

A Comparative Analysis of Maternal Mortality Rates Under Civilian and Military Administrations in Nigeria

Bukola B. Oluwade[1], Ashagre A. Yigletu[2], Augustine Adu Frimpong[3], & Vladimir Alexander Appeaning[4]
[1,3,4]Department of Public Policy,
Nelson Mandela College of Government and Social Sciences,
Southern University and A & M College.
[2]Department of Master of Business Administration,
College of Business, Southern University and A & M College.

ABSTRACT
This study examines the institutional maternal mortality ratio (IMMR) in Nigeria from 1960 to 2015, by analyzing the influence of different political administrations (civilian vs. military) on healthcare outcomes. Using Levene's test, ANOVA, and robust tests for equality of variances/means, the analysis reveals significant differences in IMMR based on the type of administration. The results show that military administrations, which governed for over 27 years across 8 different leaders, were associated with higher IMMR values, reflecting inadequate healthcare spending and governance issues. In contrast, civilian administrations, lasting over 29 years with 7 democratic leaders, were linked to lower IMMR values, suggesting improved healthcare policies and governance. These findings underscore the critical role of political administration in shaping healthcare outcomes and highlight the significant impact of governance on maternal mortality in Nigeria. The study provides robust evidence supporting the conclusion that political leadership—whether civilian or military—has a profound influence on the nation's maternal health indicators.

Keywords: Healthcare, Mortality, Maternal, Development, Civilian, Military, Administrations, Politics, Public Policy
DOI: 10.7176/PPAR/15-1-02
Publication date: January 30th 2025

INTRODUCTION

Maternal mortality remains a critical public health challenge in Nigeria, where the rates are among the highest globally. Over the decades, the country has grappled with this issue against the backdrop of alternating civilian and military administrations. Maternal mortality is not merely a health concern but also an indicator of broader societal inequalities, governance inefficiencies, and the prioritization of public policy. Meanwhile, over the past six decades, Nigeria has faced moderate economic growth (GDP per capita of 2011.431 in the 2000s), a high maternal mortality rate (814 deaths per 100,000 deliveries in the 2000s), low life expectancy (49.54 years in the 2000s), and persistent political instability, despite being endowed with abundant natural and human resources (United Nations Development Program, 2010; Lawal & Oluwatoyin, 2011; Nedozi, Obasanmi & Ighata, 2017). According to Lawal and Oluwatoyin (2011), the country has struggled with developmental challenges over the past fifty years, even with significant resource potential. This can largely be attributed to public policy failures and frequent government changes following independence, often resulting from a series of military coups (Lawal & Oluwatoyin, 2011; Gboyega, 2003; Ogwumike, 1995).

Since 1960, Nigeria has undergone eight military regimes and seven civilian administrations (Nwokocha, 2007; Meredith, 2005; Adeleke & Gafar, 2012; Aremu, 2003; Mimiko, 1998). Scholars such as Lawal and Oluwatoyin (2011), Aremu (2003), and Mimiko (1998) have collectively theorized that the nation's underdevelopment, slow economic growth, and high maternal and child mortality rates can be traced to policy distortions caused by frequent military interventions (Adeleke & Gafar, 2012; Mimiko, 1998), endemic corruption (Aremu, 2003; Mimiko, 1998; Nedozi, Obasanmi & Ighata, 2017; Tormusa & Idom, 2016; Transparency International, 2014), overreliance on oil revenue (Lawal & Oluwatoyin, 2011), and poor policy implementation (Mimiko, 1998). Corruption, in particular, has been a significant challenge under military regimes. Due to their short tenure in office, military leaders have often prioritized personal enrichment over national development (Mimiko, 1998; Nedozi, Obasanmi & Ighata, 2017). Political leaders, especially in military governments, frequently diverted funds intended for developmental projects into personal accounts, undermining the nation's progress (Mimiko, 1998; Nedozi, Obasanmi & Ighata, 2017).

Harrison (2007) highlighted Nigeria's alarming record of maternal and child mortality, which has worsened across various regimes. The high maternal death rate in many regions reflects disparities in access to healthcare and underscores the gap between wealthy and impoverished populations. Globally, nearly all maternal deaths (99%) occur in developing nations, with over half occurring in sub-Saharan Africa and one-third in South Asia. Additionally, fragile and humanitarian settings account for more than half of these deaths (Ramani, 2015; WHO, UNICEF, and UNFPA, 2013). Beyond mortality, it is estimated that 30 women suffer injuries, infections, or disabilities for every maternal death, amounting to at least 15 million women annually (Abdulai, 2014; McIntyre, 2005; World Health Organization, 2015). Despite the political unrest, civil wars, and transitions between civilian and military regimes, no comprehensive study has analyzed the relationship between maternal mortality rates, economic growth, and development in Nigeria across different decades and political administrations. This research seeks to address this gap by examining how various forms of governance—civilian or military—have impacted one of the development indicators (i.e. maternal mortality), by providing critical insights to inform public policy in Nigeria.

