Factors associated with multiple sexual partnerships among young women in Southern African countries: A pooled multilevel analysis

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Multiple sexual partnership is common among young women aged 15-24 years (Unaids, 2019). Although common multiple sexual partnership is common in other regions but it remains high in Southern African countries. A study by the National Department of Health (NDoH) et al. (2019) found approximately 52% of young women are more likely to have had intercourse with multiple sexual partners in the last 12 months. HIV infection increases with the number of sexual partners, meaning the greater the number of sexual partners, the higher the increase of HIV infection, specifically among young women. Hlongwa et al. (2020) reported that among young women, HIV prevalence increased with the number of sexual partners in the past twelve months. In addition, this shows that multiple sexual partnerships are a problem as they lead to HIV infections among young women.

There various theories that are used to explain multiple sexual partners, however, the study applied the social ecological model (SME). The social ecological model's viewpoint, influences at several levels, including the individual, relationship, community, organizational, and societal levels, can affect behaviour(Williams, 2022). At individual level, the focus is on individual factors (age, education, income etc.) that influence multiple sexual partners, community factors (poverty and place of residence) that influence multiple sexual partnerships. The objective of the study is to examine factors associated with multiple sexual partnerships among young women in Southern African countries.

Data and methods

Data source

The data used for this study is from the DHS for six countries (Lesotho 2014, Namibia 2013, Malawi 2015-16, South Africa 2016, Zambia 2018-19 and Zimbabwe 2015 (National Department of Health et al., 2019). These datasets were combined to examine the determinants of multiple sexual partners among young women and the pooled prevalence throughout the Southern African. This paper used the individual dataset (IR file) for this investigation. A stratified two stage cluster design was utilized. The first stage of enumerations was determined using the census files and the second stage was determined by selecting a sample of households from an updated list of households (National Department of Health et al., 2019, Central Statistical Office/Zambia et al., 2015).

Methods

Dependent variable

The dependent variable was derived from the question "had multiple sexual partners in the last 12 months". It focused on women who had two or more sexual partners. The dependent variable for the study is multiple sexual partnerships and it was coded as binary variable. In this study multiple sexual partnerships were categorised as 0= Yes and 1= No.

Independent variables

The explanatory variables selected for this study were age group, marital status, educational level, employment status, had a STI in the past 12 months, non-condom use, age at first sex, sex of the household head, wealth status, community poverty, and place of residence and country.

Analysis

Stata version 16 was utilized to analyze the study's data (StataCorp, 2021). Bivariate and multivariate analyses were used in this study.

Preliminary results

Table 1: The pooled prevalence of multiple sexual partners among young women in SSA

Variables	Multiple sexual partners			Prevalence
	No	**Yes**	**Total**	
Individual-level factors				
*Age group***				
15-19	15000	233	15234	1.5
20-24	13691	424	14115	3.0
*STI in the past 12 months***				
No	28251	602	28853	2.1
Yes	440	56	496	11.3
*Non-condom use at last sex***				
Used a condom	4846	355	5202	6.8
Did not use a condom	11879	302	12181	2.5
*Age at first sex***				
<15	2824	126	2950	4.3
15-19	14730	493	15223	3.2
20-24	1561	28	1589	1.8
Inconsistent/DNK	9576	10	9586	0.1
*Sex of household head***				
Male	17927	334	18261	1.8
Female	10764	323	11087	2.9
Community-level factors				
Community poverty status				

Variables	Multiple sexual partners			Prevalence
	No	Yes	Total	
Low	9395	242	9637	2.5
Medium	9598	244	9842	2.5
High	9698	171	9869	1.7
Place of residence***				
Urban	10409	325	10734	3.0
Rural	18282	332	18614	1.8
Country***				
Lesotho	2623	142	2765	5.1
Malawi	10290	132	10422	1.3
Namibia	3587	105	3691	2.8
South Africa	2710	132	2842	4.6
Zambia	5639	95	5733	1.7
Zimbabwe	3843	52	3895	1.3
Total	**28691**	**657**	**29348**	**2.2**

Table 2: Multilevel determinants of multiple sexual partnerships among young women in Southern African countries

Variables	Model 0	Model 1	Model 2	Model 3
	AOR [95% CI]	AOR [95% CI]	AOR [95% CI]	AOR [95% CI]
Individual-level factors				
Age group				
15-19[®]		1		1
20-24		1.29** [1.08-1.55]		1.20 [1-1.44]
STI in the past 12 months				
No[®]		1		1
Yes		3.62*** [2.7-4.83]		3.47*** [2.59-4.67]
Non-condom use at last sex				
Used a condom[®]		1		1
Did not use a condom		0.65*** [0.55-0.78]		0.80* [0.67-0.96]
Age at first sex				
<15		4.46*** [2.87-6.92]		4.70*** [3.02-7.33]
15-19		2.52*** [1.69-3.75]		2.44*** [1.64-3.64]
20-24[®]		1		1
Inconsistent/DNK		2.55* [1.12-5.79]		2.73* [1.2-6.24]
Sex of household head				
Male[®]		1		1
Female		1.14 [0.96-1.34]		1.06 [0.89-1.25]

Variables	Model 0	Model 1	Model 2	Model 3
	AOR [95% CI]	AOR [95% CI]	AOR [95% CI]	AOR [95% CI]
Community-level factors				
Community poverty status				
Low[®]			1	1
Medium			1.06 [0.87-1.3]	1.09 [0.88-1.33]
High			0.97 [0.78-1.2]	1.01 [0.81-1.26]
Place of residence				
Urban[®]			1	1
Rural			0.76*** [0.64-0.9]	0.89 [0.72-1.1]
Country				
Lesotho			3.46*** [2.52-4.73]	2.54*** [1.82-3.54]
Malawi			0.89 [0.64-1.22]	0.54*** [0.38-0.75]
Namibia			2*** [1.44-2.77]	0.88 [0.62-1.25]
South Africa			3.68*** [2.7-5.01]	1.68** [1.18-2.39]
Zambia			1.13 [0.81-1.58]	0.70* [0.49-0.99]
Zimbabwe[®]			1	1
Random effects result				
PSU variance (95% CI)	0.168 [0.08-0.35]	0.125 [0.05-0.33]	0.146 [0.06-0.34]	0.098 [0.03-0.34]
ICC %	4.85	3.65	4.26	2.88
MOR	1.48	1.40	1.44	1.35
PCV %	[®]	25.60	13.10	41.67
Model fitness				
-2LL	6399	5199	6149	5053
AIC	6403	5231	6169	5101
BIC	6420	5355	6252	5288
AUC (95% CI)	0.79 [0.78-0.81]	0.77 [0.75-0.79]	0.73 [0.72-0.75]	0.79 [0.77-0.8]
PSU	850	850	850	850

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