




## DETERMINANTS OF LIFE EXPECTANCY AMONG MALES IN SUB-SAHARAN AFRICA: A SYSTEMATIC REVIEW

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Article History	Abstract
Received: 21 July 2025 Accepted: 26 August 2025 Published: 03 September 2025	This systematic review examines factors influencing male life expectancy in Sub-Saharan Africa, offering a comprehensive analysis of 17 studies conducted over the past decade. Economic indicators, including GDP per capita, income inequality, and government health expenditure, consistently emerge as crucial determinants shaping male life expectancy. Socio-economic factors such as literacy rates, education, and access to safe water also significantly impact life expectancy outcomes, revealing a complex interplay between financial well-being and health. Both quantitative and qualitative studies were systematically searched and included in the study, and reported based on the PRISMA 2020 guideline. The quality of included studies was critically appraised using the Joanna Briggs Critical Appraisal Tool. Three independent reviewers screened and selected the studies included in the review. A search was conducted in five electronic databases – PubMed, PsychINFO, CINAHL, Google Scholar, and AJOL. Out of the 17 studies, 9 (52.9%) investigated the socio-economic, 10 (58.8%) explored healthcare access and expenditure, while 12 (70.6%) highlighted on environmental and globalization influences in shaping male life expectancy in sub-Saharan Africa. All 17 articles collectively demonstrate the complex collaboration of economic, environmental, and global factors in shaping male life expectancy in sub-Saharan Africa, emphasizing the need for holistic and region-specific policy approaches. The study highlights the importance of tailored interventions considering the specific contexts within Sub-Saharan Africa. It advocates for holistic and region-specific policy approaches, recognizing the intricate collaboration of economic, social, and environmental factors in shaping male life expectancy. The findings contribute essential insights for policymakers, urging comprehensive strategies to address the region's diverse nature of male health outcomes. Ultimately, the research underscores the dynamic and multifaceted nature of the factors influencing male life expectancy in Sub-Saharan Africa.
 License: CC BY 4.0♦  Open Access article.	<b>Keywords:</b> Determinants, Life expectancy, Males, Sub-Saharan Africa.

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## Introduction

Males generally have shorter life expectancy than average (Hossin, 2021; World Health Organization, 2016; Zarulli et al., 2018). An estimated 25 million annual deaths occur among males worldwide (World Health Organization, 2016). Males are 3.6 times more likely to die from sudden deaths, about 13% of which have no underlying cause (Saadi et al., 2020), a factor that points to male biological weakness (Blum & Qureshi, 2011; Saadi et al., 2020; Zarulli et al., 2018).

In Africa, injuries, interpersonal violence, self-harm, drowning, and HIV/AIDS have also been linked to male deaths (Blum & Qureshi, 2011; World Health Organization, 2016), up to four times occurring through suicide (Edwards, 2016). Hormonal, genetic predisposition, and hereditary vulnerability expose males to risky behaviours like heavy drinking, drug use, and smoking, increasing the risk of developing chronic diseases and premature death (Nolen-Hoeksema, 2004; OECD., 2019; World Health Organization, 2021). Males disproportionately bear the heat of distressful times like famine, slavery, and epidemics, leading to early deaths (Zarulli et al., 2018). Racial origin and socioeconomic status also appear to exacerbate the effects of sex on health outcomes (Bauer & Scheim, 2019).

In healthcare, Kim (2015) opined that there may be a lack of attention paid to the health of males by healthcare providers. For instance, a study found that health professionals like gynaecologists, and urologists treated women for sexually transmissible infections but neglected their male partners (Blum & Qureshi, 2011).

Life expectancy measures the average projected years that a person is expected to live based on current death rates (Vachon & Sestier, 2013) by statistical calculations (Modig et al., 2020) reference to the time of birth (Aburto et al., 2020). It demographically provides insights into the specific population's general health and longevity, based on a particular outcome (Islam, 2019). Life expectancy, estimated using life tables, is a better measure than other demographic and mortality data, as it estimates an individual's average lifespan by combining age-specific death rates (Collaborators & Ärnlov, 2020). A mix of environmental, biological, lifestyle choices, occupational, healthcare access for prevalent health conditions and societal factors have been linked to men's ability to survive (Akbar et al., 2021; World Health Organization, 2021). Conflict, disease outbreaks, and poverty can lower life expectancy (Garry & Checchi, 2020; Renzaho, 2020), whereas advancements in healthcare, sanitation, and living conditions can enhance life expectancy (Montez et al., 2020).

