ORIGINAL RESEACH ARTICLE

Do health expenditures affect under-five mortality and life expectancy in the ECOWAS sub-Region?

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Abstract

This research explored the effect of health expenditures on health outcomes in the Economic Community of West African States (ECOWAS). The study employed panel data from 2001 to 2020 of all ECOWAS member States (15 countries) and tested the datasets for the presence of a unit root after the descriptive statistics analysis had been carried out. Based on the result of the Augmented Dickey-Fuller stationarity test, the Fully Modified Ordinary Least Squares (FMOLS) method was applied. The result showed that public health expenditure was statistically significant and indirectly related to life expectancy. On the other hand, public health expenditure, private health expenditure and external health expenditure were significantly related with infant mortality. Public health expenditure was found to be directly related to infant mortality while private health and external health expenditures were negatively related. In the light of the above findings, it is recommended that policymakers in the ECOWAS region should devote a higher proportion of their annual budgets to healthcare as a strategy to improve health outcomes, reduce under-five mortality rates, and increase life expectancy in the region. *(Afr J Reprod Health 2023; 27 [8]: 105-113).*

Keywords: Health expenditure, under- five mortality, life expectancy, health management, health policy, SGD-3

Résumé

Cette recherche a exploré l'effet des dépenses de santé sur les résultats de santé dans la Communauté économique des États de l'Afrique de l'Ouest (CEDEAO). L'étude a utilisé des données de panel de 2001 à 2020 de tous les États membres de la CEDEAO (15 pays) et a testé les ensembles de données pour la présence d'une racine unitaire après la réalisation de l'analyse statistique descriptive. Sur la base du résultat du test de stationnarité augmentée de Dickey-Fuller, la méthode des moindres carrés ordinaires entièrement modifiés (FMOLS) a été appliquée. Le résultat a montré que les dépenses publiques de santé étaient statistiquement significatives et indirectement liées à l'espérance de vie. En revanche, les dépenses de santé publique, les dépenses de santé privées et les dépenses de santé externes étaient significativement liées à la mortalité infantile. Il a été constaté que les dépenses de santé publique étaient directement liées à la mortalité infantile, tandis que les dépenses de santé privées et les dépenses de santé externes étaient négativement liées. À la lumière des conclusions ci-dessus, il est recommandé que les décideurs politiques de la région de la CEDEAO consacrent une plus grande proportion de leurs budgets annuels aux soins de santé en tant que stratégie visant à améliorer les résultats sanitaires, à réduire les taux de mortalité des moins de cinq ans et à augmenter l'espérance de vie dans la région. *(Afr J Reprod Health 2023; 27 [8]: 105-113).*

Mots-clés: Dépenses de santé, mortalité des moins de 5 ans, espérance de vie, gestion de la santé, politique de santé, SGD-3

Introduction

Pritchett and Summers[1] opined that there is a direct link between higher incomes and better socio-economic factors that improve life expectancy and significantly reduce under-five mortality, among other health measures. In the words of Pritchett and Summers[1], "wealthier nations are healthier nations", hence, the attention of the world has been increasingly focused on health as one of the prime components of sustainable and inclusive growth. In 2015, following the move from the Millennium Development Goals (MDGs) to the Sustainable Development Goals (SDGs), the third sustainable goal (SDG 3) was dedicated to achieving healthy living and improved well-being for people of all ages by 2030[2,3]. Healthcare is not a luxury, but a necessary commodity for human existence, hence,

nations around the world have, over the years, mobilized resources and increased investment in promoting healthcare services. A higher proportion of this effort in improving healthcare is observed mostly in high income countries, while a declining trend in healthcare expenditure is observed in low-and-middle-income countries (LMIC)[4,5].

The sub-Saharan Africa (SSA) countries have overtime been victims of communicable and non-communicable diseases including the recent COVID-19 pandemic. Statistics have revealed about a ten-year difference in the life expectancy of West African countries when compared to those of high-income countries of the world[6,7]. An appropriate health expenditure is a pivotal tool for the achievement of sufficient quantity and quality of healthcare provision and system of delivery. The total healthcare expenditure, which could be public, private, or external spending, has a significant effect on the improvement of life expectancy at birth, infant mortality rate and all other health outcomes of a nation[5].

The condition of health outcomes in high income countries, especially, the LIMC is of a major concern to researchers and policymakers. Studies have shown that various factors such as health status, insurance coverage, income, carbon dioxide and income determine healthcare expenditure, greatly influence health outcomes[8]. A number of studies have been carried out on health outcomes around different parts of the world, using various methods, viewing from the lens of various determinants and focusing on different time frames[9,5,10-14].

