Consequences of Access to Legal Abortion for Women's Socioeconomic Wellbeing in Nepal

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Abstract

Nepal has one of the world's most progressive abortion laws, yet legal, safe services remain inaccessible to many Nepali women, particularly those who are poor, marginalized, or geographically isolated.

We assess the effect of being denied a wanted abortion on socioeconomic outcomes among 1841 women who sought an abortion between April 2019 and December 2020 from government-approved health facilities across Nepal and completed semiannual interviews over the next 36 months. We examined the changes in socioeconomic outcomes over time using mixed-effects regression models and propensity score models to distinguish economic disparities that predate abortion denial from hardships that result.

Women who were unable to get a wanted abortion showed significant economic hardship with significantly increased prevalence of inadequate household income after the birth of the child and lower labor force participation over three years using mixed effects models. Household economic instability may contribute to the greater incidence of underweight after the birth of the child, as well as the household going days without eating, skipping meals or not affording preferred foods. Lack of equitable abortion access perpetuates and exacerbates household economic and food insecurity.

Introduction

The Nepali government has taken steps to provide comprehensive pregnancy options as part of women's reproductive health services. In 2002, abortion was legalized in Nepal[1] and the passage of the Safe Abortion Policy in 2004 resulted in services being established at almost all government hospitals, and designated private and non-governmental organization (NGO) facilities. The law, with amendment in 2018, allows for medication abortions until 10 weeks of gestation; abortion procedures are available until 12 weeks of gestation upon request and until 28 weeks of gestation in cases of rape, incest, or physical and mental health complications, such as incurable diseases (e.g., HIV/AIDS) or the presence of a fetal condition incompatible with life.[2] Only physicians and midlevel providers certified in safe abortion care by the government are eligible to provide abortion services under the amended law. Since 2017, all abortions at public sector facilities are to be provided free of cost.

Despite the expansion of abortion services under Nepali law, legal, safe abortion services remain inaccessible to many Nepali women, particularly those who are poor, marginalized, or geographically isolated.[3] One in ten women seeking abortion in Nepal is denied care from certified health facility.[4] Nearly three-quarters of those denied care were legally eligible for abortion, based on gestation stage and pre-existing mental health conditions.[5] Abortion denial is often unrelated to the women's characteristics, including the availability of a doctor or medications on the day of care-seeking. Yet, our work has shown clear evidence of a socioeconomic gradient to who is able to access abortion services in Nepal.[6] The greatest magnitude of effect are seen by wealth: those in the lowest quintile of wealth were somewhat more likely to be denied an abortion (OR=1.78) and they were vastly more likely to carry an unwanted pregnancy to term (OR=4.38 compared to the highest quintile).

Nepal is an important context for examining the health and socioeconomic impact of access to abortion. Women in Nepal have some of the poorest health and empowerment indicators in the world, leading to adverse intergenerational health outcomes. In Nepal, 10% of non-pregnant women aged 20–49 years are underweight (body mass index [BMI] < 18.5 kg/m^2).[7] Only 60% of women reported being currently employed compared with 77% of men, and women are more likely to be employed in agriculture (67% vs 27% of men). Socioeconomic drivers of access to abortion likely compound the consequences of abortion denial since those who carry pregnancies to term may be least able to materially support them. The aim of this paper is to measure the impact of abortion denial on women's socio-economic status. We hypothesize that women who are denied abortions will have lower socio-economic status (labor force participation, household income, etc.) three years later.

Methods

The Nepal Turnaway Study is a longitudinal, prospective study of women who sought abortion care at 22 facilities across the 7 provinces of Nepal, including 8 public government hospitals and 14 NGO facilities. Sites were randomly selected with weights for client volume to represent the population of women seeking care. Women who sought abortion care at one of the study facilities, were at least 15 years old, and lived in Nepal were eligible for study enrollment. After 1-month of recruiting all eligible participants, we restricted eligibility to those who self-reported their last menstrual period (LMP) as 10 weeks prior or who did not know the date of their LMP (regardless of reason for abortion). Our intention was to limit recruitment to a narrower population at high risk of denial of care and reduce selection effects whereby people with fewer resources present later in pregnancy and are more likely to be denied care. Recruitment began April 16, 2019, and ended December 31, 2020 (with a 3-month suspension due to COVID-19 travel restrictions). Interviews were conducted in Nepali, Maithali, Tharu, Hindi, or Bhojpuri and lasted an average of 40 minutes. Participants received financial compensation of approximately $4 for each interview.