Generally, an average life expectancy of 73 years is reported, with the US, the UK, China, and Australia, reporting higher average years between 76.9 and 83.3 years (Yin et al., 2020). In Sub-Saharan Africa, the life expectancy of men varies significantly. For instance,

available statistics suggest that male life expectancy is below the global average, ranging from the mid-fifties in Nigeria to the moderate of mid-sixties in Ghana and Sierra Leone (Ojo Olusoji et al., 2020; Sampaio, 2022). Woolf concludes that compared to high-income countries, life expectancy in Sub-Saharan Africa is very low (Woolf, 2023).

Sub-Saharan Africa is bedeviled with HIV/AIDS, malaria, and tuberculosis, as well as environmental issues like access to clean water and sanitation (Adeyeye et al., 2023). A complex network of factors may contribute to the disparities in male life expectancy in Sub-Saharan Africa, and their changes over time could have important insights. Males are needed not only to complete the reproductive cycle, but are also critical for the shared life span (Saadi et al., 2020; Zarulli et al., 2018) as women struggle without men (Owusu, 2020). Evidence may also be important in demystifying societal labels that males are 'healthy' and 'stronger' which makes systems overlook their health challenges. The findings of this review can guide policy and practical intervention choices, direct public health initiatives, the distribution of healthcare resources, and the development of policies targeted at enhancing the longevity and general well-being of men in the area.

## Methodology

**Research Philosophy:** The pragmatic philosophical paradigm forms the foundation of this study. This philosophical paradigm allows incorporating data from both quantitative and qualitative studies. In the review, pragmatism is determined by the practical purpose of gaining the most complete and applicable understanding of the phenomenon being studied. The pragmatic approach is especially useful because it enables the researcher to use positivist and interpretive approaches depending on the individual requirements of the study. Since various parts of the study subject may call for different approaches, pragmatism recognizes this flexibility and permits using both qualitative and quantitative methods.

**Search Strategy, Screening and Selection:** This paper is reported based on the PRISMA 2020 Guidelines. Following the SPIDER framework, a systematic search strategy was employed to ensure a comprehensive exploration of relevant literature on the determinants of life expectancy among males in sub-Saharan Africa (Appendix 1). As highlighted by Methley et al. (2014), the choice of the SPIDER framework was aimed at balancing inclusivity and precision in identifying pertinent literature for this research. Included studies were those exploring healthcare access and quality, socioeconomic factors and disease burden, and public health interventions. The authors systematically searched five electronic databases: PubMed, PsychINFO, CINAHL, Google Scholar, and AJOL. Pilot searches were developed, tested, and refined using

comparable indexing terms specific to each database. Three independent reviewers screened and selected the papers for the review (LB, HP, and RN). Disagreement between the reviewers was resolved by discussion and general consensus.

**Eligibility criteria:** The inclusion and exclusion criteria are summarized in Table 1, following the SPIDER framework (Table 1) for a mixed-method systematic review. The studies included were written in English, peer-reviewed, quantitative or qualitative, of the Sub-Saharan population, and conducted between 2013 and 2023, reflecting a body of knowledge on the factors influencing life expectancy in the last decade. Systematic reviews and other grey literature were excluded to ensure the quality of the review outcome while ensuring that a collection of well-referenced empirical evidence drives the resulting recommendations.

**Table 1:** Inclusion and exclusion criteria

Criteria	Inclusion	Exclusion
Sample(S)	Studies conducted in Sub-Saharan Africa. Focus on male populations. Availability of life expectancy data	Studies conducted outside Sub-Saharan Africa. Mixed-gender studies without separate male data. Studies without life expectancy information
Phenomenon of Interest (PI)	Studies investigating factors affecting male life expectancy. Research exploring trends or changes in male life expectancy.	Studies unrelated to life expectancy. Studies focusing solely on female populations.
Design (D)	Qualitative and quantitative studies providing a snapshot of life expectancy	Case studies and others, not representative of broader populations.
Evaluation (E)	Studies using reliable and validated methods to measure life expectancy.	Studies with methodological flaws affecting life expectancy measurements.
Research Type (R)	Primary research studies. Secondary analyses of relevant data.	Reviews, opinion pieces, or non-research articles. Studies lacking a clear research focus.

