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Teenage pregnancy in South Africa: Do poverty and inequality play significant roles?

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Abstract

This study examined the nexus between poverty, inequality, and teenage pregnancy in South Africa from 2017 to 2023. This study used socioeconomic indicators from the World Bank and United Nations Human Development Index (HDI) to determine the prevalence of teenage pregnancy in South Africa. The results showed that human development index has a clear inverse relationship with adolescent fertility underscoring the importance of education and healthcare in reducing teenage pregnancy in the country. Similarly, Gross National Income, GNI per capita demonstrated an inverse relationship with teenage pregnancy. This is an indication that high poverty level fuels a rise in the incidence of the teenage pregnancy in South Africa. However, the Gini coefficient reflects a mixed relationship which suggests a complex association between income inequality and adolescent fertility rate. Though the study points towards a positive association in some context, the specific trends suggest that teenage pregnancy in South Africa might be influenced by multiple factors beyond income inequality. Therefore, we recommend that South African policymakers should prioritize investment in human capital development in order to reduce the incidence of teenage pregnancy. *(Afr J Reprod Health 2025; 29 [12]: 66-75).*

Keywords: Teenage pregnancy, Adolescent fertility rate, Human development index, South Africa

Résumé

Cette étude a examiné le lien entre pauvreté, inégalités et grossesses adolescentes en Afrique du Sud de 2017 à 2023. Elle a utilisé des indicateurs socio-économiques de la Banque mondiale et de l'Indice de développement humain (IDH) des Nations Unies pour déterminer la prévalence des grossesses adolescentes dans le pays. Les résultats ont montré une corrélation inverse nette entre l'IDH et la fécondité des adolescentes, soulignant l'importance de l'éducation et des soins de santé pour réduire ce phénomène. De même, le revenu national brut (RNB) par habitant a également montré une corrélation inverse avec les grossesses adolescentes. Ceci indique qu'un niveau de pauvreté élevé alimente l'augmentation de l'incidence des grossesses adolescentes en Afrique du Sud. Cependant, le coefficient de Gini révèle une relation complexe, suggérant une association complexe entre les inégalités de revenus et le taux de fécondité des adolescentes. Bien que l'étude mette en évidence une corrélation positive dans certains contextes, les tendances observées suggèrent que les grossesses adolescentes en Afrique du Sud pourraient être influencées par de multiples facteurs autres que les inégalités de revenus. Par conséquent, nous recommandons aux décideurs politiques sud-africains de privilégier l'investissement dans le développement du capital humain afin de réduire le taux de grossesses chez les adolescentes. *(Afr J Reprod Health 2024; 29 [12]: 66-75).*

Mots-clés: Grossesse chez les adolescentes, Taux de fécondité des adolescentes, Indice de développement humain, Afrique du Sud

Introduction

Teenage pregnancy remains a persistent and complex social challenge globally with particular alarming rate in sub-Sahara Africa. According to the WHO[1], teenage pregnancy is a global phenomenon with an estimate of 21 million girls aged 15 – 19 years in developing regions (Low- and Medium-Income Countries) becoming pregnant and approximately 12 million of them giving birth. South Africa reports one of the highest teenage pregnancy rates in sub-Saharan Africa with approximately 30% of 19-year-old female having been pregnant at least once.[2]

Teenage pregnancy in South Africa poses a significant public health and social challenges with far-reaching implications for individuals, families, communities, and the nation at large. Teenage pregnancy which is referred to as pregnancy among girls aged 10 – 19 is associated with adverse health, educational and socioeconomic outcomes which includes education disruption and continued increase in poverty[3]. Socioeconomic factors such as poverty and inequality play significant roles in

perpetuating the issue. This study examines the nexus between poverty, inequality and teenage pregnancy in South Africa exploring how these broader socioeconomic factors shape the phenomenon while establishing connection between poverty, inequality and teenage pregnancy. Meanwhile, the interconnectivity between socio-economics factors such as poverty and inequity in influencing the rate of teenage pregnancy prevalence has emerged as a critical area of research globally and especially in South Africa. Studies from the UNFPA[3] showed that approximately 21 million teenage girls aged 15 – 19 years become pregnant in low- and middle-income countries become pregnant, with South Africa accounting for the highest within the Sub-Saharan African region.