We explore two main economic outcomes and four measures of household and personal nutritional inadequacy. Participants were asked to rate their overall household income as not adequate, adequate, or more than adequate. The latter two responses were combined to create a dichotomous outcome. Labor force participation was captured in the question "Aside from your own housework, are you currently working? If yes,

what kind of work do you do?" We also explore measures of nutritional adequacy including reporting that, specifically due to lack of resources, a household member was not able to eat the kinds of food they preferred, a household member ate fewer meals per day, or went a whole day and night without eating. Our final measure of resource scarcity is whether the respondent is underweight (BMI<18.5).

To assess changes in economic outcomes over time, we fit mixed-effects regression models, including group-by-time linear and quadratic interaction terms. We explore two models with fixed effects for individual and recruitment facility. The first uses with no weights or controls to document the experience of abortion denial leading to birth including both pre-existing and consequent hardship. The second uses propensity scores to balance the distribution of observed covariates between study groups isolating the causal effects of abortion denial on economic wellbeing.[8,9] We developed propensity scores based on our conceptual framework, which is informed by our previous work. We hypothesize that ability to end an unwanted pregnancy is a function of demographic and economic disadvantages, poor access to abortion as well as personal factors such as mental health and pregnancy desires as well as empowerment – the ability to make and carry out health care decisions. We examine two analytic groups: 1) those who received an abortion at the certified facility or obtained an abortion elsewhere after initial denial; and 2) those who carried the pregnancy to term after denial. This comparison of birth vs abortion reveals the consequences of having control over the timing and circumstances of childbirth. Unadjusted models were compared with models with propensity scores to determine the extent to which negative outcomes are due to selection into denial of abortion or the consequence of giving birth in an unwanted pregnancy.

Results

During our recruitment period, 1,931 eligible women sought an abortion at our 22 recruitment sites, of whom 1,841 (95% of eligible women) agreed to participate and complete a baseline interview at the recruitment facility. Among participants, 1,674 (91% of enrollees) completed at least one subsequent interview at home or another location, which occurred 6 weeks after baseline and then at 6-month intervals over the next three years. In December 2023, 90% of women who did a baseline interview had completed their 36-month interview. In the first month of recruitment during which we recruited all women seeking abortion, 11% were denied care from the clinic. Women were much more likely to be turned away (59% denied) if they presented at or after 10 weeks of pregnancy or did not know how long they had been pregnancy. The analytic sample for this paper is women who participated in at least one subsequent interview and for whom we know the outcome of the pregnancy: 938 women who received an abortion from the recruitment facility, 465 denied at the recruitment facility but who successfully obtained an abortion elsewhere, and 275 women gave birth after being denied a legal abortion.

Differentials in access to abortion and development of propensity scores

The substantial socioeconomic differentials documented for those who received versus were denied abortions at the recruitment facility[10] are also apparent in those who received an abortion anywhere versus gave birth. Table 1 shows the distribution of characteristics between those who received an abortion versus gave birth – with and without propensity score weights. The propensity scores are effective in balancing the two groups. There are no differences in the propensity score *weighted* distributions.

Unadjusted models show larger effects of birth on outcomes than those with propensity score adjustments, indicating that pre-existing economic hardship contributes to long term resource adequacy. Predicted probabilities from these models in Figure 1 show that giving birth is consistently associated with hardship compared to receiving an abortion (abortion unadjusted) and that some of this effect is due to pre-existing disadvantage. The PSW line shows the experience of those who received their abortion if they had the same preexisting hardships as those who gave birth. Adjusting for selection into abortion denial through propensity score weighting, we see that giving birth increases the chance of reporting an inadequate household income between 12 and 30 months after seeking abortion, reduces the chance of being employed from 6 months to 30 months and results in greater chance of household nutritional insufficiency. Although those who give birth are less likely to be underweight while they are still pregnancy (roughly to 6 months), they are more likely to be underweight after delivery.

Conclusions

The Nepal Turnaway Study aims to examine the effect of access to abortion on individuals' and families' economic wellbeing, health and life trajectories; this paper focuses on the socioeconomic consequences. In Nepal, we find that those who are turned away from a certified abortion facility are more likely to be socially disadvantaged. Young women, those from disadvantaged castes, those with low levels of education and those with the least household wealth are more likely to both be denied an abortion and carry an unwanted pregnancy to term.

