Disability Status and Unintended Pregnancy: Differential risk of pregnancy or fertility preferences?

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Short Abstract

We know little about the reproductive goals of women with disabilities. While one U.S. study has shown women with disabilities may be vulnerable to unintended pregnancy, replication of this analysis in 8 low and middle-income countries finds the reverse: women with disabilities consistently have lower odds of experiencing unintended pregnancy than women without disabilities.

This study uses Demographic and Health Surveys data in these 8 countries to explore intermediary factors that could explain this observed negative association. We explore factors in two areas: (1) differential exposure to the risk of pregnancy and (2) differential fertility preferences.

We find women with disabilities are consistently less likely (differences of 5-24 percentage points) to experience any pregnancy in the last 5 years. Differences in recent sex (6 countries) and contraceptive use (3 countries) explain this finding. In 4 countries, women with disabilities prefer more children and in only one they are less likely to want to delay a birth.

We conclude that differences in the exposure to risk of pregnancy, foremost as measured by pregnancy experience, and secondarily by recency of sex and contraceptive use, are likelier explanations of lower odds of unintended pregnancy among women with disability than differences in fertility preferences.

Key words: disabilities, unintended pregnancy, contraceptive use, fertility preferences

Introduction

We poorly understand the reproductive goals of women with disabilities as well as how well they do or do not meet those goals because of an inadequate literature, particularly in low- and middle-income countries, on fertility desires and preferences, contraceptive use, experiences with infertility, and unintended pregnancy among women with disabilities. Women with disabilities may face greater risk of unintended pregnancy for a variety of reasons. For example, women with disabilities may be dismissed as sexual beings with reproductive health needs (Iezzoni 2009), have their agency undermined, with providers or family members patronizingly defining their interests for them or acting as gatekeepers to healthcare (Mosher et al. 2017), or experience reproductive coercion (including pregnancy pressure, contraceptive sabotage, or control over the pregnancy outcome (Alhusen et al. 2020; Miller et al. 2014; Moore, Frohwirth, and Miller 2010). In a scant literature on this topic, a recent study using nationally representative data in the US offered empirical evidence that self-reported disability status was associated with increased odds of experiencing unintended pregnancy in the United States (Horner-Johnson et al.).

However, a study that sought to replicate this analysis in eight low and middle income countries failed to reproduce this positive association, despite nearly identical measures and analytical procedures (MacQuarrie and Fleuret 2021). In contrast to the U.S. study, this study found a consistent negative association between having a disability and experiencing an unintended pregnancy. Odds of experiencing an unintended pregnancy in the last 5 years were reduced by 20% (Mali) to 38% (Pakistan) compared with women with no disability.

This study seeks to explain this persistent, negative association with unintended pregnancy by exploring associations between disability status and two sets of explanatory factors in these same 8 countries. We explore multiple measures of differential exposure to the risk of pregnancy (any pregnancy experience in the last 5 years, recency of sex, and contraceptive use) and of differential fertility preferences (current fertility desires and ideal family size).

Methods

This study uses data from Demographic and Health Surveys (DHS) conducted since 2010 and containing the disability module. The surveys are: Haiti 2016 (n=15,393), Mali 2018 (n=10,519), Nigeria 2018 (n=41,821), Pakistan 2017-18 (n=12,364), Senegal 2018 (9,414), South Africa 2016 (n=8,514), Timor-Leste 2016 (n=12,607), and Uganda 2016 (n=18,506).

In 2015, the DHS Program established a standard optional module on disability, adapted from the Washington Group Short Set (WG-SS) of questions on functional limitations (Washington Group on Disability Statistics 2020b). The module covers 6 functional areas: vision, hearing, communication, cognition (remembering and concentrating), mobility (walking or climbing steps), and self-care (washing all over and dressing). Each person's level of difficulty in each domain is categorized on a 4-point scale: no difficulty, some difficulty, a lot of difficulty, or cannot perform task/function at all.

In line with the cut off recommended by the Washington Group for analysis of the WG-SS, we take "a lot of difficulty" or "cannot perform task/function at all" as indication of the presence of a disability (Washington Group on Disability Statistics 2020a). Our disability measure is a dichotomous measure of

the presence of any disability (i.e., a lot of difficulty or cannot perform the function at all in at least one functional area).

