Topic: The levels and socio-demographic factors of fertility among migrant and non-migrants females in South Africa

1. Background

Since the beginning of democratisation in South Africa, in 1994, the migration stream has been increasing (Palamuleni & Campus, 2012). Studies have defined migration as movement of people, which involves relocations of individual between regions (Krapf & Wolf, 2016; Skeldon, 2018). Human movements in South Africa were restricted by the migration control laws, which have since been nullified as it is now legal for people to move freely from one place to another within the country (Reed, 2013). Migration patterns are driven by both social and economic 'push and pull' factors in South Africa (Reed, 2013).

The Total Fertility Rate (TFR) has been declining, in 2018 Statistics South Africa (Stats S.A) reported the TFR to be 2.4 children per woman, a notable decline from the 2015 rate which was recorded at 2.49 children per every woman (Statistics South Africa, 2019). The study aim to examine the levels and socio-demographic factors of fertility among rural-urban migrant and non-migrants females in South Africa.

2. Methodology

2.1. Study design and data source:

The study was cross-sectional design as it utilised secondary data acquired from the South African Demographic and Health Survey 2016 (SADHS 2016). The SADHS 2016 was conducted by Statistics South Africa, in partnership with South African Medical Research Council (SAMRC) (NDoH, Statistics SA, & SAMRC, 2019).

2.2. Study Population and the Sample size

The study population comprises of 8,514,000 females between the ages of 15-49 years enumerated in the SADHS 2016. The unit of analysis were rural-urban migrant females who have been residing in urban areas between 1 and 10 years. Study sample consisted of 1 534 rural-urban females. And their fertility levels was compared to 3 455 urban natives females.

2.3. Data management and Analysis

The data was downloaded in a STATA version; then loaded on STATA software program for analysis. Using STATA, rural residents observations were dropped from the analysis (using variable code v024).

2.4. Analysis

Frequencies and percentages were used to describe the selected socio-demographic characteristics of the respondents. This involved describing the background characteristics of the respondents.

The outcome variable 'number of children ever born' is a count variable, which influenced the Poisson Regression model to be used. Poisson distribution was selected for this study because it enabled the identification of equal mean and variances, and the occurrence rate of an event per unit exposure (Cameron & Trivedi, 2013).

3. Preliminary Results

3.1. Introduction

The aim of this study was to examine the levels and socio-demographic factors of fertility among migrant and non-migrant females in South Africa. The following are the preliminary results that only looked at the levels of fertility among rural-urban migrant females in South Africa. The results are presented in two phases. The bivariate analysis, which assess the summary statistics and strength of association of 'number of children ever born' with demographic factors using the chi-square test. The multivariate stage was done using Poisson regression.

3.2. Demographic characteristics

The table below shows the distribution of children ever born by respondent's characteristics for rural-urban migrant females in South Africa

Table 2: Distribution of children ever born by respondents' characteristics of rural-urban migrant females, using Pearson's chi-square test

Characteristics	Frequency	%	P Value
Age			
15-19	592	18.27	0.00
20-24	549	16.94	
25-29	536	16.57	
30-34	464	14.32	
35-39	424	14.32	
40-44	345	10.65	
45-49	329	10.15	
Age at first Birth			
15-19	1 014	44.67	0.00
20-24	849	37.30	
25=29	283	12.47	
30+	86	3.79	
Race			
Black	2 539	78.36	0.09
White	61	1.88	
Coloured	617	19.04	
Indian/Asian	21	0.65	
Marital Status			
Married	622	19.20	0.00
Not Married	2 618	80.80	
Employment Status			
Unemployed	2 150	66.36	0.00
Employed	1 090	33.64	
Education level			
With Education	73	2.25	0.00
No education	3 167	97.75	

n- Frequency %- Percentage

P Value significant at p<0.05

High number of children were observed among 15-19 years age groups (18.27%). Among different racial groups, high number of children were observed among Black population (78.36%) and low among Indian/Asian Population (0.65%). Females who were not married had higher fertility rate (80.80%) than married females (19.20%). Unemployed females had higher fertility level (66.36%) than employed females 933.64%).

