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Unintended Birth among Married women in Nepal

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Abstract

Women have been facing the problem of unintended pregnancy and unintended birth in both developed and developing countries. This study examines the factors that influence unintended birth among women in Nepal. Data were drawn from the Nepal Demographic and Health Survey (NDHS), 2016. The analysis is confined to last birth of the women in the 5 years preceding the survey (n = 3.998). Bivariate analysis was used to identify factors associated with the experience of unintended last birth. The variables were further examined using multivariate logistic analysis in order to identify the significant predictors of the likelihood of women having unintended birth. The mistimed birth rate for last birth was 118 births per thousand births and unwanted birth rate for last birth was 82 births per thousand births. The prevalence of unintended last birth varied with different socio-demographic and economic characteristics. Our study found that women who had higher number of children [Adjusted odds ratio (aOR)= 1.71, CI 1.38-2.11, p<0.001 among those who had 2 children; aOR=2.2 CI 1.7-2.9, p<0.001 among those who had 3 children and aOR= 5.2 CI 3.9-6.9, p<0.001 for women who had 4 or more children], who had primary (aOR=1.69, CI 1.32-2.2, p<0.001) and secondary or above education (aOR=2.54, CI 1.9-3.3, p<0.001) were more likely to experience unintended birth than their comparison group. On the other hand, rich women were less likely (aOR= 0.76, CI 0.6-0.9, p<0.01) to experience unintended birth than their counterparts. This study found unintended last birth among women in Nepal is not uncommon. Improved access to contraception and abortion services for poor and Marginalized women, higher education regarding proper use of contraception, and more access to contraception following childbirth to prevent subsequent births are needed to reduce unintended pregnancy. More interventions to prevent child marriage is imperative so unintended birth will be decreased and health of women and children can be improved.

Keywords: *Unintended birth; unintended pregnancy; women; Nepal.*

Abbreviations: SDG: Sustainable development goals; aOR: Adjusted odds ratio; CI: Confidence interval; Ref: Reference

Background

Women too often become pregnant sooner than they want or when they do not want any more children, throughout the world, especially in developing countries [1]. An estimated 80 million unintended pregna-ncies, both mistimed and unwanted, occur each year [2]. Financial impact of unintended pregnancies, and subsequent births, can be significant-particularly for low-income women. Unpla-nned pregnancies were five times as likely for those at or below the poverty level [3]. Such unintended pregnancies occur for a variety of reasons, in particular lack of access to a health facility, lack of preferred contraceptive method or incorrect use of a method. In addition, some women especially in patriarchal society are vulnerable to social pressure from their husbands or other family members to give birth and do not have the autonomy to decide for themselves whether or when to become pregnant. The SDG 3 targets for Nepal for 2030 are to reduce maternal mortality ratio (MMR) to less than 70 per 100,000 live births [4].

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An unintended birth is any birth a mother identifies as either mistimed (the birth occurred earlier than desired), or unwanted (at the time of pregnancy, the woman did not want to have any more births). Unintended birth is a public health concern because women with an unintended pregnancy are less likely to seek timely prenatal care [5, 6, 7] and more likely to consume tobacco, alcohol and other drugs during pregnancy than women with an intended pregnancy [5, 6]. Studies also show that unintended birth adversely impact women's education and career attainment [8, 9, 10]. Studies also found that children resulting from unintended pregnancies may have poorer academic and health outcomes than children resulting from an intended pregnancy [6, 11, 12]. Furthermore, children who had been unwanted at the time of conception had an elevated risk of being underweight [13]. Likewise, the resultant newborns of unintended pregnancies were more likely to receive inadequate immunization and to remain stunted [7].