**Data Extraction and Quality Appraisal:** After the abstract and full-text screening, relevant data from studies that met the inclusion criteria were inputted into a Microsoft Word Data extraction sheet (Appendix 2). The key data extracted included the authors' names, the year and country of study, the paper's title, methodology and key findings. The papers were critically appraised for data quality using the Joanna Briggs Institute critical appraisal checklists Joanna Briggs Institute (2020). The tool was chosen due to its tailored nature to both quantitative and qualitative research designs, which aligns perfectly with this review methodology. The data extraction sheet also included the remark on applying JBI on each paper. This critical appraisal marks the completion of the initial data analysis phase (Gajbhiye et al., 2021).

**Data Analysis:** Data analysis was based on a reflexive thematic analysis. This method is suitable for exploring complex and diverse data (Sundler et al., 2019). Coding of textual data was conducted through an inductive approach, allowing themes to emerge organically from the data rather than being predefined. The process involved repetitive cycles of data familiarization, coding, theme development, and refinement (Sundler et al., 2019). The relevance of themes to the research question was paramount as emphasized by Sundler et al. (2019). Each theme was scrutinized for its contribution to the comprehensive exploration of the determinants, ensuring alignment with the study's objective, to uncover patterns, connections, and variations within the data, providing a deeper understanding of the factors influencing life expectancy in sub-Saharan Africa.

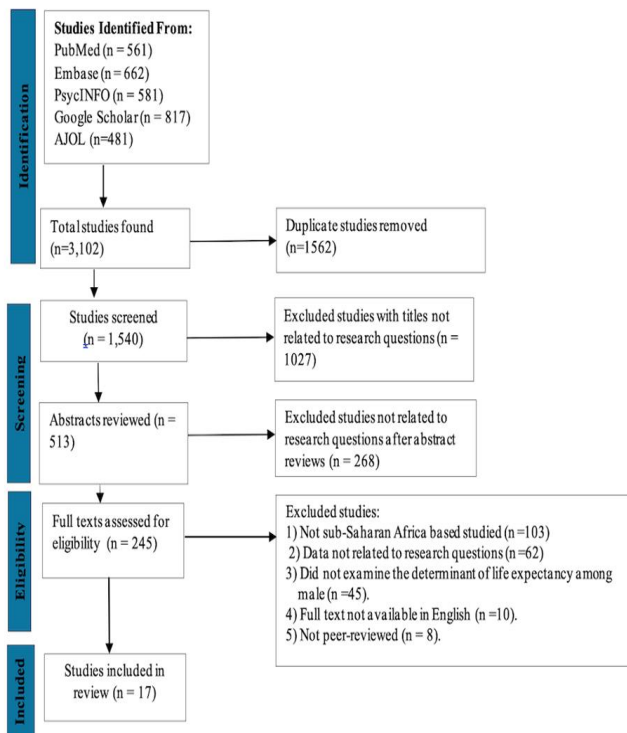
## Results

**Search Results:** The initial database search yielded a substantial 3,102 studies (Figure 1). After screening titles, abstracts and full-text documents, 17 studies were included, collectively providing valuable insights into the determinants of life expectancy among males in sub-Saharan Africa.

**Characteristics of Included Studies:** Of the 17 included studies (Table 2), 14 employed quantitative methods, while the remaining 3 utilized qualitative methods. These studies were conducted between 2013 and 2023 in diverse community-based and healthcare settings in sub-Saharan Africa. Key findings from these studies highlight critical factors influencing life expectancy. Income, quality of government health expenditure, and unemployment emerge as significant determinants, emphasizing the importance of socio-economic conditions.

Of the 17 studies, 9 (52.9%) primarily investigated the socio-economic determinants of life expectancy among males, in contrast, 10 (58.8%) offered a comprehensive

exploration of healthcare access and expenditure as crucial determinants of life expectancy among males. Also, 12 (70.6%) highlighted a compelling narrative affirming the crucial role of environmental and globalization influences in shaping male life expectancy in sub-Saharan Africa. All 17 articles demonstrate the complex collaboration of economic, environmental, and global factors in shaping male life expectancy in sub-Saharan Africa, emphasizing the need for holistic and region-specific policy approaches.