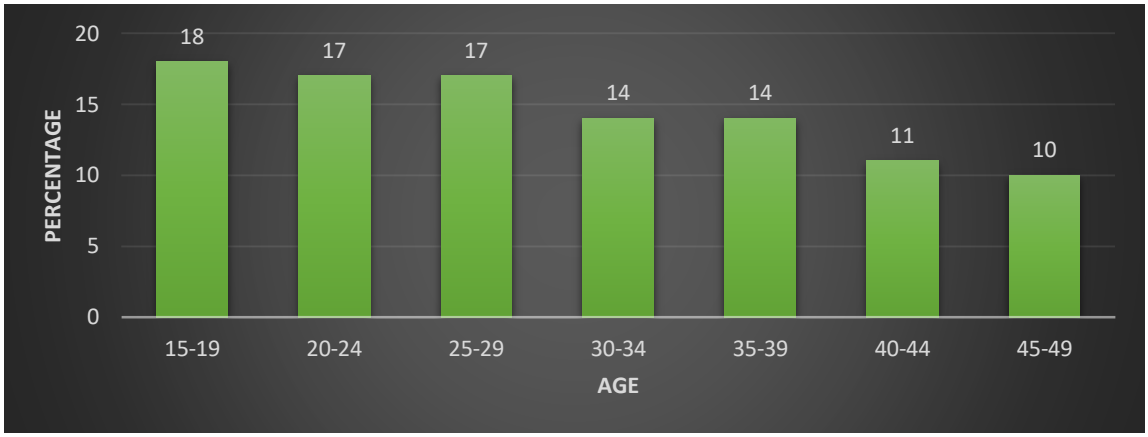

Figure 1: Fertility levels among migrant females, in 5 years age groups

Adolescence have high fertility than other age groups with 18%. Fertility levels among rural-urban migrant females were low among age 45-49 years (10%). Table 2 below show the age group in 5 years interval of women of reproductive ages (15-49) and the number of children each age group have using unweight SADHS data.

Table 2: Number of children ever born among women of reproductive ages (15-49 years), in South Africa

5-year groups	Number of children ever born											
	0		1		2		3		4		5+	
	n	%	n	%	n	%	n	%	n	%	n	%
15-19	94	41.59	15	6.54	3	1.60	0	0.00	0	0.00	0	0.00
20-24	81	35.84	76	33.63	20	10.64	1	1.09	0	0.00	0	0.00
25-29	29	12.83	66	29.20	52	27.66	16	17.39	8	14.81	1	4.35
30-34	11	4.87	34	15.04	53	28.19	20	21.74	14	25.93	3	13.04
35-39	5	2.21	18	7.96	31	16.49	25	27.17	15	27.78	11	47.83
40-44	5	2.21	13	5.75	17	9.04	17	18.48	5	9.26	3	13.04
45-49	1	0.44	4	1.77	12	6.38	13	14.13	12	22.22	5	21.74

n- Frequency %- Percentage

The proportion of children born decreases with every unit increase in age groups. Higher percentage of one children were observed among the age group 20-24 (33.63%). Two children proportion were high among the age group 30-39 years (28.19%). Women between the ages 35-39 years had higher proportion of three, four and five (27.17%, 27.78% and 46.83%) children than other age groups.

3.3. Poisson regression

Results from multivariate logistic regression analysis are presented in Table 3 below

Table 3: Poisson regression of children ever born by respondent's characteristics, showing incidence rate ratio (IRR)

Characteristics	Incidence Ratio Rates	P Value	confident interval	
Age (RC-15-19)				
20-24	1,10	0.684	0,6853	1,7793
25-29	1,78	0.014	1,1221	2,8106
30-34	2,23	0.001	1,4057	3,5343
35-39	2,82	0.000	1,7762	4,4796
40-44	2,60	0.000	1,6061	4,2041
45-49	3,35	0.000	2,0739	5,4161
Age at first Birth (RC-15-19)				
20-24	0.001	0,80	0,7105	0,9121
25=29	0,66	0.000	0,5401	0,8110
30+	0,47	0.001	0,2988	0,7310
Race (RC-Black)				
white	1,10	0.857	0,4031	2,9835
coloured	1,24	0.070	0,9824	1,5732
Marital status (RC-Single)				
Not Married	0,89	0.081	0,7766	1,0147
Currently Working (RC-No)				
yes	0,84	0.004	0,7405	0,9454
Education level (RC-No education)				
With education	0,92	0,98	0.7405092	0,9454

RC-Reference Category

Table 3 shows that not all children ever born were associated with significantly greater odds of fertility factors. Results shows significance for all other age groups except for ages 20-24 years (0.684 p-value). Results showed that there is a statistically significant association between number of years at first birth and number of children women have.The relationship between number of children born and race were not statistically insignificant. Controlling for marriage duration, females in marital unions had higher incidence ratio rates (0.89). The log of number of children ever born were higher among women who were working by 0.84. Controlling other variables, the log of children ever born among women with higher education was lower than those with no formal education by 0.92.

4. Preliminary discussion

Socio-economic factors have proven to be a key predictor of patterns of fertility levels in SA. This is due cost of rearing a child in urban areas. Fertility is high among rural-urban migrants in the adolescents' age group (South Africa), this is an issue that requires effective intervention in order to further reduce the levels of pregnancies. Further research on socio-economic factors of fertility among rural-urban migrant adolescents is recommended.