*** Long Abstract (Draft) ***

Attitudes and practice of abortion in Tehran, Iran: The role of religiosity

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Prepared to be submitted to 2020 Meeting of European Population Conference, Padova, Italy, 24-27 June, 2020

Dated: 27-October-2019

Introduction

Induced abortion (henceforth called "abortion") is illegal in Iran and it is only permitted on certain circumstances under which the mother's health is endangered or there is a risk of birth defect (Erfani and McQuillan, 2008). Given the stigma and political sensitivity surrounding abortion in Iran, systematic knowledge on the levels and determinants of abortion incidence and attitudes are limited. The only two nationally representative studies documenting the prevalence of abortions in Iran have estimated the annual incidence of 73,000 abortions for 2000 (Erfani and McQuillan, 2008) and 129,000 abortions for 2012 (Rastegari et al. 2014). Beyond these overall estimates of incidence of abortions, these studies do not provide detailed information regarding determinants of practice of abortion and attitudes toward abortion. Merely in two recent studies, examining correlates of abortion rates, Erfani (2011, 2016) has estimated abortion rates for socioeconomic and demographic sub-groups of the population of married women living in the city of Tehran (the capital city of Iran). He found greater abortion rates among more educated, rich and less religious women and those who desired no more children. However, the net impacts of these correlates of abortion rates, especially the extent of being religious (religiosity), have not been examined due to the descriptive nature of the study. Moreover, no systematic study has yet examined women's attitudes to abortion in Iran. This study aims to fill these gaps in the literature.

Conceptual Framework

The abortion incidence varies by women's demographic and socioeconomic characteristics (Bankole et al. 1999), which influence the decision to perform an abortion mainly through the probability of undergoing an abortion in the event of contraceptive failure, fertility preferences, and the effective use of contraceptive methods to achieve these preferences (Bongaarts and Westoff, 2000). Based on this conceptual model, this study examines the net impact of three direct determinants of abortion incidence, including religiosity, as a proxy for the probability of abortion, fertility desire, and effective use of contraceptive methods, with a focus on religiosity. So, the conceptual model will be adjusted for confounding factors, including women's demographic and socioeconomic characteristics.

Methodology

Data

This study uses data from the 2019 Tehran Surveys of Fertility (TSF), conducted in a representative sample of 2,934 married women of reproductive ages in the city of Tehran, the nation's capital. The survey was administered to a population of currently married women aged 15-49 residing in 22 residential districts of the city of Tehran, through face-to-face interviews conducted by more than 30 trained and experienced female interviewers, employing a two-stage stratified cluster random sampling design. The survey collected a wide range of data, including complete histories of live births, contraceptive use, and abortions, as well as data on fertility intention, breastfeeding, and the socio-economic and demographic characteristics of women and their husbands. Data on abortion range from abortion histories, reasons for abortion, and contraceptive methods used before the abortion.

Out of 2,935 currently married women, 244 women reported that they have had at least one induced abortion in their lifetime.

Measures and Methods

Two dependent variables are used in this study. The first dependent variable measures attitudes toward abortion, which is measured by a 4-point Guttman scale constructed based on eight questions on the circumstances under which a woman might have an abortion. The circumstances included in the scale were, in order of ease of approval: if the mother's life is endangered; if the pregnancy leads to a birth defect; if the pregnancy ends in the disability of the mother; if the pregnancy is the result of rape; if the couple cannot afford another child; if the pregnancy occurs outside a marital relationship; if the pregnancy occurs when the mother is only a fiancée, but is not yet legally and religiously engaged (before official engagement); if the pregnancy occurs before wedding but within the religious and legal marriage. A summated scale will be constructed out of these eight attitude questions, with scores ranging from 8 to 32.

The second dependent variable measures the practice of abortion by a dummy survey question asking all women in the study sample whether they have ever had any induced abortions over their lifetime (Yes/No).

Two groups of independent variables are used. The first group includes three direct determinants of abortion: religiosity, measuring probability of abortion, fertility desire, and effective contraceptive use before and at the time of the last birth. Since most of abortions in Iran are performed for limiting births (Erfani, 2011, 2016), women's contraceptive behavior before the last birth is the most relevant data to measure the impact of contraceptive use on the lifetime abortion incidence. Besides, religiosity is measured by a survey question asking women to what extent religion is important in their life. The second category of independent variables contains control factors, including women's education, employment status, ethnicity, residential district and household income.

Multivariate linear and logistic regression models are used to examine the influence of religiosity on the abortion attitudes and practice, respectively.

Preliminary Results

Table 1 shows high levels of support for abortion in the circumstances that the mother's health and life are endangered, and the pregnancy leads to a birth defect or results from rape. The interesting result is that contrary to evidences from Western countries, there is a great support for abortion if the pregnancy occurs outside marriage. In contrast, women are greatly opposed to abortions if the couple cannot afford another child or if the pregnancy occurs within marital relationships.

Table 2 shows attitudes towards abortion by the degree of importance of religion in women's life. As expected, there are a stronger support for abortion among women who believe religion is less or not important in their life. The religious disparity in the levels of support for abortion is much greater in the circumstances that if couples cannot afford more children and if pregnancy occurs within marriage.