However, paucity of studies has been observed in the ECOWAS trade bloc in light of all three major health expenditures (public health expenditure, private health expenditure and external health expenditure) as determinants of life expectancy and under-five mortality. It is against this backdrop that this study raises aims to provide answers to the following research question; what *is the impact of health expenditures on under-five mortality and life expectancy in ECOWAS sub-region?*

Literature review

In Nigeria, there are concerns over inadequate healthcare infrastructure and insufficient investment in the healthcare sector, which have been linked to poor health outcomes in the country. To address this issue, empirical research was conducted by Ojo *et al*[15] to investigate the effect between spending on health and life expectancy in Nigeria from 1981 to 2018. The study applied the ARDL method and found that health expenditure had no significant impact on life expectancy. Based on the results, the study suggests that increasing the amount allocated to expenditure on health in the national budget may not significantly improve life expectancy in Nigeria. Nevertheless, the study recommends that the government should still prioritize investment in the healthcare sector to improve overall health outcomes in the country.

Life expectancy is considered as one of the primary health outputs in the health economics literature that positively affects economic growth. Previous studies in their investigation of the relationship between health expenditure and life expectancy have pointed that life expectancy has a positive effect on health expenditures. Gedikli *et al*[9] conducted a study to investigate how life expectancy relates with health expenditures in seven countries for the period 2000-2015 using panel data analysis. The results of the panel cointegration analysis showed a significant bidirectional long-term relationship between life expectancy and health expenditure.

The research by Nketiah-Amponsah[12] focused on understanding the factors influencing health expenditures and their impact on key health indicators in SSA countries. Using data from 46 countries between 2000 and 2015, the study identified GDP per capita, physician availability, population aged over 65, and under-five mortality as significant determinants of health spending in the region.

The findings highlighted that increased health spending positively affects life expectancy, reduces under-five and maternal mortality rates. Higher health expenditure per person was associated with these improvements. The study emphasized that greater investments in health over time could lead to better health outcomes in SSA. Notably, wealthier nations exhibited a lower income-dependency for health expenditure growth, suggesting that increased wealth doesn't always proportionately increase health spending.

The impact of public health spending on health outcomes in Africa lacks consideration of crucial indicators like Malaria and HIV/AIDS mortality.

Addressing this gap, Oladosu *et al*.[16] studied Nigeria and Ghana, incorporating infant, maternal, Malaria, and HIV/AIDS mortality as key indicators. The study examined the impact of health expenditure commitments made in 1999 and 2000 using linear regression. Findings highlighted low health spending in both countries. Ghana exhibited a non-significant negative relationship, while Nigeria showed a positive one. These results emphasize the need for increased health expenditure by both governments to enhance health outcomes.

Olatunde *et al*.[5] studied the impact of public health spending on under-five mortality in 15 West African countries from 1991 to 2015. The study used panel FMOLS and found a strong connection between per capita health spending and reduced under-five mortality. Government health expenditure was particularly influential. The study emphasized the role of institutional quality, female literacy, and immunization in lowering mortality and suggested prioritizing these factors in policy decisions. The study recommended increasing healthcare resources alongside improving these aspects for better child survival rates in the region.

The study by Ogunjimi[17] investigated health expenditure, health outcomes, and economic growth in Nigeria (1981-2017). Using Toda-Yamamoto causality framework and ARDL Bounds test for cointegration, unidirectional causality was found from health expenditure to infant mortality, while no causality existed between real GDP and infant mortality. Health expenditure and real GDP influenced life expectancy and maternal mortality unidirectionally. A causal link was determined from real GDP to health expenditure. The study recommends increasing health spending in line with WHO's 13% budget allocation suggestion for better outcomes and technology utilization, addressing maternal and infant mortality concerns.

Methods

Theoretical framework

The Grossman model is referred to as the "founding father of demand for health models"[18]. Outlined in a monograph titled "The demand for health: A theoretical and empirical investigation" by Michael Grossman[19], the health capital investment model is the main perspective of economists with respect to the link between health expenditure, behaviors, and outcomes. The basic premise of the Grossman model is that individuals' health status can be improved through investments in healthcare facilities such as medical care, health insurance, preventive health measures. In the model, health investments are affected by elements like level of education, income, and health stock. Like many theories, the Grossman model received many criticisms. This theory is relevant to this study as this study determines the relationship between health expenditure and health outcomes. Grossman opines that health expenditure expressed through improvement of medical facilities can improve health outcomes. This study determined if this theory applies to the ECOWAS sub-region in affecting under five mortality and life expectancy.