The WHO[1] indicated that teenage pregnancy levels tend to be higher among those with less education or of lower economic status. Teenage pregnancy in South Africa is a multifaceted issue influenced by historical, cultural and socioeconomic factors. Data from the South African General Household Surveys[4] indicate that 4% of females aged 10 -19 were pregnant as at the time of the survey with higher prevalence in poorer communities[5]. The persistence of teenage pregnancy can be linked to structural factors such as poverty and inequality which makes adolescent girls to be vulnerable to early pregnancy[6]. Structural functionalism grounded in the works of Emile Durkheim posit that societal institutions function to maintain order. From this lens, teenage pregnancy can be seen as a symptom of dysfunction within institutions where poverty and inequality undermine the effectiveness of family structures and educational system, thereby increasing vulnerability[7].

In view of the above, this study aims at filling the gap in research by investigating the link between poverty, inequality, and teenage pregnancy in South Africa. It is imperative to state that this study The study is specifically concerned with examining how poverty and inequality contribute to teenage pregnancy in South Africa within the periods 2017-2023. Through these objectives, this study will provide an understanding of the interrelationship of poverty and inequality with teenage pregnancy in South Africa. The findings will benefit policymakers, public health professionals, and researchers keen on developing socioeconomic interventions to combat teenage pregnancy in South Africa.

Consequently, poverty, which is often characterized as lack of necessity, limited access to resources, limited access to healthcare and economic hardship is a well-documented determinant of teenage pregnancy creating environment where adolescent girls face heightened risks. Even though few studies have confirmed the association between poverty and teenage pregnancy in South Africa, the evidence is now insufficient for policy action, because the magnitude at which poverty caused teenage pregnancy is relative unknown in the literature.

In the same vein, inequality which is another strategic economic variable which determines women reproductive health, its impact on teenage pregnancy has not been explored in South Africa in the recent times. In the light of the above, it is imperative to update the existing body of knowledge about the significant roles that poverty and inequality play in orchestrating teenage pregnancy in South Africa. Hence, the novelty of this study.

Statistics South Africa[8] indicated that over 50% of the population lives below the national poverty line with Black households disproportionately affected. A study by Reddy[9] found that teenagers from low-income households were significantly more likely to become pregnant than their wealthier counterparts. Studies from Noutchie[10] and Makiwane[11] enumerated that young girl from impoverished backgrounds are more likely to engage in transactional sex or enter into relationships with older men in the quest for financial support making them incapable to make decisions on sexual protection leaving them vulnerable to early pregnancy[12].

The World Bank[13] further elucidates this relationship by demonstrating how early childbearing perpetuates the cycle of poverty. This assertion was also confirmed by Odimegwu and

Mkwananzi[14] using multilevel logistic regression to demonstrate that household level poverty independently predicts teenage pregnancy in South Africa. Another characteristic of poverty is the lack of access to proper education sufficient to empower girls to explore economic opportunities and improved quality of life. Economic hardship often forces young people to drop out of school to support their family and due to perceived benefits of early marriage and pregnancy as a means of socioeconomic improvement.

Makiwana[15] reported that there is a strong correlation between household food insecurity and teenage pregnancy suggesting that girls facing food shortages may be more likely to engage in risky sexual behaviors to obtain resources. The child support system intended to assist poor families has been criticized for inadvertently incentivizing early pregnancy in some cases[10]. The cyclical nature of poverty and teenage pregnancy necessitates a comprehensive understanding of the socioeconomics context in which teenagers or adolescents live. In regions like sub-Saharan Africa, poverty combined with cultural norms and inadequate reproductive healthcare services exacerbates the issue of teenage pregnancy.[16]

Methods

This study used a comparative approach to investigate the interplay of poverty, inequality and teenage pregnancy in South Africa. Quantitative data from the World Bank and United Nation Human Development Index (HDI) datasets from 2017 to 2023 were used as a source to provide robust and standardized metrics for socioeconomic trends[17-19]. The scope was chosen from the available data that are relevant to the study.