**Figure 1:** PRISMA flowchart demonstrating the search and retrieval process. Adapted from Rico-González et al. (2022).

**Table 2:** Data Summary Sheets

Author/ Year/ Country	Type of Literature	Main Findings	Critical Appraisal (JBI 2020)
(Keita, 2013) 45 sub-Saharan African countries	Quantitative study	Income, particularly GDP per capita, positively correlates with life expectancy gain. Variables like adult literacy, sanitation access, and safe water are also positively correlated. Extreme poverty negatively	Comprehensive analysis using multiple estimation methods. The long period covered (1960- to 2011) for a large sample of SSA countries. Ambiguity in the impact of income inequality. Limited information on critical aspects

		correlates with health gain, while the impact of income inequality is ambiguous.	of the methodology
(Sede & Ohemeng, 2015) Nigeria	Quantitative study	Conventional socio-economic variables (per capita income, education, government expenditure on health) are insignificant in determining life expectancy.	Employment of VAR and VECM frameworks for addressing endogeneity. Focus on specific socio-economic variables relevant to Nigeria. Failure of conventional socio-economic variables to predict life expectancy raises questions. Lack of detailed discussion on the limitations of the study.
(Arikpo et al., 2019) Nigeria	Quantitative study	Income inequality is the largest predictor of life expectancy. Other significant predictors include income per capita, government capital expenditure on health, carbon dioxide emission, and physician per 1,000 population.	Utilisation of time series data for a comprehensive analysis. Identification of key macroeconomic variables affecting life expectancy.
(Nkemgha et al., 2021) Cameroon	Quantitative study	Private health expenditure has a positive and significant impact on life expectancy in Cameroon. Public health expenditure has no	Use of time series data for analysis. Exploration of public and private health spending impact on life expectancy.

		significant impact. The bidirectional causality between private health expenditure and life expectancy in Cameroon emphasises the interconnected nature of health economics, specifically affecting males.				impact on life expectancy in Nigeria.	methodology. Clear difference noted between independent and dependent variables. Unclear if congruity between the stated philosophical perspective and the research methodology as not stated.
(Abubakar et al., 2019) 44 sub-Saharan Africa Countries	Quantitative study	GDP per capita, health expenditure per capita, and education (secondary school enrollment rate) positively and significantly impact Life Expectancy in Sub-Saharan Africa. HIV/AIDS prevalence rate and CO2 emissions exert a negative and significant impact. Geographical location has a differing impact on life expectancy.	Application of GMM estimation technique. Identification of socio-economic factors affecting life expectancy. Recommendations for policy improvements.	(Agbatogun et al., 2019) Nigeria	Qualitative study	Government health expenditure, per capita income, and literacy rate positively affect life expectancy.	Detailed exploration of macroeconomic variables and their impact. Tests of model reliability were conducted. Positive significant effects were identified.
				Peter & Adediyin, 2019). Sub-Saharan Africa	Qualitative study	Expansionary monetary policy is relevant in controlling life expectancy but less effective. Fiscal policy, environmental quality (CO2), and standard of living are more effective determinants of life expectancy.	Use of panel co-integration and System GMM model for estimation. Identification of key determinants of life expectancy.
(SangoCoker & Bein, 2018). 15 West African countries	Qualitative study	Positive relationship found between healthcare spending and life expectancy in the public healthcare sector. Negative relationship in the private healthcare sector.	Limited information on the specifics of the regression models used. Lack of clarity on the sources and quality of data.	(Sani & Abubakar, 2019) 37 Sub-Saharan African Countries	Quantitative study	Health expenditure, material wellbeing, access to safe drinking water, primary school enrollment, infant mortality rate, and energy consumption are significant determinants of life expectancy in Nigeria.	Use of ARDL Model for analysis. Identification of significant determinants. Recommendations for health policy improvements.
Timothy (2018) Nigeria	Qualitative study	Economic globalisation has a positive and significant	Limited information on the specifics of the				



