

Association of Safe Abortion Knowledge and Contraceptive Use among Ever-Married Women of Reproductive Age

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ABSTRACT

Background: A considerable number of pregnancies end in unsafe abortions after two decades of abortion legalization. Over half of pregnancies resulting in abortions are unplanned, and a significant number of married women have unmet family planning requirements. To minimize unwanted pregnancies and unsafe abortions, the study intends to weigh the impact of the knowledge about the legality and restrictions surrounding abortion among women and the use of contraceptives.

Methods: This is a cross-sectional study conducted in Nepal using multistage sampling. The study focused on 1976 ever-married women and utilized sampling weights to ensure representative results. It investigated the relationship between awareness of legal knowledge of abortion and conditions and the use of contraception by women.

Results: Women who are aware of the legality of abortion and legal conditions for abortion were more likely to have utilized contraception. Fewer women from Madhesi and Muslim communities used contraception. Contraception use was inversely correlated with education. Adolescent girls were less likely to utilize contraception. When compared to the skilled service group, the non-working group's odds of choosing to use contraception were significantly lower (aOR, 0.503). The likelihood of ever using contraception did not significantly differ between the wealth quintiles, urban and rural people, or residents of provincial settings.

Conclusions: Knowledge of the legal status and indications for abortion is associated with increased use of contraception. Empowering women and girls with knowledge and access to a full range of sexual and reproductive health services can ensure improved reproductive health and rights.

Keywords: Abortion knowledge; contraceptive use; ever-married; safe abortion; women of reproductive age.

INTRODUCTION

Abortion is considered a safe health procedure by World Health Organization (WHO) guidelines and has been legal since 2002 in Nepal.¹ Nepal's law allows abortion with the pregnant woman's consent, for up to 12 weeks of gestation, and up to 28 weeks if certain conditions are met, such as threats to the woman's life (HIV and other incurable illnesses), physical or mental health, fetal anomalies, and rape.² And still, more than 57 percent of abortions happening in Nepal are unsafe.³ A notable percentage of married women (21%) have unmet family planning needs.⁴ About 62 percent of pregnancies ending in abortions are unwanted and 25 percent are mistimed.⁴ Promoting contraception and safe abortion awareness is

undeniably crucial to avoid unintended pregnancy and prevent unwanted complications. The paper aims to explore the relationship between knowledge of abortion legality/condition and contraceptive use among women of reproductive age (WRA).

METHODS

This study on the effects of abortion knowledge and ever-use of contraception is based on a cross-sectional study. The study was carried out in late 2022. The participants of the study were ever-married women of reproductive age (WRA) in Nepal. Both verbal and written consent/assent were taken from the respondents. The ethical approval was granted by the National Health Research

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Council. The study was based on a stratified sampling technique to ensure adequate representation of women from different provinces. For normalizing multistage cluster sampling, sampling weight was used to analyze the findings. For a national survey aiming to interview 1,694 women of reproductive age (WRA), a minimum of 2,100 households was sampled. The target was to obtain around 242 WRA from each province. From 30 municipalities, 60 clusters were selected, with 35 households targeted per cluster using systematic sampling. The sampling interval for each cluster was determined by its household count divided by 35. Before sampling, district and cluster supervisors conducted detailed mapping in the 60 clusters with input from local experts. Segments were numbered and randomly chosen for listing. In areas with over 250 households, wards were divided, while those under 150 were merged with neighboring wards. Ultimately, 2,286 WRA were successfully interviewed nationwide.

Interviews were carried out through face-to-face interviews using structured questionnaires on computer-assisted personal interviewing (CAPI). In the overall sample, 2286 WRAs aged from 15 to 49 years were captured without considering marital status. For this analysis, only 1976 ever-married samples were used as the survey asked about ever use of contraception only for ever-married women. Sometimes, current use data might not include individuals who used contraception before but are not currently using any method. Ever-used data helps bridge this gap and offers a more complete view of how contraception is practiced in a population. This comprehensive approach reveals how individuals use contraception throughout their lives, offering a more complete understanding of population practices.