Table 1: Measurement of variables

Variable	Measurement	Source	Expected sign	References
Inequality	Gini coefficient (before tax). This is a measure of statistical dispersion intended to represent the income inequality, wealth inequality, or consumption inequality within a nation or a social group. (World Inequality Database)	UNDP	+	Gao[20]
Poverty	This is measured by Gross national income per capita which captures the total income earned by a country's residents and businesses, whether they are located domestically or abroad (2021 PPP$)	WDI	+	Hao[21]
Human Development Index	Human Development Index. This measures human welfare in the three fundamental pillars of human development: health, education, and standard of livelihood	UNDP	_	Aderemi et al.[22]
Government Expenditure on Education	Government expenditure on education, total (% of government expenditure)	WDI	_	Ail et al.[23]
	Variable of Interest			
Teenage pregnancy	Adolescent fertility rate (births per 1,000 women ages 15-19)	WDI	NA	

Estimation procedure

To achieve the objective of this study, data analysis techniques employed are graphs. The use of graphs avails the opportunity to assess and identify patterns, trends and changes in the data over time. The analysis involves two steps: first examining the temporal trends of each indicator and the adolescent fertility rate. Second step is to assess the relationship between each indicator and the fertility rate by observing patterns in the data. This approach offers a comparative understanding of the relationship between the dependent and independent variables examined in this study.

This research employed statistical data made available on the World Development Indicators (WDI) and United Nations datasets, which are anonymized and aggregated, ensuring no risk of harm or exposure of identifiable information. No personal data were used, and the authors strictly followed the conditions of use by data providers. The analyses were performed following a systematic, clear, and rigorous methodology, presenting the results in a transparent manner. Ethical approval was not required as no human or animal subjects were involved.

Ethical consideration

Ethical approval or consent to participate is not required as the study made use of no human or animal subjects. The study made use of data from the sources which are publicly available online.

Results

Results of inequality (Gini coefficient) and teenage pregnancy (births per 1000 women ages 15 – 19) from 2017 – 2023

Figure 1 examines the trend and pattern relationship of adolescent fertility rate and Gini coefficient from 2017 and 2023. The adolescent fertility rate began at 56 in 2017 experienced a significant drop to 51 in 2018, rose slightly into 53 in 2019 thereafter stabilized at around 51 – 52 from 2020 to 2022 before dropping back to 51 in 2023. The AFR indicates an overall downward trend over the period with notable decrease from 2017 – 2018 followed by minor fluctuation and stabilization at lower levels.

The figure above showed that the Gini coefficient which measured income inequality before taxes started 2017 at 0.63, dropped in 2018 and 2019 to 0.62 and 0.61 respectively. However, from 2020 to 2023 the Gini coefficient experiences rise year on year reaching a peak of 0.66 in 2023. This indicated an upward trend in income inequality. The data does not show a consistent relationship between the two variables, when inequality decreased from 2017 to 2019 AFR initially dropped but rose slightly.

Results of human development index (value) and adolescent fertility rate (births per 1000 women ages 15 – 19) from 2017 – 2023

Figure 2 examines the trend and pattern relationship of adolescent fertility rate and human development index from 2017 and 2023. The HDI which measures the average achievement of a country in three basic aspects of human development of health, knowledge and standard of living in 2017 stood at 0.72 with an upward trend in 2018 and 2019 of 0.73 and 0.74 respectively thereafter dipped from 2020 to 2021 (0.724 and 0.721), HDI recovered in 2023 to 0.74 showing an overall uptrend with a temporary decline in 2020 and 2021 at 0.72. Meanwhile, the adolescent fertility rate began at 56 in 2017 experienced a significant drop to 51 in 2018, rose slightly in to 53 in 2019 thereafter stabilized at around 51 – 52 from 2020 to 2022 before dropping back to 51 in 2023. The AFR indicates an overall downward trend over the period with notable decrease from 2017 – 2018 followed by minor fluctuation and stabilization at lower levels.

