicates strong support for the conditions under which abortion is currently legal and weaker support for broadening the conditions. That is, approval was strong for situations where it involved mothers' life, fetal deformities and rape or incest. In addition, more women approved than disapproved for abortion when the woman is of unsound mental condition. However, there were less support for reasons of poverty, desiring not to marry, contraception failure and desire not to have more children. Similar to the women in the study, health care providers did not favor legal abortion for contraceptive failure or in incidences where woman wished not to marry and for all other reasons to end the pregnancy. Of note, an overwhelming majority of health care workers said they would not undertake abortion if legalized. Initiating abortion-related services even when the reasons are to reduce maternal mortality and morbidity may prove to be hard with these health workers attitudes[15].

First, legal and religious sensitivity surrounding abortion might have hindered some women from disclosing their own

abortion attempts. Recognizing this possibility, we attempted to gauge the magnitude of the issue indirectly as an incident of friend or acquaintance. Second, women may also have under-reported unplanned pregnancy if it resulted in live birth, as intentions change upon recall when a loved child exists. Third, participants included only women attending Nganglam BHU and health workers of Nganglam and Pemagathsel. Therefore, the findings from the study may not be applicable to all women in Bhutan. Despite these limitations, our sample size was large and included diverse demographic characteristics. Majority (nearly two-third) of the participants came from places other than Nganglam for work related reasons.

CONCLUSIONS

The prevalence of unplanned pregnancy is high in Bhutan, while there are unmet needs for modern contraceptive methods. We recommend policy makers, program planners and other concerned stakeholders to target unreached high-risk groups in terms of using appropriate family planning services. Effective family planning services including emergency contraceptive is likely to reduce unplanned pregnancy among study population. A review and training update among health care providers towards family planning services could assist women to choose suitable contraceptive methods. Our study saw a high proportion of women who are aware of abortion services being undertaken. The grave consequences of unplanned pregnancy on abortion related morbidity and mortality points to the need for both primary and secondary prevention efforts. Therefore, promoting greater use of effective contraceptive methods is an effective primary prevention; promoting greater awareness of the legal conditions for induced abortion and availability of abortion-related services following unsafe abortion are secondary prevention measures to reduce maternal death. Future study with multi-district component is recommended.

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AUTHORS CONTRIBUTION

Following authors have made substantial contributions to the manuscript as under:

JC: Concept, design, literature search, data collection and analysis, manuscript writing and review.

RP: Design, data analysis, manuscript writing and review.

AP: Concept, design, manuscript writing and review.

Author agree to be accountable for all respects of the work in ensuring that questions related to the accuracy and integrity of any part of the work are appropriately investigated and resolved.

CONFLICT OF INTEREST

None

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