The Nexus Between Early Marriage and Repeat Adolescent Pregnancy in Kenya: Evidence From the 2022 KDHS – A working paper

Introduction

Adolescent fertility and its dynamics have remained under-studied in sub-Saharan Africa (Garbett et al.,2021[1]). Existing research on adolescent fertility is limited by a lack of methodological advancement and excessive reliance on the age-specific fertility rate (ASFR) of women aged 15-19. This measure does not convey parity-specific information yet accounts for the fertility status of adolescents. As the total population of adolescents continues to grow, so is the number of adolescent pregnancies as projected. This projected increase in incidences of adolescent pregnancies is mostly experienced in sub-Saharan Africa – Western, Central, Eastern, and Southern Africa - where the world's highest adolescent pregnancy and child marriage rates are highest (Petroni et al., 2017[2]).

Sub-Saharan Africa currently hosts the second-largest share of child brides. At its current pace, it needs about 200 years to eradicate this practice. With rapid population growth, especially among the youthful population, coupled with the ongoing global crises that heavily impact the continent, we are looking at an increase in the number of child brides within the region, contrary to the declines expected in the rest of the world. Data on child marriage is limited due to a lack of reporting and services within sub-Saharan Africa. The ongoing climate change has exacerbated the situation within the Horn of Africa countries, i.e., Ethiopia, Somalia, and Kenya. For pastoralist communities, climate change has brought an unending drought that has dried up water sources, thus leaving the people and their livestock without water (Hassani, 2023[3]).

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[1] Garbett, A., Perelli-Harris, B., & Neal, S. (2021). The Untold Story of 50 Years of Adolescent Fertility in West Africa: A cohort perspective on the quantum, timing, and spacing of adolescent childbearing. *Population and Development Review*, *47*(1), 7–40. https://doi.org/10.1111/padr.12384

[2] Petroni, S., Steinhaus, M., Fenn, N. S., Stoebenau, K., & Gregowski, A. (2017). New Findings on Child Marriage in Sub-Saharan Africa. *Annals of global health*, *83*(5-6), 781–790. https://doi.org/10.1016/j.aogh.2017.09.001

[3] Hassani, U. (2023, October 2). Why we must engage adolescent girls in climate change solutions. *World Bank Blogs*. https://blogs.worldbank.org/climatechange/why-we-must-engage-adolescent-girls-climate-change-solutions

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Methodology

This study was focused on Kenya, a country located in the east of Africa and based on the analysis of the nationally representative secondary data obtained from the 2022 Kenya Demographic and Health Survey (KDHS). The sample comprised of women aged 15-24 in the 2022 KDHS, while focusing on those pregnancies that were experienced during the adolescence period. After obtaining the prevalence, the study proceeded to perform a geographic mapping of the rapid repeat adolescent pregnancy and early marriage incidences to identify hotspot counties or regions basing on these distributions for targeted interventions. The study utilized a structural equations model to assess the direct and indirect effect of rapid repeat adolescent pregnancy on early marriage of these adolescents based on the 2022 KDHS. The Bongaarts framework of fertility determinants provided a base for the development of the conceptual framework relating early marriage to repeat adolescent pregnancy likelihood, based on the variables available in the DHS dataset.

Results

5.2% of women in the sample reported having experienced a repeat adolescent pregnancy (more than one pregnancy during the adolescence period). Half of this statistic occurred rapidly, i.e. within 24 months of each other. The mean age at marriage for the women in the sample who married before 18 was 15.5 years, with a median of 16 years. 12% of the sample of adolescent women were married before age 18.

Descriptive mapping

From the 47 counties in Kenya, West Pokot, Samburu, Narok, Homabay and Migori counties had the highest rapid repeat adolescent pregnancy prevalence. More developed counties such as Nairobi, Kiambu, Mombasa, Nyeri and Kirinyaga reported low levels of rapid repeat adolescent pregnancy, implying significant delaying of childbearing among adolescents in these regions. Among the Maasai, Kajiado and Narok counties continue the practice of early marriage. However, the rates seem to be getting lower as these areas have been previously known for their high early marriage rates. Counties such as Nairobi, Mombasa, Kisumu and Kiambu that have consistently benefitted from better access to education, healthcare and social services have proven to have less prevalence of early marriage.