		Prevalence of HIV/AIDS and household consumption are determinants in the short run.		(Onwubu et al., 2021) Nigeria	Quantitative study	Real GDP per capita, inflation rate, imports, and government consumption expenditure positively relate to male life expectancy of male in the short run. In the long run, real GDP per capita, household consumption expenditure, and exchange rate positively impact life expectancy, while inflation rate, imports, and government consumption expenditure negatively.	Use of ARDL approach for analysis. Identification of short- and long-run determinants. Recommendations for prioritising real GDP growth.
(Akintunde et al., 2019) Nigeria	Quantitative study	Carbon dioxide emission, gross capital formation, health expenditure, and unemployment rate are significant in explaining life expectancy in Nigeria. Shocks from these factors have both positive and negative effects on life expectancy.	Use of Cointegration and VECM methodology. Identification of significant determinants. Recommendations for policy improvements.				
(Aigheyisi, 2020) Nigeria	Quantitative study	Inflation and unemployment adversely affect life expectancy in both the short- and long-run. Health expenditure positively affects life expectancy.	Use of ARDL approach for analysis. Identification of short- and long-run effects. Recommendations for cautious pursuit of agricultural productivity.	(Moussa & Diaby 2020) Cote d'Ivoire	Quantitative study	Average subjective life expectancy varied across components (77.79 to 80.02 years). Sociodemographic factors, comorbidities, and lifestyle had varying effects on subjective life expectancy across components.	Comprehensive methodological approach, potential bias in self-assessment not extensively discussed. Validation of survey instruments could be detailed. Rationale for using multistage sampling not offered.
(Cavusoglu & Gimba, 2021) Sub-Saharan Africa Countries	Quantitative study	In the long run, inflation and CO2 emission significantly negatively affect life expectancy, while GDP per capita, food production, human capital, and health expenditure have positive influences. Inflation and food production do not impact life expectancy in the short run.	Use of Pedroni cointegration and pool mean group regression for analysis. Identification of long- and short-run determinants. Recommendations for policy improvements.	(Sakiru & Isiaq, 2022) 46 Sub-Saharan Africa Countries	Quantitative study	School enrolment, trade openness, GDP per capita, and, physician density positively impacts life expectancy. Corruption negatively impacts it.	Robust statistical approach. Potential biases in health aid data not discussed. Model diagnostics details would enhance appraisal.

(Ezeabasi et al., 2023) Nigeria and Benin Republic	Quantitative study	The significant relationship between cross-border migration and life expectancy in Nigeria accentuates the interconnectedness of population dynamics and health outcomes, particularly among males.	Appropriate use of descriptive statistics. Data quality and potential biases in secondary sources not explicitly discussed.
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**Thematic Analysis:** Three themes were identified in the review. These were socio-economic determinants; healthcare access/expenditure, and environmental / globalization influences.

**Table 3:** Identification of Themes

Theme Authors	Socio-Economic Determinant of Life Expectancy	Healthcare Access and Expenditure	Environmental and Globalization Influences
Moussa, (2013)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Sede & Ohemeng (2015)	<input type="checkbox"/>	<input type="checkbox"/>	
Sango-Coker & Bein (2018)	<input type="checkbox"/>	<input type="checkbox"/>	
Timothy (2018)			<input type="checkbox"/>
Agbatogun et al., (2019)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Arikpo, et al., (2019)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Guivis et al., (2019)	<input type="checkbox"/>	<input type="checkbox"/>	
Mohammed et al., (2019)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Peter & Adediyin (2019)			<input type="checkbox"/>
Sani & Abubakar (2019)			<input type="checkbox"/>
Temitope et al., (2019)			<input type="checkbox"/>
Aigheyisi (2020)		<input type="checkbox"/>	<input type="checkbox"/>

Behiye & Obadijah (2021)	<input type="checkbox"/>	<input type="checkbox"/>	
Onwube et al. (2021)		<input type="checkbox"/>	<input type="checkbox"/>
Moussa & Diaby (2022)	<input type="checkbox"/>		
Sakiru & Isiaq (2022)			<input type="checkbox"/>
Ifeoma (2023)			<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>

### ***Socio-Economic Determinant of Life Expectancy***

In this review, 9 out of 17 included studies (Abubakari et al., 2019; Agbatogun et al., 2019; Arikpo et al., 2019; Cavusoglu & Gimba, 2021; Keita, 2013; Moussa & Diaby, 2020; Nkemgha et al., 2021; Sango-Coker & Bein, 2018; Sede & Ohemeng, 2015), examined the socio-economic determinants of life expectancy among males. Keita (2013) study established a positive correlation between income and life expectancy gain, laying the foundation for subsequent investigations. This foundational insight is corroborated by several studies, where findings consistently affirm the significance of economic well-being. Sede and Ohemeng (2015) challenged conventional socioeconomic variables, emphasizing the quality of government health expenditure and measures to prevent currency depreciation. This departure from the norm finds agreement in Agbatogun et al. (2019) Grossman model, which highlights the positive significant effects of government health expenditure, per capita income, and literacy rate on life expectancy. This cohesion in findings emphasizes the need for subtle strategies to address health disparities.