The major explaining variables (or independent variables) were awareness of abortion legality and awareness of at least one of five indications for which abortion is legally permitted. The dependent variable of the study was ever use of contraception, defined as women who had ever used any type of contraception during their lifetime.

A frequency table, associations, and multivariate outputs were generated using the Stata 15.0 version. As awareness of abortion legality and abortion conditions have high correlation effects, the analysis was carried out separately for knowledge of legal abortion and knowledge of abortion conditions. The effects were measured for socio-demographic characteristics along with knowledge.

RESULTS

The study included 1976 ever-married women of reproductive age. One-fifth of respondents (21.5%) were between the ages of 25 and 29 years, indicating a strong presence of young adults in the study. There were also the fewest adolescent (15-19 years) participants (1.9%) in the study. With increasing age, there was also a decreasing trend observed in participant representation. Regarding the caste/ethnicity representation, the majority were Janjati (33.1%) followed by Brahmin/Chhetri (29.4%). More than 32 percent of participants had completed secondary school while almost an equal number of participants never attended school. Most participants (33.4%) were not working at the time of the study. Agriculture was the major prevalent occupation (30.4%), with business (20.9%) being the second most common occupation (table 1). Around half of the women were affiliated with savings and credit groups, while wealth distribution showed a diverse range across quintiles. The women were evenly distributed between rural and urban areas, with varying distribution across different provinces within the region (table 1 contd)

Among the participants who were aware of the legality of abortion, 64 percent had used contraception. Of the unaware group, 53.7 percent had used contraception in the past. A significant association ($p < 0.01$) was found between the knowledge of abortion legality and the use of contraception. Among the respondents with no knowledge of any legal indications for abortion, 52.9 percent had used contraception whereas among the respondents with knowledge of abortion conditions, 67.1 percent had used contraception. There is a strong association between the use of contraception and knowledge of abortion conditions among the surveyed women.

Regarding the association between participants' age group and contraception, there was a highly significant association (< 0.001) between contraceptive use and age groups, implying that contraceptive use varies greatly across age cohorts. The youngest age group (15-19 years) had the highest percentage of respondents who haven't used contraception (81.4%). There was a statistically significant link between caste/ethnicity and contraceptive use, demonstrating that the prevalence of ever-contraceptive use differs greatly between cultures ($p < 0.001$). Among the caste/ethnicity groups, about two-thirds of Brahmin/Chhetri and Janjati had used contraception, whereas Madhesi (55.1%) and Muslim (62.7%) had higher proportions of respondents who had never used contraception. There was an

inverse trend between education and contraception (table 2.1). There was a significant difference in the use of contraception among currently married women (58.5%) and women who were divorced/separated/widowed (38.4%). There was also a difference in contraceptive use between individuals affiliated with a Savings and Credit Group (62.6%) compared to those who are not (54%). The data show that individuals in different occupational groups have varying rates of contraceptive use, the highest among skilled servicers and the lowest among students (40.2%). The contraceptive use varies slightly across wealth groups, but the differences are not statistically significant. The data reveals some variation in contraceptive use across provinces, but these differences are not statistically significant. More than half of the participants in all the provinces have used contraception (table 2)

Table 1. Demographics of the study participants (ever-married women) (n=1976).

Characteristics Distribution		Ever-married women %	Number (weighted) (n=1976)
Age (in yrs)	15-19	1.9	38
	20-24	13.8	272
	25-29	21.5	425
	30-34	17.9	352
	35-39	17.3	342
	40-44	15.1	298
	45-49	12.5	246
Caste/ethnicity	Brahmin/Chhetri	29.4	581
	Madhesi	13.5	266
	Dalit	17.6	348
	Janjati	33.1	654
	Muslim	6.4	127
Education	Never attended	32.1	635
	Basic education	31.0	613
	Secondary education	32.7	445
	Bachelor and above	4.2	83
Occupation	Skilled service	5.5	109
	Agriculture	30.4	600
	Student	0.6	11
	Business	20.9	413
	Unskilled service	9.3	184
	Not working	33.4	659

Table 1.(contd): Demographics of the study participants (ever-married women) (n=1976).