Figure 1*: Dispersion of Early Marriage and Rapid Repeat Adolescent Pregnancy Incidences in Kenya Using the 2022 KDHS*

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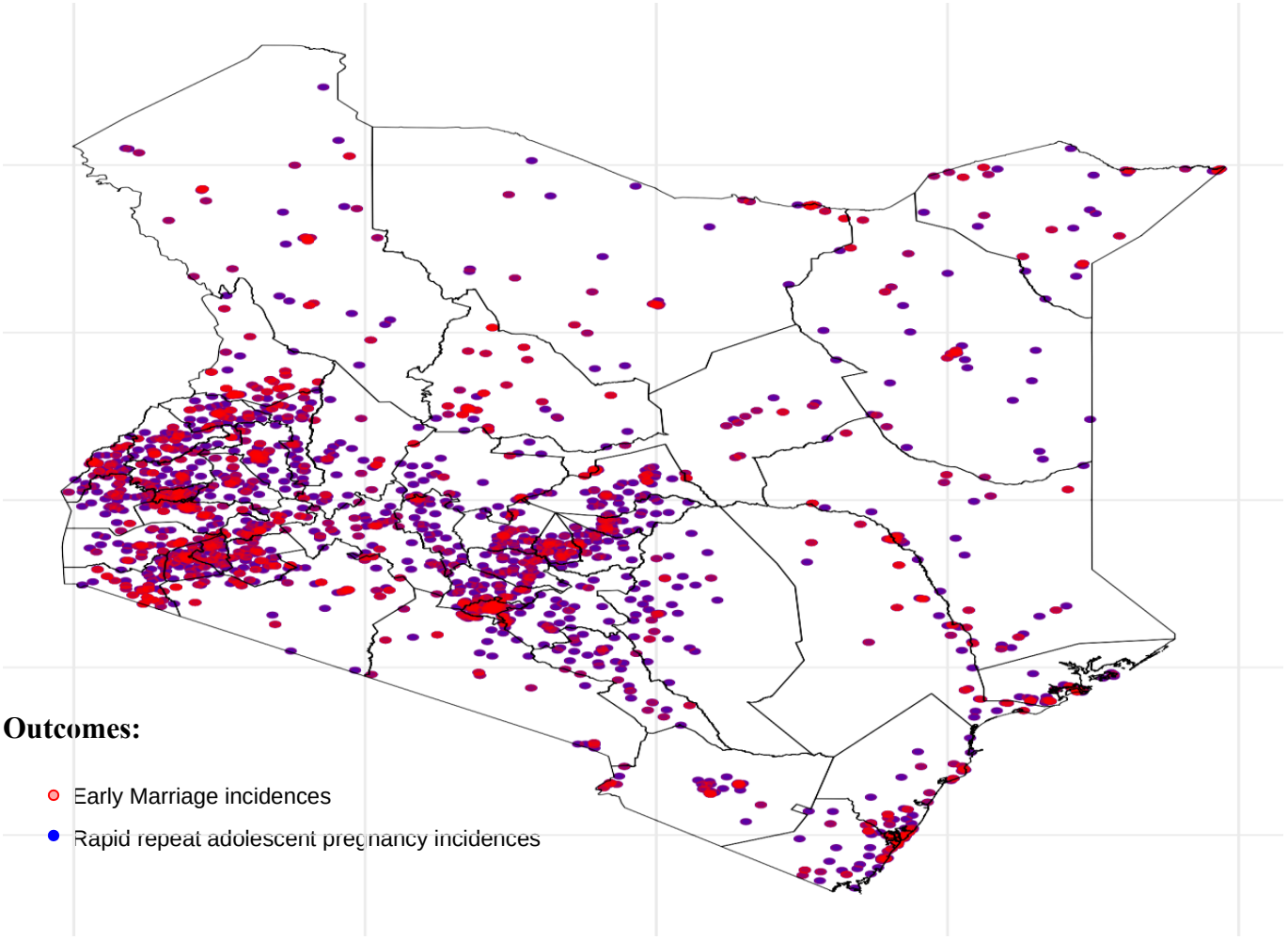

Structural Equation Model that illustrates the relationship between early marriage and repeat adolescent pregnancy in Kenya.