Nepal has experienced a steady growth in population at 29.4 million in 2017, [14] an increase of 6.3 million in the last 15 years. At the same time the total fertility rate (TFR) decreased from 4.6 in 1996 [15] to 2.3 in 2017 [14]. While the TFR has decreased over time, the contraceptive prevalence rate (CPR) changed little between 2006 and 2011 (48% vs. 50%, respectively). Nepalese women have approximately one more child than their ideal number, implying that the current TFR

is 44% higher than desired [15]. Although abortion has been legal under certain criteria in Nepal since 2002, a significant proportion of women continue to undergo illegal, unsafe abortions [16] which may lead to increased maternal morbidity and mortality. Though there are few studies focused on unintended pregnancies [16, 17] in Nepal, this kind of study focusing on unintended last birth has not yet been undertaken in the country. The aim of this study is to examine the factors that influence on having an unintended last birth among women in Nepal.

Methods

This paper uses data from the Nepal Demographic and Health Survey (NDHS), 2016, a nationally representative sample survey. The primary objective of the 2016 NDHS is to provide up-to-date estimates of basic demographic and health indicators. The NDHS provides a comprehensive overview of population, maternal, and child health issues in Nepal. The Nepal Health Research Council and the ICF Macro Institutional Review Board in Calverton, Maryland, USA, approved the study protocol. All respondents provided verbal informed consent to be interviewed prior to data collection. The survey was carried out under the aegis of the Population Division of the Ministry of Health and Population. For this study, we used publicly available dataset from the website of DHS [18].

Nepal Demographic Health Survey, 2016 covered 12,862 women of reproductive age (15–49 years). As this study aims to examine wantedness of last birth in the five years preceding the survey, the analysis is confined to the women who had given at least one birth (n = 3.998). NDHS report has mentioned detail methodology used in the survey [18].

In this study, unintended birth is measured by respondents' perceived wantedness of last birth. The three allowed options were wanted then (planned), wanted the pregnancy to happen later (mistimed) and did not want at all (unwanted). Respondents who mentioned their last birth was either mistimed or unwanted were merged and considered as 'unintended birth'. This variable is categorized into two categories: unintended and intended birth for the multivariate analysis. In this study, women's autonomy refers to women's decision-making autonomy, which was measured based on responses to "Who makes the following decisions in (respondent's) household about: 1)obtaining health care for yourself; 2) large household purchases; and 3) visits to family or relatives?" Response options were: a) respondent alone; b) respondent and husband/ partner; c) respondent and other person; d) husband/partner alone; e) someone else; f) other. The value of 1 is assigned if the response was (a), (b), or (c), that is, involvement of the respondent, or else 0, for no involvement of the respondent. The other independent variables included in this study were demographic and socioeconomic variables such as age, age at marriage, number of children ever born, caste/ ethnicity, education, religion, currently working, wealth status of households, place of residence and current use of family planning method.

Bivariate analysis was conducted for mistimed and unwanted births. Association between demographic, religion, socio-economic, geographical characteristics and unintended last birth was assessed via bivariate analysis using chi-square tests. A multivariate logistic regression model was used to assess significant predictors of unintended birth. Multi-colinearity between the variables was assessed before analyzing in logistic analysis. The analysis found that two variables, age of the women and number of children born, were highly correlated (r=0.67). Therefore age of women was removed from the logistic regression model. The Statistical Package for Social Science (SPSS 20.0 for Windows) software was used to analyze the data.

Results

A considerable percentage of women had at least one child (40%) at youth age (less than 25 years). Child marriage was high among women. Almost a tenth of women (9%) had married before the age of 15. More than half of the women (52%) had married at child age i.e. before 18 years. A third of women were from indigenous group (33%) followed by Brahmin/Chhetri (29%). Almost a third of the respondents had (32%) three or more children. Similarly, almost a third of women (31%) were illiterate. A high majority of women believed Hindu religion (86%), and almost a half were not working (49%). Almost three in five women did not use any family planning method (56%) while a tenth of women (9%) were using traditional/ natural methods. Women's autonomy on household decision was very low in the country. Almost two in five women (36 %) had no autonomy on own health care and household decisions [Table 1].

Table 1: Background characteristics of currently married women.