Model selection

The theoretical anchor of this study is based on the Grossman theory by Michael Grossman which recognizes the need for investment in health facilities for better healthy living and its effect on outcomes of health. The model specification as adapted from Gedikli *et al*[9] is equation (1)

$$LLE_{it} = \alpha_0 + \alpha_1 LHE_{it} + e_{it} \quad (1)$$

Where LLE represent life expectancy, LHE means health expenditure and e is error term which captures other variables not included in the model. The need to modify model (1) is imperative in order to address the objective of this current study and improve its robustness, as well the control variables such as GDP and household income were added. The reason for the inclusion of these variables are reinforced from the economic point of view that the impact of economic and financial capacity of households in living a healthy life is highly essential in developing countries. Therefore, the modified model is specified in equation (2)

$$IM_{it} = \alpha_0 + \alpha_1 PUHX_{it} + \alpha_2 PRHX_{it} + \alpha_3 EHX_{it} + \alpha_4 GDP_{it} + \alpha_5 PI_{it} + e_{it} \quad (2)$$

$$LX_{it} = \alpha_0 + \alpha_1 PUHX_{it} + \alpha_2 PRHX_{it} + \alpha_3 EHX_{it} + \alpha_4 GDP_{it} + \alpha_5 PI_{it} + e_{it} \quad (3)$$

Where LX stands for life expectancy (measured as life expectancy at birth, total (years)), IM denotes under-five mortality, and this is proxied by mortality rate, infant (per 1,000 live births), PI represents personal income, and is captured by GDP per capita (current US$). Similarly, GDP is the size of the country`s economy and is proxied by GDP growth (annual %), $PUHX$ is domestic general government health expenditure (% of general government expenditure), $PRHX$ is domestic private health expenditure per capita (current US$), EHX is external health expenditure (% of current health expenditure) and e is the error term.

Scope and sources of data

The sample period of this study covered 2001 – 2020. The study focuses on the 15 countries of the ECOWAS sub-region, notably- Benin, Burkina Faso, Cape Verde, Cote d'Ivoire, The Gambia, Ghana, Guinea, Guinea-Bissau, Liberia, Mali, Niger, Nigeria, Senegal, Sierra Leone, and Togo. The study made use of the data sourced from the World Development Indicators (WDI) of the World Bank (World Bank[21]). The variables included for the analysis are life expectancy (LX) to proxy health outcomes and infant mortality (IM) also to measure health outcomes, domestic public health expenditure (PUHX), domestic private health expenditure per capita (PRHX) and external health expenditure (EHX) all measuring health expenditure, while personal income (PI), and real gross domestic product (GDP) as control variables.

In addressing the impact of health expenditures on under-five mortality, both descriptive and econometrics technique were utilized. As such, model 2 was used to run the analysis in which under-five mortality is the dependent variable and various health expenditures are the set of independent variables. In the same vein, in addressing the impact of health expenditures on life expectancy, both descriptive and econometrics technique were equally utilized. As such, the model 3 was applied to run the analysis in which life expectancy serves as the dependent variable and various health expenditures are the set of independent variables.

Data management and analysis

In this study, life expectancy and infant mortality were the dependent variables while domestic public health expenditure (PUHX), domestic private health expenditure (PRHX), external health expenditure (EHX), personal income (PI) and real gross domestic product (GDP) were the independent variables. This study analyzed the nature of the datasets using the descriptive statistics analysis. Then the stationarity properties of the datasets were examined using the Augmented Dickey-Fuller test and the Philips-Perron unit root test. Finally, to achieve the objective of the study, and answer the question, the model was estimated. In achieving the objective of this study, the model specified was analyzed employing the fully modified ordinary least square (FMOLS). The choice of this method of regression was influenced by the nature of the study and the stationarity property of the datasets.

Results

Descriptive results

The Table 1 shows the descriptive statistics for the variables $EHX, GDP, IM, LX, PI, PRHX, and\ PUHX$ and are based on a sample of 285 observations. The mean value of external health expenditure was shown to be 20.70363, GDP is 4.537387, infant mortality, 66.73789, life expectancy, 57.49130, and a high mean personal income at 1072.216 compared to the other variables. While private health expenditure and public health expenditure had mean values of 25.32843 and 6.060705 respectively.