As we would expect given that economic hardships predispose women to being denied an abortion, abortion denial is associated with adverse economic outcomes. In studying women's report of household income inadequacy, we see that childbirth following abortion denial is associated with twice the odds of reporting household income inadequacy three years later. Not being able to access a wanted abortion is associated with a 50% reduction in the odds of employment outside the home. After balancing the sample of women who received an abortion to reflect the pre-existing hardship of the birth group, we see that birth is associated with additional economic insecurity -- years of household income inadequacy, individual food insecurity, underweight status, and constrained employment.

The full magnitude of the effect of unequal and inadequate access to abortion can best be seen in the unadjusted and unweighted models. In these models of the raw data, we see that the experience of someone who is disadvantaged and who cannot access wanted abortion care is both a product of pre-existing hardship and additional hardships associated with having a birth under adverse circumstances. These data give new perspective and evidence to support the concept of stratified reproduction. Being unable to access a wanted abortion exacerbates household economic insecurity.

Figure 1: Predicted probability of selected economic outcomes by whether women gave birth or received a wanted abortion in unadjusted and propensity score weighted models

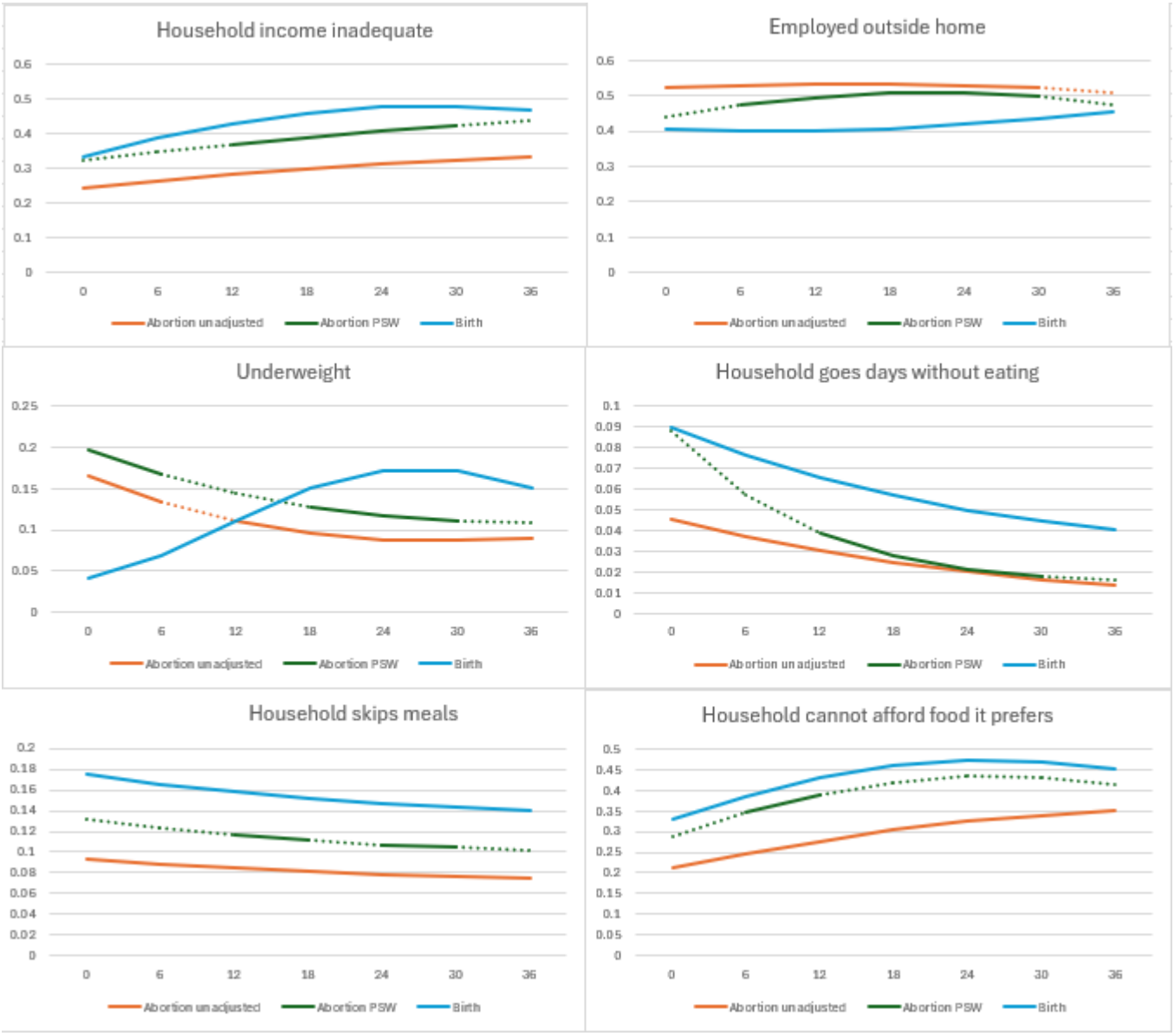

Table 1. characteristics of the sample with and without propensity score weighting.