The SEM model established a bi-directional effect of early marriage and repeat adolescent pregnancy using the Kenya DHS data. The direct relationship between early marriage and repeat adolescent pregnancy was significant at $p<0.001$ level. This is same as the direct relationship between repeat adolescent pregnancy and early marriage. The indirect relationship between early marriage and repeat adolescent pregnancy through observed variables such as contraception, total children ever born, mean age at first birth, and postpartum duration were also found to be statistically significant.

Latent Variables:	Estimate	Std.Err	z-value	P(>|z|)	Std.lv	Std.all
Socio-Economic Status =~						
Respondent's education	1.000				0.99	0.913
Wealth Index	0.563	0.061	9.229	0.000	0.557	0.422
Partner's Education	0.825	0.070	11.714	0.000	0.817	0.599

Cultural_Norms =~						
Religion	1				0.825	1
Regressions:	**Estimate**	**Std.Err**	**z-value**	**P(>|z|)**	**Std.lv**	**Std.all**
Early Marriage ~						
Socio-Economic Status	0.264	0.058	4.558	0.000	0.261	0.532
Repeat Pregnancy	-0.858	0.139	-6.167	0.000	-0.858	-0.672
Repeat Pregnancy ~						
Early Marriage	0.109	0.076	1.429	0.153	0.109	0.139
Contraception	0.046	0.023	1.976	0.048	0.046	0.068
Postpartum Infecundability	-0.076	0.032	-2.369	0.018	-0.076	-0.083
Empowerment ~						
Early Marriage	0.765	0.204	3.757	0.000	0.765	0.596
Socio-Economic Status	0.226	0.040	5.713	0.000	0.224	0.356
Early Marriage~						
Empowerment	-0.443	0.151	-2.940	0.003	-0.443	-0.569
Repeat Pregnancy ~						
Socio-Economic Status	1.141	0.489	2.334	0.020	1.129	2.939
Cultural_Norms	0.075	0.020	3.770	0.000	0.062	0.161
Total Children Born	0.207	0.018	11.698	0.000	0.207	0.497
Respondent's education	-0.869	0.426	-2.039	0.041	-0.869	-2.453
Wealth Index	-0.081	0.024	-3.338	0.001	-0.081	-0.280
Partners Education	-0.091	0.041	-2.204	0.028	-0.091	-0.323
Covariances:	**Estimate**	**Std.Err**	**z-value**	**P(>|z|)**	**Std.lv**	**Std.all**
Socio-Economic Status ~~						
Cultural_Norms	-0.117	0.034	-3.412	0.001	-0.143	-0.143
Variances:	**Estimate**	**Std.Err**	**z-value**	**P(>|z|)**	**Std.lv**	**Std.all**
Respondent's education	0.197	0.068	2.909	0.004	0.197	0.167
Wealth Index	1.430	0.082	17.383	0.000	1.430	0.822
Partner's Education	1.196	0.081	14.830	0.000	1.196	0.642
Religion	0.000				0.000	0.000
Early Marriage	0.314	0.058	5.409	0.000	0.314	1.306
Repeat Pregnancy	-0.064	0.140	-0.460	0.646	-0.064	-0.436
Empowerment	0.370	0.060	6.204	0.000	0.370	0.936
Socio-Economic Status	0.980	0.092	10.646	0.000	1.000	1.000
Cultural_Norms	0.681	0.037	18.330	0.000	1.000	1.000

CFI = 0.986, TLI = 0.948, RMSEA = 0.066, SRMR = 0.016, N = 4459, d.f. = 3, p-value = 0.000