Table 3 shows the gross and net effects of religiosity on the odds of abortion incidence. The results in all the three models show that the influence of the degree of religiosity on the incidence of abortion remains statistically significant even after controlling for cofounding covariates. Specifically, the results of Model 3 indicates that women who believe religion is

not at all important, rather than being very important, in their life are almost 2.4 times more likely to have an abortion in their life-course.

Table 1. Percent distribution of married wo under certain conditions: Tehran TSF (n=2)		5-49 by at	ttitudes towa	rd practicing	; induced	abortion
An induced abortion is acceptable if	Strongly Agree	Agree	Disagree	Strongly Disagree	Don't know	Total
The pregnancy endangers the mother's life	88.3	3.3	1.2	6.2	1.0	100.0
The pregnancy leads to a birth defect in the child	88.7	3.2	1.8	5.0	1.3	100.0
The pregnancy leads to the disability of the mother	79.1	7.6	4.2	6.2	2.9	100.0
The pregnancy is the result of rape	83.3	3.4	2.8	5.8	4.7	100.0
The mother is not married (pregnancy occurs outside marriage)	77.8	3.8	3.4	8.7	6.3	100.0
The pregnancy occurs when the mother is only a fiancée, but is not yet legally and religiously engaged (before official engagement)	52.0	7.5	11.2	21.1	8.2	100.0
The couple cannot afford another child	12.3	4.6	6.7	74.4	1.9	100.0
The pregnancy occurs before wedding but within the legal marriage	8.6	4.0	7.9	77.4	2.0	100.0

Table 2. Percent distribution of married women aged 15-49 abortion under certain conditions by the degree of important			
	The importance of religion in your life		
An induced abortion is acceptable if	Very important	Somewhat important	Not too important / Not at all
The pregnancy endangers the mother's life	90	94	92
The pregnancy leads to a birth defect in the child	90	94	98
The pregnancy leads to the disability of the mother	85	89	94
The pregnancy is the result of rape	86	88	91
The mother is not married (pregnancy occurs outside marriage)	80	83	89
The pregnancy occurs when the mother is only a fiancée, but is not yet legally and religiously engaged (before official engagement))	60	57	63
The couple cannot afford another child	13	20	44
The pregnancy occurs before wedding but within the legal marriage	11	13	26

Characteristics	bsity and other characteristics: Tehran TSF Ever have an induced abortion in your life?		
	Yes	No	Total women
Importance of religion in life **			
Very important	7.3	92.7	1817
Somewhat important	9.0	91.0	941
Not too important/Not at all	14.8	85.0	176
Contraceptive use before and at time of conception of the last			
birth***			
Discontinuation	7.0	93.0	1698
Nonuse	7.2	92.8	290
Modern methods failure	15.0	85.0	213
Withdrawal failure	16.4	83.6	384
Never had a pregnancy	2.6	97.4	349
Fertility desire			
Want more children	3.9	96.1	617
Want no more children	9.5	90.5	2317
Years of schooling at the time of marriage*			
≤5	7.5	92.5	425
6-11	9.4	90.6	745
12	9.1	90.9	1221
13+	5.7	94.3	543
Employment status before the last birth*			
Unemployed	8.8	91.2	2501
Employed	5.8	94.2	433
Age***			
15-29	3.3	96.7	757
30-34	5.7	94.3	582
35-39	11.3	88.7	612
40-49	11.9	88.1	983
Residential District**			
Northern districts	10.8	89.2	747
Central districts	7.7	92.3	1290
Southern districts	7.1	92.9	897
Household's Monthly Expenditure Quartiles***			
Lowest	5.1	94.9	752
Second	6.2	93.8	804
Third	9.3	90.7	752
Highest	13.7	86.3	626
Ethnicity			
Fars	7.4	92.6	1504
Azeri	9.3	90.7	971
Gilak/Mazandarani	11.4	88.6	201
Lur & others	7.4	92.6	258
Total	8.3	91.7	2934

married women aged 15-49 in Tehran, Iran 2009 Covariates	Odds Ratio		
	Model 1	Model 2	Model 3
Importance of religion in life (ref. Very important)			
Somewhat important	1.26	1.34*	1.33
Not too important/Not at all	2.20***	2.44***	2.41***
Contraceptive use before and at time of conception of the last			
birth (ref. Discontinuation)			
Nonuse		1.11	1.05
Modern methods failure		2.31***	2.03***
Withdrawal failure		2.55***	2.29***
Never had a pregnancy		0.45***	0.65
Fertility desire (ref. Want more children)			
Want no more children		1.66*	1.07
Years of schooling at the time of marriage (ref. \leq 5)			
6-11			1.24
12			1.24
13+			0.90
Employment status before the last birth (ref. Unemployed)			
Employed			0.61*
Age (ref. 15-29)			
30-34			1.32
35-39			2.72***
40-49			2.34**
Residential District (ref. Southern districts)			
Northern districts			1.04
Central districts			0.89
Household's Monthly Expenditure Quartiles (ref. Lowest)			
Second			1.15
Third			1.67*
Highest			2.31***
Ethnicity (ref. Fars)			
Azeri			1.37*
Gilak/Mazandarani			1.79*
Lur & others			1.05
Pseudo R square	0.01	0.06	0.11

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