		got abortion/r	gave birth	Total	Test	got abortion/r	gave birth	Total	Test
N		1,470 (84.2%)	275 (15.8%)	1,745 (100.0%)		273 (49.8%)	275 (50.2%)	548 (100.0%)	
Age									
	<24	469 (31.9%)	110 (40.0%)	579 (33.2%)	0.001	107 (39.3%)	110 (40.0%)	217 (39.6%)	0.997
	25-29	417 (28.4%)	89 (32.4%)	506 (29.0%)		89 (32.8%)	89 (32.4%)	178 (32.6%)	
	30-34	332 (22.6%)	48 (17.5%)	380 (21.8%)		48 (17.8%)	48 (17.5%)	96 (17.6%)	
	35+	252 (17.1%)	28 (10.2%)	280 (16.0%)		28 (10.2%)	28 (10.2%)	56 (10.2%)	
Married		0.971 (0.167)	0.978 (0.146)	0.972 (0.164)	0.53	0.983 (0.128)	0.978 (0.146)	0.981 (0.138)	0.593
Caste									
	Brahmin/Chhetri/Thakur	596 (40.7%)	89 (32.6%)	685 (39.4%)	<0.001	87 (32.1%)	89 (32.6%)	176 (32.3%)	0.977
	Hill Janajati	347 (23.7%)	69 (25.3%)	416 (23.9%)		66 (24.3%)	69 (25.3%)	135 (24.8%)	
	Dalit/other	192 (13.1%)	67 (24.5%)	259 (14.9%)		70 (25.7%)	67 (24.5%)	137 (25.1%)	
	Terai Janajati	330 (22.5%)	48 (17.6%)	378 (21.7%)		49 (17.9%)	48 (17.6%)	97 (17.8%)	
Educational attainment									
	No/some formal schooli	230 (15.7%)	49 (17.9%)	279 (16.1%)	<0.001	48 (17.5%)	49 (17.9%)	97 (17.7%)	0.988
	Primary	203 (13.9%)	64 (23.4%)	267 (15.4%)		66 (24.2%)	64 (23.4%)	130 (23.8%)	
	Secondary	923 (63.0%)	149 (54.6%)	1,072 (61.7%)		147 (53.9%)	149 (54.6%)	296 (54.2%)	
	Higher	108 (7.4%)	11 (4.0%)	119 (6.9%)		12 (4.4%)	11 (4.0%)	23 (4.2%)	
Employed outside home		0.549 (0.498)	0.480 (0.501)	0.539 (0.499)	0.034	0.479 (0.500)	0.480 (0.501)	0.479 (0.500)	0.978
Number of children									
	0	200 (13.6%)	31 (11.3%)	231 (13.2%)	0.181	29 (10.7%)	31 (11.3%)	60 (11.0%)	0.954
	1	438 (29.8%)	82 (29.8%)	520 (29.8%)		77 (28.4%)	82 (29.8%)	159 (29.1%)	
	2	533 (36.3%)	91 (33.1%)	624 (35.8%)		94 (34.5%)	91 (33.1%)	185 (33.8%)	
	3 or more	299 (20.3%)	71 (25.8%)	370 (21.2%)		72 (26.4%)	71 (25.8%)	143 (26.1%)	
Wealth quintile at 6wk									
	1	230 (16.7%)	98 (37.8%)	328 (20.1%)	<0.001	95 (37.0%)	98 (37.8%)	193 (37.4%)	0.997
	2	271 (19.7%)	55 (21.2%)	326 (20.0%)		54 (21.1%)	55 (21.2%)	109 (21.2%)	
	3	281 (20.5%)	46 (17.8%)	327 (20.0%)		45 (17.5%)	46 (17.8%)	91 (17.6%)	
	4	287 (20.9%)	39 (15.1%)	326 (20.0%)		41 (15.8%)	39 (15.1%)	80 (15.4%)	
	5	305 (22.2%)	21 (8.1%)	326 (20.0%)		22 (8.5%)	21 (8.1%)	43 (8.3%)	