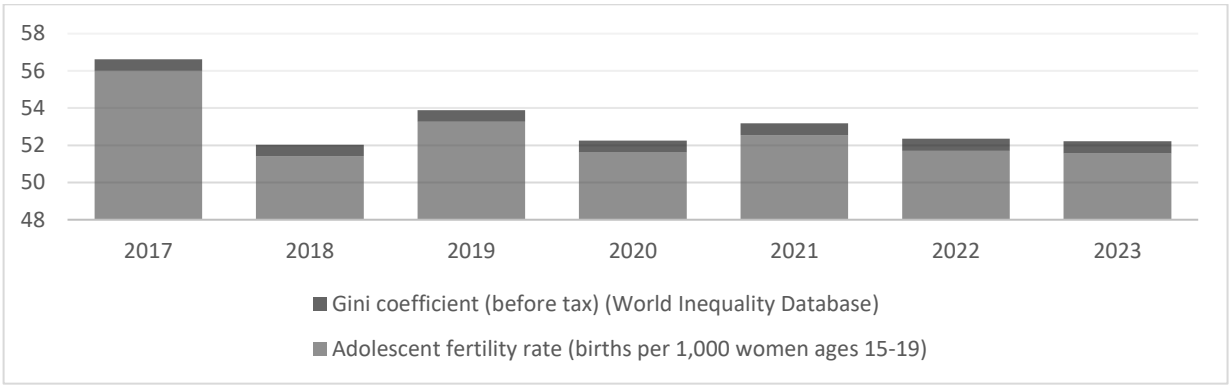

Figure 1: Gini coefficient and adolescent fertility rate (births per 1000 women ages 15 – 19) from 2017 – 2023

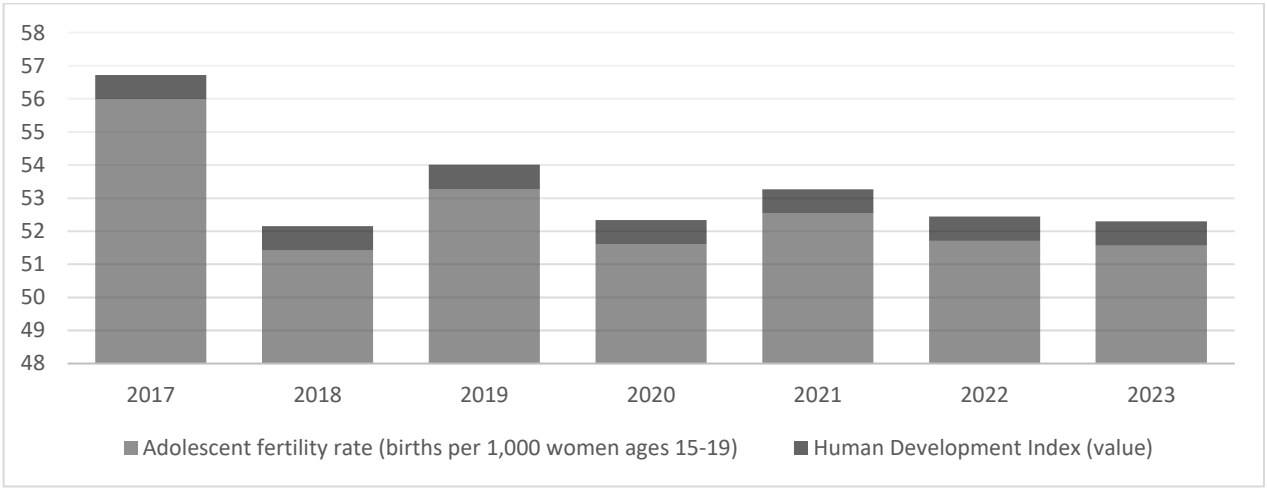

Figure 2: Human development index (value) and adolescent fertility rate (births per 1000 women ages 15 – 19) from 2017 – 2023

Results of Gross National Income per capita (2021 PPP$) and adolescent fertility rate (births per 1000 women ages 15 – 19) from 2017 - 2023