Characteristics Distribution		Ever-married women %	Number (weighted) (n=1976)
Affiliation to Saving and credit group	No	55.7	1101
	Yes	44.3	875
Wealth Quintile	Poorest	16.7	313
	Poorer	18.9	374
	Middle	21.6	426
	Richer	25.2	498
	Richest	17.6	348
Residence	Rural	45.3	894
	Urban	54.7	1082
Provinces	Koshi	17.0	335
	Madhesh	20.2	400
	Bagmati	22.4	442
	Gandaki	8.7	171
	Lumbini	16.7	330
	Karnali	6.0	119
	Sudurpaschim	9.1	179

Table 2. Percent distribution of married women aged 15-49 years who have ever used contraception (n=1976).

Characteristics	Distribution	Ever use of contraception			x ² (p value)
		No	Yes	Total	
Abortion legality knowledge	Yes	36.0	64.0	795	20.50 (0.0011)**
	No/DK	46.3	53.7	1180	
Knowledge of legal indications for abortion	No	47.1	52.9	1290	37.18 (0.0001)***
	Yes	32.9	67.1	686	
Age (in yrs)	15-19	81.4	18.6	38	46.94 (0.0001)***
	20-24	52.3	47.7	272	
	25-29	42.2	57.8	425	
	30-34	35.1	64.9	354	
	35-39	43.7	56.3	342	
	40-44	38.4	61.6	298	
	45-49	37.4	62.6	246	
Caste/ethnicity	Brahmin/Chhetri	37.8	62.2	580	52.14(0.0001)***
	Madhesi	55.1	44.9	266	
	Dalit	42.1	57.9	348	
	Janjati	36.9	63.1	654	
	Muslim	62.7	37.3	127	
Education	Never Attended School	42.1	57.9	634	0.42(0.9390)
	Basic Education	41.4	58.6	613	
	Secondary Education	42.7	57.3	645	
	Bachelor and above	44.4	55.6	83	

*p<0.05; **p<0.01; ***p<0.001. Source: Field Survey, 2022.

Table 2. (contd): Percent distribution of married women aged 15-49 years who have ever used contraception (n=1976).

Characteristics	Distribution	Ever use of contraception			x ² (p value)
		No	Yes	Total	
Affiliation to Saving and credit group Marital status	Not affiliated	46	54	1101	14.70(0.0145)*
	Affiliated	37.4	62.6	875	
Marital Status	Currently married	41.5	58.5	1907	10.98 (0.0037)**
	Divorced/Separated/Widowed	61.6	38.4	69	
Occupation	Skilled service	33.5	66.5	108	39.82 (0.0009)***
	Agriculture	36.4	63.6	600	
	Student	59.8	40.2	11	
	Business	38	62	413	
	Unskilled service	40.9	59.1	184	
	Not working	51.5	48.5	659	
Wealth Quintile	Lowest	42.4	57.6	330	3.85 (0.6371)
	Lower	46.5	53.5	373	
	Middle	40.1	59.9	426	
	Higher	41.2	58.8	498	
	Highest	41.3	58.7	348	

Place_of_residence	Rural	42	58	894	0.02 (0.9332)
	Urban	42.3	57.7	1081	
Province	Koshi	42.3	57.7	335	21.33 (0.3314)
	Madhesh	49.4	50.6	400	
	Bagmati	35.9	64.1	442	
	Gandaki	40.2	59.8	171	
	Lumbini	46.8	53.2	330	
	Karnali	37.7	62.3	118	
	Sudur Paschim	37.5	62.5	179	
Total	42.2	57.8	1976		

* $p < 0.05$; ** $p < 0.01$; *** $p < 0.001$. Source: Field Survey, 2022.