Having established a persistent association between disability status and experience of unintended pregnancy (MacQuarrie and Fleuret 2021) we conduct both bivariate and multivariable analysis to investigate any relationship between women's disability status and possible explanatory factors. We explore factors in two areas: (1) differential exposure to the risk of pregnancy (measured by experience of any pregnancy in the last 5 years; recency of sex (in the last 30 days); and current contraceptive use) and (2) differential fertility preferences (measured by ideal number of children and fertility desires (wants to delay/avoid a next birth by 2+ years, yes or no). First, we present cross-tabulations (and group means for ideal number of children) with a chi-square test of independence. Next, prior to IUSSP, we will estimate multivariable logistic regressions on each factor, with the following variables as controls: age, education, household wealth quintile, current marital status, and parity.

Additionally, we do not pool data from the 8 DHS surveys. Rather, we estimate survey-specific models for each country. All analyses are conducted in Stata MP 16.1. Data are weighted with sample weights to account for sampling probability and non-response and use the *svyset* suite of commands to account for the complex sampling design of DHS surveys.

Results

Table 1-3 present comparisons of several factors related to exposure to the risk of pregnancy: pregnancy experience, recency of sex (as a proxy for frequency of sex), and contraceptive use. Tables 4-6 present two factors related to fertility preferences; current fertility desires, and ideal number of children.

In all study countries, Table 1 indicates that women with disabilities are less likely to have experienced a pregnancy in the last 5 years. The difference ranges from five percentage points in Uganda to 24 points in Pakistan and are significant at the $p<0.001$ level.

Table 1. Percent distribution of experience of pregnancy in the last 5 years by disability status

	% among women with a disability	% among women with no disability	χ2 p-value
Haiti	22.3%	34.4%	0.000
Mali	57.6%	63.9%	0.000
Nigeria	34.4%	53.3%	0.000
Pakistan	37.2%	60.8%	0.000
Senegal	33.1%	47.6%	0.000
South Africa	27.1%	37.1%	0.000
Timor Leste	30.9%	40.7%	0.000
Uganda	51.5%	56.0%	0.000

The reasons for this may vary by country, however. As Table 2 shows, women with disabilities are significantly less likely to have had sex in the last month in Nigeria (54% vs 58%), Pakistan (69% vs 74%), and Senegal (39% vs 46%). This direction would be consistent with less likelihood of pregnancy. However, in Haiti, Timor Leste, and Uganda, women with disabilities are significantly more likely to have had sex in

the last month as compared to women without disabilities, a direction that does not support less exposure to risk of pregnancy. Further, the differences are not significant in either Mali or South Africa.

Table 2. Percent distribution of sex in the last month by disability status

	% among women with a disability	% among women with no disability	χ2 p-value
Haiti	48.5%	45.0%	0.008
Mali	65.1%	65.7%	0.706
Nigeria	53.6%	58.3%	0.001
Pakistan	69.0%	74.2%	0.000
Senegal	39.0%	45.8%	0.010
South Africa	49.3%	49.1%	0.926
Timor Leste	50.6%	40.7%	0.000
Uganda	53.3%	50.6%	0.003

Greater use of contraception would signify less exposure to the risk of pregnancy and could explain lower odds of unintended pregnancy. Table 3 shows women with disabilities are significantly more likely to be using any method of contraception compared to those without disabilities in three countries: Mali, Pakistan, and Uganda, while the difference between these groups approaches significance in Senegal and Timor Leste. The differences are, again largest in Pakistan (12 points). There are no countries in which women with disabilities are less likely to use contraception.

Table 3. Percent distribution of current contraceptive use by disability status

	Current use of any contraception		
	% among women with a disability	% among women with no disability	χ2 p-value
Haiti	25.0%	23.9%	0.353
Mali	18.3%	15.8%	0.049
Nigeria	15.2%	14.3%	0.348
Pakistan	41.7%	29.8%	0.000
Senegal	21.9%	19.1%	0.075
South Africa	46.0%	48.5%	0.175
Timor Leste	18.4%	15.8%	0.077
Uganda	32.4%	29.5%	0.002

Fertility desires are measured at the time of the survey regarding future children and do not reflect intentionality regarding the previous pregnancy. Women with disabilities wanting to have another child soon more so than women without disabilities (or conversely a desire to delay/limit childbearing less so than women without disabilities) would suggest a general pro-natalist orientation that would be consistent with the observed negative association with unintended pregnancy. This is not what our results show.

In five of the eight study countries, Table 4 indicates that women with disabilities are more likely—not less likely—to want to delay the next birth by two or more years or have no more children, as compared to

women without disabilities. Differences are largest in Timor Leste where the two groups of women are separated by 20 points. Only in South Africa do we see a significant difference in the expected direction. Here, 27% of women with disabilities as compared to 37% of women without disabilities.