In addition, the sector-specific disparity in healthcare spending impact highlighted by Sango-Coker and Bein (2018) further affirms this subtle approach, as it aligns with Arikpo et al. (2019) identification of income inequality as a significant predictor. The agreement between studies on the need for targeted interventions underscores the complexity of addressing health disparities and echoes the call for comprehensive strategies.

Nkemgha et al. (2021) exploration of health aid impact adds another tier to the narrative, revealing a positive and significant impact of private health expenditure on life expectancy in Cameroon. In conjunction with the interconnected nature of health economics, this finding aligns cohesively with Abubakari et al. (2019) regional context emphasis and varying impact. The agreement between studies on the complex relationship between economic factors and health outcomes highlights the multi-dimensional nature of socio-economic determinants.

Furthermore, Arikpo et al. (2019) did a macroeconomic analysis, identifying income inequality as a significant predictor. To complement this, Cavusoglu and Gimba (2021) comprehensively examined long- and short-run determinants.

The interconnected narrative from these studies underpins the importance of socio-economic factors, tailored interventions, and subtle strategies in shaping male life expectancy in sub-Saharan Africa. The identified theme of socio-economic determinants serves as a guiding element that connects the studies where one set of findings corroborates with another, providing a comprehensive understanding that policymakers can leverage to formulate effective and targeted health policies to improve life expectancy among males in sub-Saharan Africa.

### ***Healthcare Access and Expenditure***

Among the 17 examined studies 10 (Abubakari et al., 2019; Agbatogun et al., 2019; Aigheyisi, 2020; Arikpo et al., 2019; Cavusoglu & Gimba, 2021; Keita, 2013; Nkemgha et al., 2021; Onwube et al., 2021; Sango-Coker & Bein, 2018; Sede & Ohemeng, 2015) offer a comprehensive exploration of healthcare access and expenditure as crucial determinants of life expectancy among males in sub-Saharan Africa.

For instance, Keita (2013) identification of a positive correlation between healthcare expenditure and life expectancy in West African countries aligns with the findings of (Sango-Coker & Bein, 2018). Both studies emphasized the importance of increasing healthcare expenditure, with Sango-Coker and Bein (2018) providing a detailed exploration by distinguishing between the public and private healthcare sectors. This corroborative evidence underscores the overall significance of enhanced healthcare spending for improved life expectancy.

Agbatogun et al. (2019) further enrich the theme by adopting the Grossman model to explore socioeconomic determinants of life expectancy in Nigeria. Their identification of government health expenditure, per capita income, and literacy rate as positively significant factors corroborate with Keita (2013), Onwube et al. (2021), and Sango-Coker and Bein (2018) which emphasized the importance of these variables. This cohesive narrative underscores the interconnectedness of healthcare access, socio-economic factors, and their impact on life expectancy.

Furthermore, Arikpo et al. (2019) reinforce the theme by identifying income inequality as the largest predictor of life expectancy among the male population in Nigeria. Their recommendation for income redistribution, coupled with investments in healthcare and skilled health personnel, aligns with the broader discourse on the importance of healthcare access and expenditure in shaping life expectancy, as highlighted by Keita (2013), Sango-Coker and Bein (2018) and Agbatogun et al. (2019).

In addition, Cavusoglu and Gimba (2021) examines the long and short-run determinants of life expectancy. Their identification of health expenditure, material well-being, access to safe drinking water, and other significant determinants resonates with the theme. This comprehensive approach calls for policymakers to consider immediate and long-term factors in shaping healthcare policies.

The synthesis of these studies presents a cohesive narrative, emphasizing the critical role of healthcare access and expenditure, socio-economic factors, and detailed contextual considerations in shaping life expectancy among males in sub-Saharan Africa. This collective understanding underscores the need for tailored, multi-dimensional interventions to improve health outcomes in the region.