Table 3 presents the results of a study examining the effects between different variables and the specified outcome of ever-using contraception among ever-married women, in terms of adjusted odds ratio (aOR) and 95% confidence interval (CI). After controlling other socioeconomic variables, the finding showed that women with knowledge of abortion legality were 1.52 times more likely to use contraception (CI 1.196-1.935). Similar women with knowledge of at least one condition of abortion were almost two times (aOR 1.975, CI 1.515-2.575) more likely to use contraception. The findings indicated that as age increases, there was a significant and positive effect in ever using contraception. The results suggested that caste/ethnicity affects the likelihood of ever using contraception. The Madhesi (aOR 0.441, 95% CI 0.270-0.721) and Muslim (aOR 0.383, 95% CI 0.215-0.681) women were less likely to use contraception than Brahmin/Chhetri. There was a direct effect of education on the use of contraception. The higher the education level (secondary and above), the lower the use of contraception. In contrast, the use of contraception among the non-working group had significantly lower chances (aOR 0.503, 95% CI 0.312-0.813) compared to the skilled service group. Similarly, the separated/widowed women were less likely to use contraception (aOR 0.367, 95% CI 0.216-0.625) compared to the currently married women. The differences in contraceptive use among different wealth quintiles were not affected compared to those in the lowest wealth quintile. There was no substantial difference in using contraception between urban and rural residents and in provincial settings. This suggests that the choice to use contraception does not appear to be influenced by the individual's residence.

Table 3. Adjusted odds ratio (aOR) and 95% CI for knowledge on the legality and condition of abortion and contraception use among WRA in Nepal, 2022 (n=1976).

Background characteristics		Abortion legality knowledge		Abortion condition knowledge	
		aOR	Confidence interval (CI)	aOR	Confidence interval (CI)
No (ref.)	Yes	1.521***	1.196-1.935	1.975***	1.515-2.575
	20-24	4.336***	1.950-9.642	4.582***	2.092-2.035
Age (in yrs) 15-19 (ref.)	25-29	6.408***	2.754-14.910	6.710***	2.909-15.475
	30-34	8.254***	3.500-19.466	8.896***	3.809-20.779
	35-39	5.025***	2.077-12.158	5.317***	2.255-12.535
	40-44	6.641***	2.619-16.839	7.114***	2.830-17.883
	45-49	6.421***	2.423-17.013	6.893***	2.635-18.033
Caste/ethnicity Brahmin/Chhetri (ref.)	Madhesi	0.441***	0.270-0.721	0.441**	0.270-0.722
	Dalit	0.906	0.594-1.382	0.955	0.624-1.462
	Janjati	1.107	0.782-1.568	1.144	0.815-1.605
	Muslim	0.383**	0.215-0.681	0.371***	0.206-0.668

Table 3. Adjusted odds ratio (aOR) and 95% CI for knowledge on the legality and condition of abortion and contraception use among WRA in Nepal, 2022 (n=1976).

Background characteristics		Abortion legality knowledge		Abortion condition knowledge	
		aOR	Confidence interval (CI)	aOR	Confidence interval (CI)
Education Never Attended School (ref.)	Basic Education	0.876	0.665-1.155	0.885	0.668-1.172
	Secondary Education	0.708*	0.540-0.929	0.680**	0.529-0.874
	Bachelor and above	0.479*	0.256-0.895	0.442*	0.238-0.820
Affiliation to Saving and credit group Unaffiliated (ref.)	Affiliated	1.177	0.877-1.581	1.128	0.844-1.508
Marital Status Currently married (ref.)	Divorced/ separated/ widowed	0.367***	0.216-0.625	0.378***	0.224-0.638
Occupation Skilled service(ref.)	Agriculture	0.762	0.467-1.245	0.781	0.477-1.281
	Student	0.476	0.078-2.897	0.406	0.066-2.505
	Business	0.639	0.371-1.100	0.646	0.374-1.116
	Unskilled service	0.587	0.302-1.139	0.655	0.345-1.243
	Not working	0.503**	0.312-0.813	0.516**	0.321-0.829
Wealth Quintile Lowest (ref.)	Lower	0.969	0.684-1.375	1.020	0.716-1.452
	Middle	1.317	0.933-1.860	1.422*	1.009-2.004
	Higher	1.325	0.905-1.941	1.405	0.958-2.061
	Highest	1.252	0.841-1.865	1.401	0.919-2.138

* $p < 0.05$; ** $p < 0.01$; *** $p < 0.001$. Source: Field Survey, 2022

Note: Place of residence and Province were omitted from this table due to insignificance