Table 4. Percent distribution of current fertility desires by disability status

	Desire to delay 2+ years or have no more children		
	% among women with disability	% among women with no disability	χ2 p-value
Haiti	83.0%	80.6%	0.270
Mali	55.8%	49.1%	0.000
Nigeria	53.6%	45.5%	0.000
Pakistan	75.0%	58.2%	0.000
Senegal	71.3%	62.9%	0.938
South Africa	27.1%	37.1%	0.000
Timor Leste	53.1%	32.8%	0.000
Uganda	79.4%	72.2%	0.000

A higher ideal number of children could logically explain why women with disabilities have lower odds of unintended pregnancy. As with current fertility desires, this measure of fertility preferences does not provide clear cut evidence (Table 5). The differences between the two groups are generally small, albeit statistically significant. For example, a difference of 0.01 children is detected to be statistically significant in Mali. However, they are inconsistent in direction. Women with disabilities prefer a larger number of children (0.08 to 0.83 more) in four countries: Haiti, South Africa, and Timor Leste and a smaller number of children (0.01 to 0.15 fewer) in four countries: Mali, Nigeria, Pakistan, and Senegal.

Table 5. Mean ideal number of children by disability status

	Women with disability	Women with no disability	p-value
Haiti	1.62	1.54	0.000
Mali	2.70	2.71	0.000
Nigeria	2.55	2.61	0.000
Pakistan	2.06	2.14	0.000
Senegal	2.51	2.66	0.000
South Africa	1.60	1.52	0.000
Timor Leste	2.96	2.13	0.000
Uganda	2.45	2.31	0.000

Conclusion

We explore two sets of factors that could explain the consistent, negative association between disability status and unintended pregnancy: those relating to exposure to the risk of pregnancy and those relating to fertility preferences. We find that, compared with women without disabilities, women with disabilities are less likely to experience any pregnancy—whether intended or not—in the last five years. Our finding

contrasts with studies indicating pregnancy rates appear to be similar among women with and without disabilities in U.S.- and Canada-based samples (Brown et al. 2018; Horner-Johnson et al. 2016).

We find a robust (bivariate) association with women having a disability and a lower likelihood of experiencing a pregnancy in the last five years. It is possible that if we restricted our sample to only those women who experienced a pregnancy, we may find unintended pregnancy results that are more consistent with those of Horner-Johnson study.

While the lower experience of pregnancy is consistent across all eight study countries, the explanation for this lower risk of pregnancy is less consistent. Studies indicate American women with disabilities have similar levels of sexual activity as their counterparts without disabilities (Haynes et al. 2018). In the US, one study indicated disability was positively associated with non-use of contraception, sterilization, and pill use (Mosher et al. 2018), whereas in Portugal, contraceptive use was similar between adolescents with and without intellectual disabilities (Nunes et al. 2017). In this study in Pakistan and possibly Senegal, women with disabilities had less likelihood of recent sex and greater likelihood of contraceptive use. But only in these countries do these factors combine to reinforce the less exposure to the risk of pregnancy. In Mali, Uganda, and possibly Timor Leste, greater contraceptive use, but not sexual recency, appears to be a possible explanation. In Nigeria, less recent sex but not greater contraceptive use may be an explanation.

By one measure of fertility preferences—ideal number of children—women express a more pro-natalist orientation consistent with greater experience of *intended* pregnancy in four countries (Haiti, South Africa, Timor Leste, and Uganda) but only in one country (South Africa), by the other measure (desire to become pregnant within the next 2 years). Elsewhere, women with disabilities generally express fertility preferences inconsistent with such a pronatalist orientation. This finding, alongside the strong consistent negative association with the experience of any recent pregnancy, suggests that exposure to the risk of pregnancy may be a better explanation of the association with unintended pregnancy—***subject to further testing in multivariable models***.

This study is an initial foray into the relationship between disability status and factors that could explain unintended pregnancy in low and middle income countries, a surprising gap in the literature given recent focus on equity, inclusion, and rights, including disabilities, in major international reproductive health initiatives. This study indicates that more research in the area of reproductive health experiences and needs among women with disabilities is needed. Additional investigation is warranted into the specific pathways by which women with disabilities come to experience or avoid an unintended pregnancy, with particular focus on their motivations for pregnancy, fertility ideation, contraceptive behaviors, and agency. Additional attention should perhaps also be heeded to the selection effect by which women arrive at a state of unintended pregnancy the experience of becoming pregnant.

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