The median which represents the middle value in the ordered dataset for each variable is presented with external health expenditure having a middle value of 16.39875, gross domestic product has a middle value of 4.822611, infant mortality has a median of 66.30000, 57.42500 is the middle value for life expectancy, the personal income middle value is shown as 721.5811, the private health expenditure has a median value of 19.91154, and public health expenditure has a middle value of 5.434931. The maximum and minimum values indicate the range of the data. Personal income has

Table 1: Descriptive statistics

	EHX	GDP	IM	LX	PI	PRHX	PUHX
Mean	20.70363	4.537387	66.73789	57.49130	1072.216	25.32843	6.060705
Median	16.39875	4.822611	66.30000	57.42500	721.5811	19.91154	5.434931
Maximum	75.32834	26.41732	135.6000	72.98100	3482.448	80.28690	15.13985
Minimum	1.623622	-30.14513	12.80000	40.36900	364.0163	3.607808	1.032170
Std. Dev.	15.07290	4.454684	23.33769	5.993433	718.7326	15.90270	2.729817
Skewness	1.542393	-1.795082	0.102581	0.306776	1.489699	0.942911	0.930196
Kurtosis	5.481826	20.75889	3.170955	3.458304	4.322624	3.191296	3.468530
Sum	5900.535	1293.155	19020.30	16385.02	305581.6	7218.602	1727.301
Sum Sq. Dev.	64522.58	5635.757	154680.0	10201.63	1.47E+08	71822.39	2116.340
Observations	285	285	285	285	285	285	285

Source: *Authors' computation*

Table 2: Unit root test

VARIABLE	AUGMENTED DICKEY FULLER (ADF)		PHILIPS PERRON (PP)		DECISION
	Level	1st difference	Level	1st difference	
EHX	NA	-7.85892* (0.0000)	NA	-17.1016* (0.0000)	I(1)
GDP	-4.32733* (0.0000)	NA	-7.85028* (0.0000)	NA	I(0)
IM	-3.51393* (0.0002)	NA	-23.6561* (0.0000)	NA	I(0)
LX	-13.6418* (0.0000)	NA	-2.80618* (0.0025)	NA	I(0)
LNPI	NA	-4.97728* (0.0000)	NA	-7.60976* (0.0000)	I(1)
PRHX	NA	-6.26362* (0.0000)	NA	-8.34210* (0.0000)	I(1)
PUHX	NA	-7.61917* (0.0000)	NA	-13.7724* (0.0000)	I(1)

Source: *Authors' Computation*

a maximum value of 3482.448 while gross domestic product has a maximum value of 26.41732.

The minimum values for personal income and gross domestic product are 364.0163 and -30.14513 respectively. 75.32834 is the maximum value for external health expenditure while the minimum value is 1.623622. Infant mortality, one of the dependent variables, has a maximum and minimum value of 135.6000 and 12.80000 respectively, while life expectancy which is the other dependent variable has a maximum value of 72.98100 and minimum value of 40.36900. Private health expenditure is shown to have a maximum value of 80.28690, and a minimum value of 3.607808. Finally, public health expenditure was shown to have a maximum value of 15.13985 and minimum value of 1.032170.

The standard deviation provides a measure of variability or dispersion around the mean. For external health expenditure, a standard deviation of 15.07290 was observed which suggests that the observations in this variable exhibit a moderate degree of variability around the mean. Same as the standard deviation of private health expenditure which has a standard deviation value of 15.90270. Gross domestic product, life expectancy and public health expenditure show a smaller degree of variability or dispersion around the mean with standard deviation values of 4.454684, 5.993433 and 2.729817 respectively. Although infant mortality shows a higher dispersion around the mean compared to the other variables with a standard deviation value of 23.33769, personal income showed the most significant degree of dispersion and variability around the mean.

The variables of this study show that only gross domestic product is negatively skewed with a skewness value of -1.95082. On the other hand, external health expenditure (1.542393), infant mortality (0.102581), life expectancy (0.306776), personal income (1.489699), private health

expenditure (0.942911) and public health expenditure (0.930196) all show positive skewness. The kurtosis values show that infant mortality (3.170955), life expectancy (3.458304), personal income (4.322624), private health expenditure (3.191296) and public health expenditure (3.468530) have moderately heavy tails compared to the normal distribution. External health expenditure (5.481826) has heavier tails compared to a normal distribution while gross domestic product exhibits significantly heavier tails with kurtosis value of 20.75889.

