Determinants of voluntary abortion in South Africa, 2011

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Abortion rates are increasing all around the world, especially for young women. The negative consequences of illegal abortion include involuntary sterility and maternal mortality. There were an estimated 43.8 million induced abortions in 2008 (Sedgh et al., 2012). In South Africa, abortions before the 20th week of gestation are legal. The rationale behind legalised abortions is to reduce unwanted pregnancies and the risks associated with illegal abortions in the country. Research on voluntary abortions in South Africa, has been affected by the limited analysis of quantitative national data and cultural and religious beliefs. A qualitative study on 5 women's experiences of abortion in the country found that decision to abort was based on lack of readiness to be a parent, financial hardships, pressure from their fathers, and fear of disapproval on the part of family members (Suffla, 1997). According to Jali (2001) different religions in South Africa have different ideas about when a soul is present in a foetus and some believe that the soul is present at conception. This makes abortion a morally unacceptable practice (Jali, 2001).

For these reasons, rates are underreported in the country. However, there remains need to identify the national socioeconomic and demographic determinants of women who have voluntary abortions in South Africa. In obtaining this information, policies can be updated with relevant and recent information as to who is voluntarily choosing abortions. This can also serve as a guide for more in-depth qualitative studies on the reasons for choosing abortion and the post-abortion experiences of women in the country.

The General Household Survey of 2011 will be used since this survey is nationally representative and asks if a pregnancy was terminated before the child was born by reason of

abortion by choice. This study hypothesizes that voluntary abortion is associated with lower socioeconomic status thus affecting women's choice of termination of pregnancy.

Data and Methods:

Sample design

The sample design for the GHS 2011 was based on a master sample (MS) that was originally designed for the Quarterly Labour Force Survey (QLFS) and was used for the first time for the GHS in 2008. This master sample is shared by the QLFS, GHS, Living Conditions Survey (LCS), Domestic Tourism Survey (DTS) and the Income and Expenditure Surveys (IES).

The master sample used a two-stage, stratified design with probability-proportional-to-size (PPS) sampling of primary sampling units (PSUs) from within strata, and systematic sampling of dwelling units (DUs) from the sampled PSUs. A self-weighting design at provincial level was used and MS stratification was divided into two levels. Primary stratification was defined by metropolitan and non-metropolitan geographic area type. During secondary stratification, the Census 2001 data were summarised at PSU level. The following variables were used for secondary stratification; household size, education, occupancy status, gender, industry and income.

Census enumeration areas (EAs) as delineated for Census 2001 formed the basis of the PSUs. The following additional rules were used:

• Where possible, PSU sizes were kept between 100 and 500 DUs;

• EAs with fewer than 25 DUs were excluded;

• EAs with between 26 and 99 DUs were pooled to form larger PSUs and the criteria used was *same settlement type*;

• Virtual splits were applied to large PSUs: 500 to 999 split into two; 1 000 to 1 499 split into three; and 1 500 plus split into four PSUs; and

• Informal PSUs were segmented.

A randomised-probability-proportional-to-size (RPPS) systematic sample of PSUs was drawn in each stratum, with the measure of size being the number of households in the PSU. Altogether approximately 3 080 PSUs were selected. In each selected PSU a systematic sample of dwelling units was drawn. The number of DUs selected per PSU varies from PSU to PSU and depends on the Inverse Sampling Ratios (ISR) of each PSU. (Source: (Statistics SA, 2011)

Variables:

Dependent Variable:

The dependent variable used in this study has been created through the use of two specific questions on the questionnaire:

(1) Has any female member of the household been pregnant in the last 12 months (yes/ no responses)
(2) What is the current state of this pregnancy? (focusing only on those who reported – 'pregnancy was terminated by choice before the child was born)

If respondents answered yes to the first question, they were included in the general sample. Of those, only women who answered that the pregnancy was terminated by choice formed part of the study sample.

The sample of women who willfully terminated pregnancy is 2,347.

Independent variables:

Table 1 shows a list of preliminary predictor/ independent variables used in the study. Age is reported in 5 year intervals for women of reproductive ages (15- 49 years old). Race is classified into the four official racial categories within South Africa (Black, White, Coloured, Indian/ Asian). Marital status has been categorized as never married (single), married and previously married based on the frequency distribution of responses. Highest level of education has been grouped into no schooling, primary, secondary, tertiary. For employment status employed and not employed are used. Finally the categories of injuries or illnesses are grouped yes and no responses.