Background Characteristics	%	N
Age group		
Less than 25 years	1606	40.2
25-34	2033	50.9
35 or above	359	9.0
Age at marriage		
Less than 15	376	9.4
15-17	1712	42.9
18-20	1179	29.5
21 and above	726	18.2
Number of children ever born		
One	1498	37.5
Two	1207	30.2
Three	626	15.7
4 or more	667	16.7
Caste/Ethnicity		
Brahmin/Chhetri	1159	29.0
Indigenous (Janajati)	1303	32.6
Dalit	545	13.6
Other	990	24.8
Education		
No education	1257	31.4
Primary	777	19.4
Secondary or above	1964	49.1

Background Characteristics	%	N
Religion		
Hindu	3421	85.6
Buddhist	178	4.4
Muslim	251	6.3
Kirat/Christian	148	3.7
Currently working		
No	1945	48.6
Yes	2053	51.4
Wealth index		
Poor	1661	41.5
Middle	863	21.6
Rich	1474	36.9
Place of residence		
Urban	2223	55.6
Rural	1775	44.4
Current use of Family Planning Method		
Not user	2255	56.4
Traditional method	378	9.4
Modern Method	1365	34.1
Women's autonomy		
No autonomy	1450	36.3
Moderate autonomy (involved in 1-2 issues)	1361	34.0
High autonomy (involved in all 3 issues)	1187	29.7
Total	3998	100.0

Overall, a fifth of women (20%) reported that the last birth was unintended (mistimed=12% and unwanted=8%) [Figure 1].

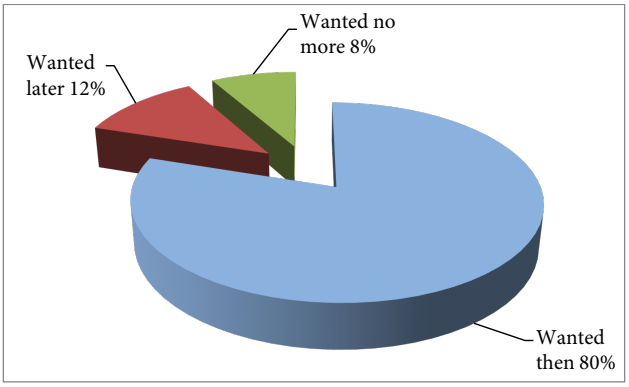

Figure 1: Wantedness of last child

The prevalence of unintended last birth varied with different socio-demographic and economic characteristics. For instance, more than a fourth of the women aged 35 years and above (28%) reported that their last birth was unwanted. On the other hand, a fifth of the women aged 25 years or below (18%) wanted the last birth later. A significantly higher percentage of women who got married below 15 years (14%) and who were Dalit (so called untouchable) (12%) reported that they did not want the last child. Similarly a significantly higher percentage of women who had no education (14%) reported that the last birth was unwanted. Almost a third of those women who had four or more children reported that the last one was unintended (31%). A significantly higher percentage of women who were working reported the last birth as unwanted (10%). Likewise, a higher percentage of poor women reported that their last birth was unwanted (11%). Similarly, significantly higher percentage women who had high autonomy (11%) had unwanted births (wanted no more child) than their counterparts [Table 2].

Table 2: Socio-demographic and economic characteristics of women by planned, mistimed and unwanted last birth

	Wantedness of last birth			Total	
	Wanted then (Planned)	Wanted later (mistimed)	Wanted no more (unwanted)	%	N
Age group ***					
Less than 25 years	79.5	18.0	2.5	100.0	1606
25-34	81.9	8.8	9.2	100.0	2033
35 or above	71.2	1.0	27.7	100.0	359
Age at marriage ***					
Less than 15	77.3	8.7	14.0	100.0	376
15-17	78.1	12.4	9.5	100.0	1712
18-20	81.1	12.1	6.8	100.0	1179
21 and above	83.9	11.7	4.4	100.0	726
Number of Children ever born ***					
One	86.0	13.8	.2	100.0	1498
Two	80.4	16.5	3.1	100.0	1207
Three	79.4	7.7	13.0	100.0	626
4 or more	66.2	2.8	31.0	100.0	667
Ethnicity ***					
Brahmin/Chhetri	78.9	14.4	6.7	100.0	1159
Janajati	80.6	12.4	7.1	100.0	1303
Dalit	77.7	10.5	11.8	100.0	545
Other	81.8	8.7	9.4	100.0	990
Education ***					
No education	81.3	4.7	14.0	100.0	1257