Stationarity test

The panel data used in this study contains the time series component hence there is need to test for the stationarity of the dataset. The result of the ADF and PP test are seen to agree, hence, the study reaches a decision on the presence of unit root. The result shows that only gross domestic product, infant mortality and life expectancy are stationary at level [I(0)], while external health expenditure, log of personal income, private health expenditure and public health expenditure are all stationary at first difference [I(1)].

Table 3: FMOLS estimation of models

	Dependent (LX)	**Dependent (IM)**
Variables	**Equation 3**	**Equation 2**
EHX	0.037799	-0.161154*
	(0.0937)	(0.0562)
GDP	0.030171	-0.244466
	(0.4075)	(0.0734)
LNPI	14.59388*	-43.20465*
	(0.0000)	(0.0000)
PRHX	0.033670	-0.235053*
	(0.1448)	(0.0068)
PUHX	-0.257916*	1.545182*
	(0.0029)	(0.0000)
No. of observation	270	270
No. of Groups	15	15
R-squared	0.913086	0.911699
Adjusted R-squared	0.906480	0.904989

Source: *Authors' Computation*

The relationship between health expenditures, under-five mortality and life expectancy in ECOWAS sub-region

In this study, FMOLS analysis was conducted to examine the relationships amongst the variables. The result of the estimation is shown in table 3. After estimating the Model 2, which focuses on the nexus between health expenditures and infant mortality in ECOWAS sub-region, the results show that personal income exhibits a highly significant negative relationship with infant mortality. Public health expenditure shows a significant positive relationship with infant mortality. The coefficient for external health expenditure shows a negative, but significant relationship with infant mortality. There is a negative and insignificant relationship between gross domestic product and infant mortality. For private health expenditure, the coefficient indicates a negative, but significant relationship with infant mortality.

Meanwhile, for model 3, which focuses on the nexus between health expenditures and life expectancy in ECOWAS sub region, the results indicate that external health expenditure is positively related with life expectancy, the relationship, is not statistically significant at 5% level. In addition, private health expenditure appears to have a positive significant impact on life expectancy. Whereas, public health expenditure depicts a significant negative relationship with life expectancy. Also, GDP shows a positive, but insignificant relationship with life expectancy. However, in the case of personal income, it has a positive significant relationship with life expectancy. Consequently, the R-squared values, which indicate the proportion of variation in the dependent variable explained by the independent variables, are 0.913086 for the Model 3 and 0.911699 for Model 2. This implies that the models are relatively robust because the independent variables have explained over 91% variation in each of the dependent variables.

Discussion

The implication of the findings is that the effective healthcare management through adequate financing has the capacity to reduce under-5 death and enhance life expectancy. This is Similar to the findings by Zhang *et al*[21.] Furthermore, akin to the findings by Nasir *et al*[22], Sui *et al*[23] and Jakovlveic *et al*[24], the findings of the study emphasize the need for to prioritize health spending to achieve better health outcomes in the ECOWAS sub-region. Increasing investment in health may reduce out-of-pocket expenditure, and reduce the tendency of

people seeking alternative medical solutions due to high cost associated with medical services. Supporting women is essential in this aspect[25].

Furthermore, financing health sector is critical for overall growth of other sectors of the economy because, the sector has been the major drivers of investment in healthcare in the sub-region. According to Azuh *et al*[26], Nasir *et al*[22], Sui *et al*[23], people, particularly, women who lack assess to health insurance coverage have lower probability of enjoying a good health outcome, which validates the need for better healthcare management. Also, the findings show that under-five mortality has a mean value of 66.7 per birth in ECOWAS sub-region. This is an indication that on an average basis, about 66 children in every 1000 children will die before age of 5 years. Also, the mean value of life expectancy is 57.4 years. This implies that on an average, the residents of ECOWAS sub region have an average life span of 57 years.

Furthermore, discussion around the nexus between health expenditures and life expectancy in ECOWAS sub-region is as follows; firstly, the results indicate that external health expenditure exhibits a statistically non-significant relationship with life expectancy. But, private health expenditure has positive relationship with life expectancy, which is statistically significant at 5% level of significance. This implies that private health expenditure is a strong factor catalyzing a rise in life expectancy in ECOWAS sub region. Therefore, based on the finding, a change in private health expenditure will catalyze a rise in life expectancy by 0.03%. In another words, if there is a further change in private health expenditure in ECOWAS sub-region, the resultant effect will increase the sub regional life expectancy by additional 3 years. On the contrary, public health expenditure contributed a significant inverse relationship with life expectancy in ECOWAS sub-region.