Private facility		0.714 (0.452)	0.716 (0.452)	0.715 (0.452)	0.944	0.728 (0.445)	0.716 (0.452)	0.722 (0.448)	0.716
Travel time to clinic									
	half hour	482 (32.8%)	53 (19.3%)	535 (30.7%)	<0.001	52 (19.1%)	53 (19.3%)	105 (19.2%)	0.994
	up to 1 hour	354 (24.1%)	69 (25.1%)	423 (24.2%)		70 (25.8%)	69 (25.1%)	139 (25.5%)	
	up to 3 hours	333 (22.7%)	80 (29.1%)	413 (23.7%)		80 (29.3%)	80 (29.1%)	160 (29.2%)	
	up to 24 hours	301 (20.5%)	73 (26.5%)	374 (21.4%)		70 (25.8%)	73 (26.5%)	143 (26.2%)	
Gestation at time of abortion seeking									
	at below 10 weeks	613 (41.7%)	35 (12.7%)	648 (37.1%)	<0.001	34 (12.6%)	35 (12.7%)	69 (12.6%)	0.875
	above 10 weeks	486 (33.1%)	149 (54.2%)	635 (36.4%)		152 (55.9%)	149 (54.2%)	301 (55.0%)	
	dk gestation	371 (25.2%)	91 (33.1%)	462 (26.5%)		86 (31.6%)	91 (33.1%)	177 (32.3%)	
Reported abortion for sex selection		0.079 (0.270)	0.185 (0.389)	0.096 (0.294)	<0.001	0.183 (0.387)	0.185 (0.389)	0.184 (0.388)	0.939
Pregnancy Intendedness		3.667 (2.676)	3.804 (2.605)	3.689 (2.664)	0.436	3.783 (2.796)	3.804 (2.605)	3.793 (2.700)	0.917
History of depression or Anxiety(Q8		0.314 (0.464)	0.336 (0.473)	0.317 (0.466)	0.478	0.318 (0.466)	0.336 (0.473)	0.327 (0.469)	0.615
Reported intimate partner violence		0.213 (0.410)	0.273 (0.446)	0.222 (0.416)	0.029	0.261 (0.440)	0.273 (0.446)	0.267 (0.443)	0.735
DecScore		0.824 (0.908)	0.676 (0.884)	0.801 (0.906)	0.013	0.664 (0.868)	0.676 (0.884)	0.670 (0.875)	0.847
LimitedMobility_bl		0.224 (0.417)	0.305 (0.461)	0.237 (0.425)	0.003	0.298 (0.457)	0.305 (0.461)	0.302 (0.459)	0.817
Facility Province									
	1	321 (21.8%)	63 (22.9%)	384 (22.0%)	<0.001	60 (22.2%)	63 (22.9%)	123 (22.5%)	1.000
	2	163 (11.1%)	42 (15.3%)	205 (11.7%)		42 (15.3%)	42 (15.3%)	84 (15.3%)	
	3	121 (8.2%)	16 (5.8%)	137 (7.9%)		16 (6.1%)	16 (5.8%)	32 (5.9%)	
	4	133 (9.0%)	15 (5.5%)	148 (8.5%)		14 (5.3%)	15 (5.5%)	29 (5.4%)	
	5	134 (9.1%)	38 (13.8%)	172 (9.9%)		37 (13.6%)	38 (13.8%)	75 (13.7%)	
	6	279 (19.0%)	77 (28.0%)	356 (20.4%)		77 (28.3%)	77 (28.0%)	154 (28.2%)	
	7	319 (21.7%)	24 (8.7%)	343 (19.7%)		25 (9.2%)	24 (8.7%)	49 (9.0%)	

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