DISCUSSIONS

The findings of this study show that there is a direct association between knowledge of abortion and specifics about its legal condition with the contraception use i.e., the trend of contraception use is comparatively high among women who are aware of the legal condition of abortion in Nepal. A study that aimed to assess the level of awareness and knowledge of contraception among women found that the parous women, women who had an abortion, had completed their family, or used contraception previously were more likely to have a higher awareness of contraception.⁵ These findings are consistent with a study in a similar context that also revealed that access to abortion and awareness of legality for abortion of abortion is high among women who were in more contact with the health system, and specifically, the use of contraceptive services.⁶ These emphasize that focusing on increased and more competent contraceptive awareness in health facilities including post-abortion family planning counseling can be an effective tool to increase the usage of

contraceptives.⁷ These findings from the studies show that increased knowledge of contraceptives contributes to increased knowledge of abortion and vice versa.^{6,7} Comparatively, the use of contraception is less prevalent among married adolescent girls in this study. The limited knowledge, social norms, and values regarding contraception could be the reason for low contraception use among adolescents.⁷ Thus, this study recommends programs and interventions such as access to adolescent-friendly health services, information corner, comprehensive sexuality education, digital health on safe abortion, and contraception to increase knowledge and service utilization among adolescents as they are more likely to be involved in unsafe sex.^{7,8}

This study presents a unique finding which shows that there is an inverse relation between education level and contraception use. The use of contraception is more common among respondents with lower education. This finding contrasts with a study that found that higher education levels are positively associated with contraceptive use.⁸ The reason for the inverse relation

in our study may be due to the perceived knowledge about the side effects of contraception use which has also been explained by Khanal et al.⁹ An experimental study that examined postpartum education about contraceptive use in different countries including Nepal found that in Nepal, with an education session immediately postpartum were more likely to use contraception than those with later or no session.¹⁰ These results highlight that simply having a formal education isn't sufficient to promote contraceptive use. Therefore, this study suggests prioritizing government-led awareness campaigns and providing contraceptive counseling through healthcare providers. These efforts can help disperse myths about contraception's side effects and encourage its use. Findings from this national representative survey indicate a difference in contraception use among employed and unemployed women. These findings align with a previous study conducted on a larger group of married women in Bangladesh. That study also concluded that increasing job opportunities for women and considering sociodemographic factors when designing policies and programs can have a significant impact on promoting contraceptive use.¹¹

In our study, we discovered that Madhesi and Muslim women had the lowest rates of contraception utilization. This observation is consistent with the findings of a qualitative study conducted to explore the socio-cultural factors affecting contraception use. The qualitative study highlighted that the misunderstanding of Islamic teachings regarding contraception has had a negative effect on the adoption of family planning methods.¹² Additionally, social and cultural values that encourage larger families have played a role in shaping fertility preferences hindering the use of family planning methods.¹²

There are various studies that are based on abortion and contraception but there are limited studies that have explored the association between abortion knowledge and its condition, and contraceptive use. Since this is a nationally representative study, our findings can be generalized for a larger population and could serve as significant landmarks for future studies looking at the association between abortion knowledge and contraceptive use.

The study's scope primarily covers ever-married WRA which results in a limited representation of adolescent girls, with only 1.9% of the total population, potentially affecting the generalizability of findings to this demographic.

CONCLUSIONS

Understanding the legal aspects and conditions surrounding abortion services plays a crucial role in promoting the use of contraception. It's important to understand that abortion should not be viewed just as an alternative to contraception. In fact, raising awareness about abortion services can have a positive impact on increasing contraception usage. This, in turn, helps to reduce unintended pregnancies and ultimately lowers the rate of induced abortions. To effectively address these issues, it is recommended that policymakers implement targeted strategies, focusing on specific groups of women. Tailoring contraception campaigns to cater to the needs of younger women, those from poor backgrounds, those with strong cultural ties, and those who are unemployed can prove highly effective in encouraging contraception utilization. By addressing the circumstances and concerns of these groups, such campaigns can contribute significantly to Nepal's government target of achieving a 60 percent usage rate of modern contraception methods by women of reproductive age (15-49) by 2030, as specified in SDG 3.7.1(a), as outlined by the Ministry of Health and Population in 2022.⁴

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CONFLICT OF INTEREST

The authors declare no conflict of interest.

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