	Wantedness of last birth			Total	
	Wanted then (Planned)	Wanted later (mistimed)	Wanted no more (unwanted)	%	N
Primary	78.6	10.9	10.5	100.0	777
Secondary or above	79.7	16.7	3.5	100.0	1964
Religion					
Hindu	80.0	12.2	7.9	100.0	3421
Buddhist	82.1	9.5	8.4	100.0	178
Muslim	80.8	8.5	10.6	100.0	251
Kirat/Christian	77.1	12.0	10.9	100.0	148
Currently working ***					
No	82.2	11.1	6.7	100.0	1945
Yes	77.9	12.5	9.6	100.0	2053
Wealth index ***					
Poor	76.7	12.1	11.2	100.0	1661
Middle	81.7	11.7	6.6	100.0	863
Rich	82.7	11.6	5.7	100.0	1474
Place of residence **					
Urban	80.1	12.7	7.2	100.0	2223
Rural	79.9	10.6	9.5	100.0	1775
Current use of Family Planning Method **					
Not user	81.1	12.0	6.9	100.0	2255
Traditional method	80.5	11.9	7.6	100.0	378
Modern Method	78.0	11.4	10.6	100.0	1365
Women's autonomy ***					
No autonomy	81.3	11.4	7.3	100.0	1450
Moderate autonomy (involved in 1-2 issues)	79.1	13.9	7.0	100.0	1361
High autonomy (involved in all 3 issues)	79.4	9.9	10.7	100.0	1187
Total	80.0	11.8	8.2	100.0	3998

Note *** Significant at $p < 0.001$; ** = $p < 0.01$ and * = $p < 0.05$

Multivariate logistic regression shows that education, total number of children bornand wealth status are significant predictors for experiencing unintended birth. Our study found that women who have higher number of children (aOR=1.71, CI 1.38-2.11 for two children, aOR= 2.17, CI 1.66-2.85 for three and aOR= 5.2, CI 3.9-6.9 for four or more children), who had primary (aOR=1.69; CI 1.32-2.15) and secondary or above education (aOR=2.54, 1.9-3.3) were more likely to experience unintended birth than their comparison group. On the other hand, women who were rich (aOR= 0.76; CI 0.62-0.94) were less likely to experience unintended birth than their comparison group [Table 3].

Table 3: Adjusted odds ratios (aOR) from multivariable logistic regression assessing the likelihood of having unintended social and demographic characteristics

	aOR	95% CI	
		Lower	Upper
Age at marriage			
Less than 15 (ref.)	1.00		
15-17	1.09	0.83	1.45
18-20	0.95	0.70	1.28
21 and above	0.84	0.59	1.18
Number of Children ever born			
One (ref.)	1.00		
Two	1.71***	1.38	2.11
Three	2.17***	1.66	2.85
4 or more	5.21***	3.94	6.88
Ethnicity			
Brahmin/Chhetri (ref.)	1.00		
Janajati	0.95	0.76	1.18
Dalit	1.08	0.83	1.41
Other	0.91	0.69	1.19
Education			
No education (ref.)	1.00		
Primary	1.69***	1.32	2.15
Secondary or above	2.54***	1.98	3.25
Religion			
Hindu (ref.)	1.00		