Table 1: Preliminary independent variables and variable descriptions

Variable	Description
Age	5- year intervals (15- 49 years old)
Race/ Population Group	Black, White, Coloured, Indian/ Asian
Marital Status	never married (single), married and previously married
Province of Residence	Each of the 9 official provinces of South Africa
Highest level of education	no schooling, primary, secondary, tertiary
Employment Status	Employed and unemployed
Suffered any injuries or illnesses in the past month	Yes or no

Methods of analysis

In order to achieve the study objective, three methods of analysis are used. First, frequency distributions are produced to describe the characteristics of women who had voluntary abortion. Second chi-square cross tabulations is done to establish an association between individual demographic and socioeconomic characteristics of women and voluntary abortion. Finally, multivariate logistic regression is used to combine the characteristics of women and establish the likelihood that women will undergo voluntary abortion. This approach is preferred for its inferential capabilities.

The formula for logistic regression is: $L_i = \alpha + \beta_1 X_{1i} + \beta_2 X_{2i} + \ldots + \beta_k X_{ki}$

Where: L_i = dependent variables, α = constant, β_k = regression coefficients, X = independent variables (Hosmer and Stanley, 2000). Logistic regression is done at a multivariate level. Variables that are found to be statistically significant (p-values<0.05) are discussed.

Preliminary Results

Table 2: Demographic and Socioeconomic characteristics of women who undergo voluntary abortions

Characteristic	**Freq.**	**Percent**
Total	**2,348**	**100**
Age		
25-29	1,390	59.20
30-34	607	25.84
35-39	351	14.96
Race		
African/Black	2,348	100
Marital status		
Never married	354	15.08
Married	1,653	70.43
Previously married	340	14.48
Province		
Western Cape	354	15.08
Eastern Cape	696	29.64
KwaZulu-Natal	607	25.84
Mpumalanga	691	29.44
Highest level of education		
Secondary	2,348	100
Employment Status		
Employed	340	14.48
Unemployed	2,008	85.52
Suffered Recent Illness or Injury		
Yes	1,401	59.68
No	947	40.32

The distribution of women who voluntarily terminate pregnancy is seen in Table 2. The table shows that almost 60% of the women are between the age 25- 29 years old. Further, only Black /African women reported undergoing the procedure, with no results from the other racial

groups. By marital status, women who are legally married or living together as married comprise the 'married' category and 70% of these women underwent voluntary abortions in 2011. According to province, the most voluntary abortions were conducted in the Eastern Caper (29.64%) followed by Mpumalanga (29.44%). Only women in the secondary education category reported abortions while 85.52% of are unemployed and 59.68% have suffered recent injuries or illnesses.

Table 3: Multivariate logistic regression of demographic and socioeconomic characteristics by voluntary abortions, producing odds ratios

Characteristic	**Odds Ratio**	**P-value**
Age		
15- 19	RC	
20- 24	(omitted)	
25- 29	4.48	0.0365
30- 34	4.30	0.047
Race		
African	RC	
White	(omitted)	
Coloured	(omitted)	
Indian/ Asian	(omitted)	
Marital Status		
Never married	RC	
Married	5.67	0.0525
Previously married	5.26	0.05
Province		
Western Cape	RC	
Eastern Cape	0.12	0.218
Northern Cape	(omitted)	
Free State	(omitted)	
KwaZulu-Natal	0.30	0.502
North West	(omitted)	
Gauteng	(omitted)	
Mpumalanga	0.41	0.594
Limpopo	(omitted)	
Highest level of education		
None	RC	
Primary	(omitted)	
Secondary	1.58	0.047
Tertiary	(omitted)	
Employment Status		
Employed	RC	
Unemployed	1.96	0.045

Injury or Illness		
No	RC	
Yes	1.51	0.005

*RC denotes Reference Category

Table 3 shows the multivariate logistic regression output of women's characteristics and its association to voluntary abortion. The table shows that the odds are highest among 25- 34 year olds (4.48 and 4.3 respectively). Race was omitted from the model. Married and previously married persons, both have higher odds (5.67 and 5.26) than the reference group of never married women. Secondary education is associated with increased odds of voluntary abortion with an odds ratio of 1.58. Finally women who recently suffered illness or injury are also more likely to induce abortion.

Moving forward

This is a work-in-progress. The preliminary results shown might change with the inclusion of additional study variables. The study is still to compute a rate of voluntary abortion in South Africa, in comparison to other forms of pregnancy termination and add more socioeconomic variables. Such variables include, partner characteristics (age, employment status, highest level of education), specific disease and injury data and type of employment along with number of hours worked. This will give insight into the socioeconomic status of South African women who undergo voluntary abortions.

It is expected that when this paper is completed a comprehensive view of voluntary abortions in South Africa will be presented. This work can assist with programme development to ensure that the women identified as possibly wanting to undergo such procedures are well catered for in terms of both their demographic and socioeconomic characteristics.

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