A unit change in public health expenditure leads to a decline in life expectancy by 0.25% in the region. The implication of this is that public health expenditure is generating unpleasant factor that is reducing life expectancy in this sub region. Also, gross domestic product shows a positive but insignificant relationship with life expectancy. However, in the case of personal income, it has a positive and highly significant relationship with life expectancy. This signifies the importance of household income in determining the life expectancy of individuals in ECOWAS sub region. This probably underscored the major reason why the rich has the tendency to live healthier and longer life than the poor in this sub region.

This finding is consistent with other studies that have examined the relationship between health spending and health outcomes in low- and middle-income countries. For example, a study by Kutzin *et al*[26] found that increasing health spending is associated will improved health outcomes in low- and middle-income countries, including reductions in infant and child mortality rates. Similarly, a study by Dieleman *et al*[27] found that higher levels of health spending are associated with lower maternal and child mortality rates in low- and middle-income countries. However, it is important to note that the relationship between health spending and health outcomes is complex and may be influenced by a variety of factors. For example, a study by Murray *et al.*[28] found that while health spending is important for improving health outcomes, it is not the only factor that matters. Other factors such as governance, education, and income inequality also play a role in determining health outcomes. In this wise, Urhie *et al*[30] pointed out that, while GDP is positive to health outcome factors to reduce industrial emission should be put in place to mitigate health hazards.

In summary, the findings of the study mentioned in the prompt are consistent with other studies that have examined the relationship between health spending and health outcomes in low- and middle-income countries. While increasing health spending is important for improving health outcomes, policymakers must also address other factors such as governance, education, and income inequality to achieve better health outcomes in the ECOWAS sub-region. In the light of the above findings, it is instructive to state that for under-five deaths to reduce and life expectancy to increase simultaneously in the ECOWAS sub-region, the policymakers should be committed to the 15% benchmark of total budget in the direction of healthcare.

The study's findings carry critical implications for public health policies and programs within the ECOWAS sub-region. Effective allocation of public health funds is essential to optimize their impact on life expectancy. The positive relationship between

personal income and both life expectancy and reduced infant mortality signals the importance of addressing income disparities as a key aspect of health inequality reduction. Furthermore, the results underscore the potential role of the private sector in improving health outcomes, particularly in reducing infant mortality. Policymakers should consider fostering an environment that encourages responsible and accessible private healthcare services.

Study strengths and weaknesses

The study's strengths lie in its clear research question, rigorous quantitative analysis, and consideration of multiple variables. This study is limited and serves as a future direction for other researchers. The study focused on only ECOWAS member countries. Studies therefore could be carried out on other African blocs due to peculiar nature of each of the African sub-regions. Also, future studies could extend to capture other measures of health expenditure and outcomes as prevalence of malaria and people living with HIV/AIDS in ECOWAS sub-region. Finally, future studies could apply different methods of estimations. The interpretations of this study are based on the specific regression analysis performed and should be considered in light of any limitations or assumptions made during the analysis. Additionally, further analysis and robustness checks may be necessary to validate and strengthen these findings.

Conclusion

We conclude that the public health expenditures in ECOWAS sub-region lack the capacity to reduce under-five mortality and increase life expectancy. However, private health expenditures in ECOWAS have shown significant tendencies to reduce under-five mortality and increase life expectancy in a significant manner. Hence, this study emphasizes the need and importance of efficient allocation of resources, redistribution of income and improving partnership with the private sector to achieve a positive change in health outcomes, which include reducing under five mortality and increasing life expectancy across the ECOWAS member states. As the region continues its efforts to enhance healthcare access and quality, this study serves as a valuable stepping stone toward improved public health strategies and interventions.

The policy and programs that would drive the GDP growth rate to the double-digit corridor should be embarked upon by the ECOWAS policymakers, this would enhance the economic and financial capacity of individual households to invest more in their education and health which are the strategic components of human development, in which the multiplier effect would likely bring about reduction in under-five mortality and a rise in life expectancy simultaneously in ECOWAS sub-region. In practical terms, the results imply that investment in relevant aspects and areas of the health sector should be encouraged to improve health outcomes. Investment in health workers without adequate investment in health facilities may not yield required health outcomes. Investment in health insurance system is also an important area to which health expenditure should be directed.

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