	aOR	95% CI	
		Lower	Upper
Buddhist	0.89	0.59	1.37
Muslim	1.12	0.77	1.64
Kirat/Christian	1.26	0.83	1.92
Currently working			
No (ref.)	1.00		
Yes	1.16	0.98	1.38
Wealth index			
Poor (ref.)	1.00		
Middle	0.85	0.68	1.06
Rich	0.76**	0.62	0.94
Place of residence			
Urban (ref.)	1.00		
Rural	0.91	0.77	1.08
Current use of Family Planning Method			
Not user (ref.)	1.00		
Traditional method	0.95	0.72	1.27
Modern Method	1.03	0.86	1.22
Women's autonomy in household decision			
No autonomy (ref.)	1.00		
Moderate autonomy (involved in 1-2 issues)	1.06	0.87	1.29
High autonomy (involved in all 3 issues)	0.97	0.79	1.19
Constant	0.084***		
Cox & Snell R Square	0.047		
-2 Log likelihood	3805.46		

Note *** Significant at $p < 0.001$; ** = $p < 0.01$ and * = $p < 0.05$

Discussion

This study assessed the factors that influenced the fertility intention before the last birth among women in Nepal. Bivariate analysis shows that many variables such as age, age at marriage, ethnicity, education, total children ever born, working status, wealth index, place of residence, current use of contraception and women's autonomy were significantly associated with fertility planning. Older women, women from Dalit caste, women with no education, women who had more children, women who were working, poor women, who lived in rural area, were more likely to have unwanted birth (last birth) while higher percentage of younger women aged less than 25 years, who had one or two children, who were from Brahmin / Chhetri, who had secondary or above education had mistimed birth. The multivariate analysis supported some of the findings of the bivariate analysis and indicated a different pattern of effect for few other variables. In the multivariate analysis, number of children ever born, education, and wealth were found to be significant predictors of unintended birth.

Contrary to the expectation, the study found women with more education were more likely to have unintended birth. It could be because women with more education are those women who felt they had more autonomy (autonomy in this study is not significantly associated with unintended birth). The other reason could be more educated women may also have had more autonomy and may have viewed their last birth as having more impact on their autonomy compared to less educated (less autonomous) women [19]

As expected, this study has shown that the higher the number of children born, the higher the probability of having last birth as unintended. This finding also supports that despite of decreasing of TFR, Nepalese women have approximately one more child than their ideal number [15]. It could be due to that women who have more children got married at an early age, which extended their period of getting pregnant and thus leading to higher likelihood of experiencing unintended birth [17].

Similarly, rich women were less likely to have unintended birth than poor women. The reason could be these women may be more aware about how to prevent unintended birth and have more access to reproductive health services including abortion services than poor women [20].

Our findings point to a great need for multifaceted approaches to increase awareness of, access to and use of contraceptives among Nepalese women. Similarly, more access to family planning services for poor women and more interventions to further limit child marriage are crucial. Future research is needed to further understand why women viewed their last births as unwanted or mistimed-which would provide more information on how to address this issue.

Our results should be interpreted with caution considering the following limitations. The prevalence rates of last unintended birth was based on self-report, and are likely to be underestimated due to reporting bias. The other limitation of this study is that the analyzed data includes only last births and it doesn't capture women who have had multiple unintended births. We assessed the association of experience of unintended last birth with only some socio-demographic factors. However, perception regarding unintended birth has complex relationships with social, personal and family factors which could not be explored in the DHS data.

Conclusion

Unintended birth among Nepalese women is not uncommon indicating an unmet need to be addressed by maternal and child health programs. Improved access to contraception and abortion services for the poor women, more education regarding proper use of contraception, more access to contraception following childbirth to prevent subsequent births are needed to reduce unintended pregnancy. In addition, more interventions to prevent child marriage is imperative so unintended birth will be decreased and health of women and child can be improved.

Declarations

Ethics approval and consent to participate

The study protocol was approved by the Nepal Health Research Council and the ICF Macro Institutional Review Board in Calverton, Maryland, USA. All respondents had provided verbal informed consent to be interviewed prior to data collection. Therefore, an independent ethical approval was not required. For this study, we used publicly available dataset from the measure DHS website

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