Figure 3 examines the trend and pattern relationship using bar charts of adolescent fertility rate and gross national income per capita (2021 PPP$) from 2017 and 2023. The GNI which measures the total income earned by a country's residents and businesses, whether they are located domestically or abroad showed that in South Africa in 2017 stood at $ 13862.17, rose in 2018 and 2019 at $13839.46 and $13882.01 respectively. The year 2020 show a decline to $13241.77 thereafter in 2021 had a recovery to $13901.69 with stability in 2022 and 2023 at $13819.63 and $13693.98. Overall, there is slightly upward trend from 2017 to 2019 preceded by a noticeable drop in 2020 and periods of stability from 2021 – 2023

Higher GNI values are expected to result to lower AFR. In the analysis, the relationship with AFR is weak and inconsistent, for instance in GNI per capita from 2017 to 2018 coincide with a drop in AFR from 56 to 51 while a peak in GNI in 2021 at $13,901, a slight rise was seen in AFR at 0.52.

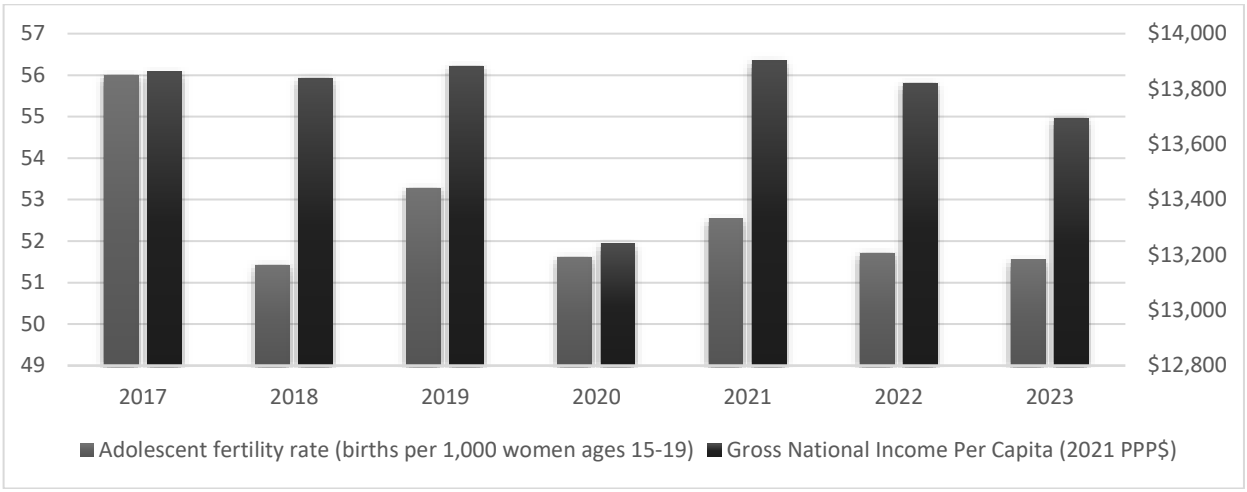

Figure 3: Gross national income per capita (2021 PPP$) and adolescent fertility rate (births per 1000 women ages 15 – 19) from 2017 – 2023