### ***Environmental and Globalization Influences***

The review also revealed that in 12 out of 17 studies, (Abubakari et al., 2019; Agbatogun et al., 2019; Aigheyisi, 2020; Akintunde et al., 2019; Arikpo et al., 2019; Ezeabasili, 2023; Keita, 2013; Onwube et al., 2021; Peter & Adediyi, 2019; Sakiru & Isiaq, 2022; Sango-Coker & Bein, 2018; Sani & Abubakar, 2019; Sede & Ohemeng, 2015; Timothy, 2018) highlighted a compelling narrative affirming the crucial role of environmental and globalization influences in shaping male life expectancy in sub-Saharan Africa. Examining the works of Keita (2013), Timothy (2018), and Agbatogun et al. (2019), a consistent trend emerges as they collectively established the positive correlation between economic factors and life expectancy. Keita (2013) emphasizes on the role of GDP per capita and its positive impact, which aligns seamlessly with Timothy (2018) assertion that, economic globalization significantly contributes to life expectancy. Agbatogun et al. (2019) further buttress these findings, linking environmental and globalization, government health expenditure, per capita income, and literacy rate as critical socio-economic factors that positively affect male life expectancy.

Buttressing this economic and socio-environmental discussion, Arikpo et al. (2019) and Peter and Adediyi (2019) delved into the intricate interplay between income inequality, government capital expenditure on health, and environmental quality as determining factors. Arikpo et al. (2019) underscore income inequality's prominence as the largest predictor of life expectancy among males, aligning with Peter and Adediyi (2019) assertion of environmental quality's dominance. These findings underscore the interconnectedness of economic, social, and environmental dimensions in influencing male life expectancy.

The exploration of health expenditure and access to safe drinking water highlighted by Sani and Abubakar (2019) and Akintunde et al. (2019) serves as a natural progression, reinforcing the idea that environmental,



globalization and economic factors fuse to impact health outcomes. Sani and Abubakar (2019) affirm that health expenditure positively influences life expectancy, corroborating with Akintunde et al. (2019) identification of carbon dioxide emission, gross capital formation, and unemployment rate as significant determinants.

Aigheyisi (2020) explored the dual effects of agricultural productivity on male life expectancy. The study reveals that while agricultural productivity improves life expectancy in the short run, inflation and unemployment exert adverse effects in both the short- and long-term. This detailed perspective enriches the discussion, highlighting the need to carefully consider diverse factors in policy decision-making.

Exploring cross-border migration Ezeabasili (2023), introduces a unique perspective, emphasizing the interconnectedness of population dynamics, environmental factors, and health outcomes among males.

## Discussion

Drawing on findings from other important studies, this study examines the factors determining male life expectancy in Sub-Saharan Africa. Keita (2013) study shows a link between increased life expectancy and income, more precisely GDP per capita. This is consistent with prevailing wisdom that suggests better health outcomes result from economic affluence. However, Sede and Ohemeng (2015) cast doubt on this viewpoint by highlighting the significance of government health spending quality and steps taken to stop currency depreciation as critical elements affecting life expectancy. According to this unorthodox method, life expectancy and socioeconomic factors have complex relationship.

Furthermore, Sango-Coker and Bein (2018) expand on the conversation by exploring how healthcare spending affects life expectancy and drawing an important distinction between the public and private healthcare systems. Their research offers a more thorough examination, recognizing the complexity of healthcare and its differing impacts on life expectancy. The Grossman model is used by Agbatogun et al. (2019) to further delve into the knowledge of determinants. This study emphasizes the connection between economic and educational factors in influencing health outcomes by highlighting the positive and significant effects on life expectancy of government health expenditure, per capita income, and literacy rate.

Timothy (2018) discusses the effects of the environment and globalization, emphasizing how much economic globalization has affected life expectancy. This emphasizes how social and economic factors are intricately linked and shape health outcomes, underscoring the necessity for a comprehensive understanding of the factors that affect life expectancy.

Similarly, Arikpo et al. (2019) and Peter and Adediyen (2019) delve into the intricate nature of the subject matter by examining the interplay between multiple variables. They identified inequality, government spending on health, and environmental quality, as key determinants, highlighting the necessity of considering various social, economic, and environmental aspects when estimating life expectancy.

The research provides a complex tapestry of insights that confirm and contradict conventional understandings of the factors influencing life expectancy compared to the corpus of previous knowledge. Although money and economic considerations continue to play an important role, the topic is expanded when variables include government health expenditure quality, healthcare sector disparities, and environmental impacts. This sophisticated approach reflects the rising acknowledgement that a thorough understanding of life expectancy requires considering a wide range of factors, reflecting the complexity of health determinants in Sub-Saharan Africa.