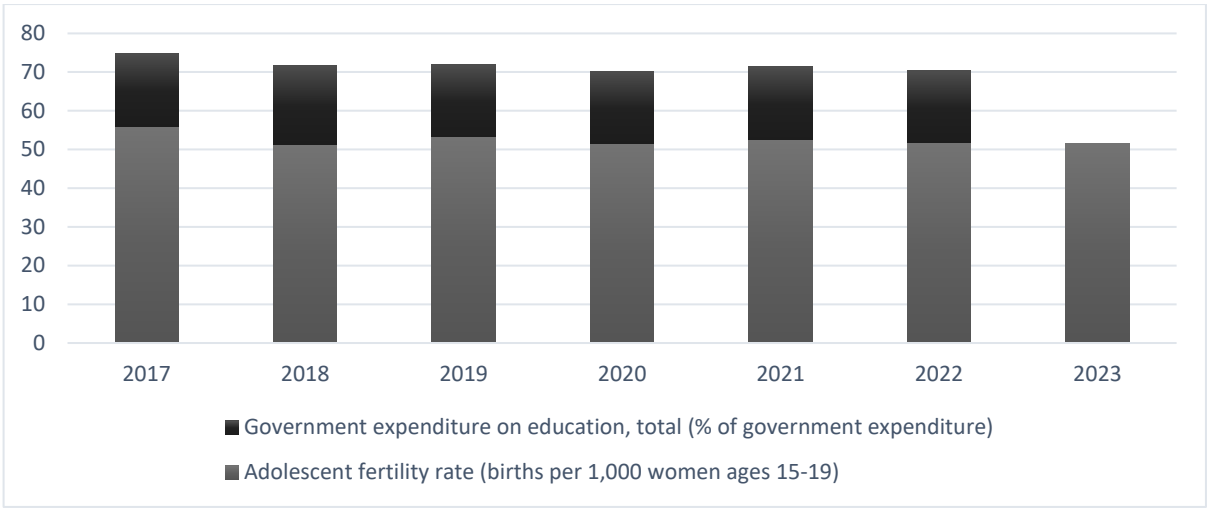

Figure 4: Government expenditure on education, total (% of government expenditure) and Adolescent fertility rate (births per 1000 women ages 15 – 19) from 2017 – 2023

Results of government expenditure on education, total (% of government expenditure) and Adolescent fertility rate (births per 1000 women ages 15 – 19) from 2017 – 2023

Figure 4 examines the trend and pattern relationship using bar charts of adolescent fertility rate and government expenditure on education, total (% of government expenditure) from 2017 and 2023 with a gap in the 2023 data for government expenditure on education. Percentage of government expenditure on education in 2017 stood at 18.88% and rose steeply to 20.29% in 2018, thereafter it dropped to 18.69% in 2019. Percentage of government expenditure on education stabilized within 18.65% and 18.93% in 2021 and 2022. However, the adolescent fertility rate began at 56 in

2017 experienced a significant drop to 51 in 2018, rose slightly into 53 in 2019 thereafter stabilized at around 51 – 52 from 2020 to 2022 before dropping back to 51 in 2023.

Discussion

The HDI is a composite index that evaluates level of human welfare in the three fundamental pillars of human development: health, education, and standard of livelihood. It is expected that high levels of HDI should be metamorphosed to the reduction of teenage pregnancy. From this study, the results indicates that adolescent fertility rates in South Africa generally declined from 56 – 51 births per 1,000 women age 15 – 19 between 2017 and 2023 due to the rise in the HDI in the country over the periods.

The inverse relationship observed with human development index (HDI) is consistent with existing literature which emphasizes education and human development as key drivers of teenage pregnancy decline[24,25]. Human development index reflects better access to education and healthcare, both of which influence reduction in teenage pregnancy. Higher HDI values is expected to result to lower AFR. In the analysis, evidence supports an inverse relationship between the variables. When HDI was higher 0.74 in 2019 and 2023, AFR trends to be lower at 53 and 51 for 2019 and 2023. On the other hand, when the HDI was lower 0.72 in both 2017 and 2023, AFR was higher 56 and 51.

The inverse relationship pattern indicates that as human development improves, adolescent fertility rate trends to decline. This study shows education and healthcare influence the delay in marriage and improve access to contraception, thereby reducing teenage pregnancy in the country. Therefore, the policymakers in South Africa should prioritize the investment in human capital development of teenage population, this ensures access to the information and services necessary for young people to make informed decisions about their reproductive health and prevent unintended pregnancies. Hence, the framework for addressing teenage pregnancy is ensured via poverty eradication in terms of human development.

Besides HDI, another crucial indicator of poverty measurement is gross national income per capita which measures the total income earned by a country's residents and businesses, whether they are located domestically or abroad. From the finding, the South African GNI in 2017 stood at $ 13,862.17 which rose to $13,882.01 in 2019 respectively. The year 2020 show a decline to $13241.77 thereafter in 2021 had a recovery to $13901.69 with stability in 2022 and 2023 at $13819.63 and $13693.98.