Furthermore, the synthesis of research results highlights how complex and varied the factors affecting male life expectancy are in sub-Saharan Africa. The complex interplay between socioeconomic, healthcare, environmental, and global issues require policymakers to use a comprehensive approach to develop health policies specific to the region. The themes that have been discovered offer a strong basis for creating focused interventions that attempt to reduce inequities, enhance access to healthcare, and promote environmental sustainability. The recognition of socioeconomic variables, including GDP per capita and income, is consistent with the body of information indicating that economic prosperity favors impact on life expectancy. A degree of complication is added by the issue posed by Sede and Ohemeng (2015), who stress the significance of government health expenditure quality and steps to prevent currency depreciation. This contradicts conventional wisdom by indicating that the standard of healthcare spending and the state of the economy significantly impact on life expectancy results.

A more nuanced viewpoint is added to the conversation by Sango-Coker and Bein (2018) about the difference between the public and private healthcare sectors. Their investigation highlights the need for focused strategies that consider the complexities of both sectors by recognizing the varying effects of healthcare spending on life expectancy. The Grossman model is used by Agbatogun et al. (2019) to support the idea that socioeconomic and educational characteristics are related to health outcomes. This is consistent with more general conversations about the value of literacy and education in fostering improved health. Timothy (2018) focuses on economic globalization as a major factor influencing life expectancy, giving the conversation a more international perspective. This emphasizes how

important it is for decision-makers to take into account both local and global influences on health outcomes in addition to domestic ones. The more comprehensive investigation carried out by Arikpo et al. (2019) and Peter and Adediyin (2019), which takes into account environmental quality, government capital investment in health, and inequality, is in line with an increasing awareness of the intricate network of variables. Their findings support comprehensive strategies addressing social, economic, and environmental factors to increase male life expectancy in sub-Saharan Africa.

### Strengths and limitations

This study's primary advantage is retrieving review papers from numerous databases. This has the advantage of revealing the current patterns in the determinants of life expectancy among males in Sub-Saharan Africa because the review took into account the most valuable and comprehensive databases, making the selected papers the most appropriate fit for purpose. By excluding research on both genders including kids and teenagers, gender and age bias were excluded from our review. This increases the likelihood that the review's factors best represent the target male population. The majority of the studies that were included were quantitative, which meant that the participants' actual experiences were examined in a flexible and more representative way.

Despite these advantages, it is challenging to generalize the findings because the analysis was limited to Sub-Saharan Africa and the determinants were not examined across a broad population range. Due to the sheer volume of articles that needed to be examined, the authors could not make conclusive judgments about the caliber of the included research, which introduces another bias.

### Conclusion

A significantly measurable increase in awareness and knowledge of SRH has been achieved by teaching adolescents about comprehensive sexual and reproductive health. Improving the knowledge of sexual and reproductive health among adolescents in secondary schools in Rivers State is not only a vital step towards their overall well-being but also a responsibility that society must actively undertake. Through a comprehensive and evidence-based approach, we can foster a healthier, safer, and more informed generation of adolescents.

This intervention improved the knowledge and skills of adolescents to make well-informed decisions about their reproductive health, realize how to avoid and deal with reproductive health problems and be acquainted with where to seek help when necessary.

We recommend that this intervention be scaled up, and it should include adolescents in rural communities who may lack access to formal education. However, a comprehensive review of whether to use a 2-phased

approach should be made to avoid “attrition”. That is the pre- and post-intervention may be done at once. However, the scope of the education provided may be limited.

### Recommendation for Further Research and Practice

1. Given the paramount importance of socioeconomic factors in influencing life expectancy, policymakers should design targeted interventions addressing income inequality, literacy rates, and per capita income (Keita, 2013). Strategies for income redistribution, investments in healthcare, and initiatives to enhance educational opportunities can contribute to improving life expectancy among males in the region.
2. The critical role of healthcare access and expenditure in shaping life expectancy necessitates focused efforts (Sango-Coker & Bein, 2018). Therefore, policymakers should prioritize increasing healthcare spending, with a detailed approach considering disparities between public and private healthcare sectors.
3. It is recommended that strategies addressing environmental sustainability, economic stability, and globalization's effects on health outcomes should be integrated (Peter & Adediyin, 2019). Consideration of factors like carbon dioxide emissions, agricultural productivity, and cross-border migration is essential for crafting effective policies.
4. Further research should focus on a detailed analysis of healthcare disparities sub-Saharan Africa, considering access and expenditure. This can inform targeted interventions and policies to address disparities effectively. Current studies were quite silent on healthcare factors that would further probe.

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### Competing Interest

The authors declare no conflict of interest.

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