Overall, there is slightly upward trend from 2017 to 2019 preceded by a noticeable drop in 2020 and periods of stability from 2021 – 2023. Higher GNI value is expected to bring about lower teenage pregnancy. In the analysis, the evidence of an inverse relationship was noticed. This is an indication that high poverty level fuels a rise in the incidence of teenage pregnancy. As such, the policymakers in South Africa should embark on policies and programs that will catalyse higher income of the household in the country. This will enable individual households in the country to provide necessities for life such as food, shelter, education and improved access to contraception for their teenage population. The lack of which could spur a rising case of teenage pregnancy.

Furthermore, from 2020 to 2023 the Gini coefficient experiences year on year rise reaching a peak of 0.66 in 2023. This indicated an upward trend in income inequality. The data does not show a consistent relationship between the two variables, when inequality decreased from 2017 to 2019 AFR initially dropped but rose slightly. The Gini coefficient reflects a mixed relationship which suggests a complex association between income inequality and adolescent fertility rate. Though the study points towards a positive association in some context, the specific trends suggest that teenage pregnancy in South Africa might be influenced by multiple factors beyond income inequality. For instance, access to education and healthcare, cultural norms and economic opportunities for women can play significant roles. A downward

teenage pregnancy despite rising inequality in later years may indicate progress in reproductive health policies or education which require further studies.

Similarly, when percentage of government expenditure on education increased by 2% in 2018, the AFR indicated an overall downward trend over the period with notable decrease from 2017 – 2018. However, when the percentage of government expenditure on education fell in the subsequent years, teenage pregnancy rose significantly. This is an indication that an inverse relationship exists between teenage pregnancy and public funding of education in South Africa. This is an eye opener for the policymakers in South Africa that public funding of education could serve as a strategic measure to curb teenage pregnancy in the country.

Teenage pregnancy in South Africa is also shaped by broader health-system and educational inequalities. Evidence shows that travel burden and limited access to care deepen vulnerability among disadvantaged groups[26]. Inequities in healthcare-seeking behaviour further widen outcomes between poor and non-poor adolescents[27]. Educational attainment strongly influences reproductive choices, with higher education linked to lower fertility[28]. Studies also show parental education shapes gender norms that affect adolescent decisions[29].

Health conditions related to reproductive outcomes remain critical[30], while vaccination and health-system exposure influence maternal wellbeing[31]. Genetic and health-risk determinants similarly reinforce structural disparities affecting teenage fertility[32]. Women's empowerment shapes household childcare decisions33, while gender inequality remains linked to adverse maternal outcomes[34]. Poverty-related vulnerabilities heighten adolescents' exposure to early pregnancy[35], and financial constraints significantly influence health and wellbeing[36]. Broader inequality and social protection dynamics further reinforce the structural pathways through which teenage pregnancy persists in South Africa[37].

Study strengths and limitations

This study offers a comprehensive analysis of the interplay between poverty, inequality and teenage pregnancy in South Africa over a 7-year period. The longitudinal approach strengthens the validity of its findings by capturing long-term trends. The use of graphical representations enhances clarity, facilitating trend visualization and comparative analysis. However, there are some important limitations in the research. Its analytical scope remains confined to graphical correlations, thereby omitting other determinants of teenage pregnancy that could be present, such as culture, lifestyle, and early marriage.

Conclusion

This study has examined the nexus between poverty, inequality and teenage pregnancy in South Africa from 2017 to 2023. This study provides insights into the relationship using socioeconomic indicators in South Africa from 2017 to 2023. The HDI shows clear inverse relationship with adolescent fertility underscoring the importance of education and human development. Similarly, GNI per capita has the evidence of an inverse relationship with teenage pregnancy. This is an indication that high poverty level fuels a rise in the incidence of the teenage pregnancy in South Africa. However, the Gini coefficient reflects a mixed relationship which suggests a complex association between income inequality and adolescent fertility rate. Though the study points towards a positive association in some context, the specific trends suggest that teenage pregnancy in South Africa might be influenced by multiple factors beyond income inequality.

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