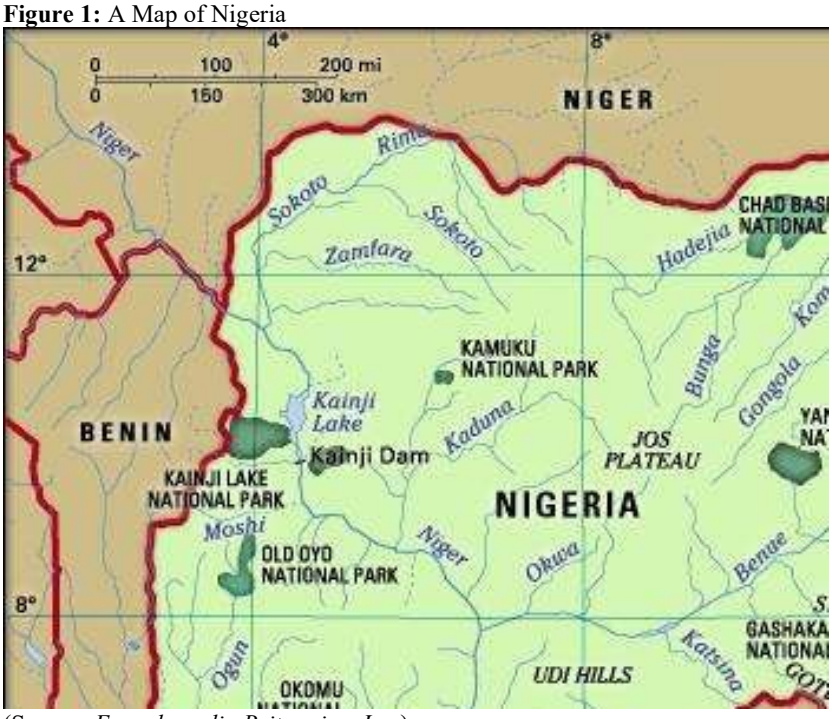
LITERATURE REVIEW

About Nigeria

Nigeria is bordered by Benin, Cameroon, Chad, and Niger; it shares maritime borders with Equatorial Guinea, Ghana, and São Tomé and Príncipe (see Figure 1 for more details). With an area of 923,768 km² the country is almost four times the size of the UK or slightly more than twice the size of the state of California in the US. Nigeria's main rivers are the Niger, from which it got its name and the Benue, the main tributary of the Niger. The country's highest point is *Chappal Waddi* (or Gangirwal) with 2,419 m (7,936 ft.), located in the Adamawa mountains in the Gashaka-Gumti National Park, Taraba State, on the border with Cameroon.

Nigeria has a population of 192 million people (United Nations, 2017), making it the seventh most populous country in the world. The capital city is Abuja, located in the center of the nation, while Lagos is the country's primary port, economic hub, and largest city. The official spoken language is English but it is estimated that Nigeria has about 250 different ethno-linguistic groups. Islam (41%) and Christianity (58%) are the country's major religions. Nigeria is the 10th largest producer of oil in the world. Its oil and gas sector accounts for about 35% of GDP. Revenue from petroleum exports represents over 90% of total revenue from exports. Agriculture is the main source of livelihood and largest economic sector in Nigeria, despite the prominence of the oil industry. Its main crops are rice and cassava, with a heavy reliance on rainfall. Up to 80% of people living in rural areas live below the national poverty line. Nigeria has the seventh lowest life expectancy of countries worldwide.

Figure 1: A Map of Nigeria



(Source: *Encyclopædia Britannica, Inc.*)

Nigeria's Healthcare System Development and Integration

For decades, Nigeria's colonial government prioritized Western medicine, which only served 25-30% of the population, leaving the majority reliant on traditional medicine (Adeleke & Gafar, 2012). Inspired by successes in India, China, and others, Nigeria began integrating traditional and Western medical systems to improve health outcomes. The use of medicinal plants remains a cornerstone of traditional African healthcare (Fawzi, 2013), gaining international recognition, with the World Health Organization (WHO) endorsing the dual system in 1976. Early efforts to merge the two systems included research on medicinal herbs at the University of Ibadan in 1966 and a 1973 international conference on traditional therapies. By 1975, Nigeria's health policy acknowledged the effectiveness of traditional medicine in areas such as maternal health. In 1977, a government delegation studied traditional medicine in India and China, leading to further integration efforts.

Some of the significant initiatives included the establishment of the National Committee on Retraining Traditional Birth Attendants (TBAs) and the development of a national syllabus to standardize their training. The government also launched Primary Health Centres (PHCs) incorporating community-based indigenous health knowledge, aligning with the WHO's "Health for All by 2000" target. In 1984, the Federal Government revised its health policy, emphasizing Primary Health Care (PHC) as the foundation of its healthcare services. This approach was inspired by the Alma-Ata declaration and the goals of the Second National Development Plan (1970-1974). Despite these efforts, many health policy goals remain unachieved.

Nigeria's National Health Policy and Primary Health Care (PHC)

Nigeria's National Health Policy aimed to achieve "Health for All" by 2000 through Primary Health Care (PHC), emphasizing social justice and equitable health access for all, especially underserved rural and urban communities (Akeredolu-Ale, 1995). The PHC objectives included expanding health service coverage, prioritizing preventive care, enhancing efficiency, involving communities in decision-making, and addressing systemic health care deficiencies. Core PHC components included immunization, health education, maternal and child health, environmental sanitation, disease control, nutrition promotion, treatment of ailments, and essential drug provision. In 1987, under Minister of Health Professor Olikoye Ransome-Kuti, the National Primary Health Care Development Agency (NAPHCDA) was established to oversee PHC implementation. The government created 200 model health centers nationwide and introduced a 3-tier health system:

1. **Primary Health Care** (grassroots level, managed by local governments).
2. **Secondary Health Care** (specialized services at district or state levels, supported by labs and rehabilitation services).
3. **Tertiary Health Care** (advanced specialized services at teaching hospitals).

To address financial constraints, the government launched the **National Health Insurance Scheme (NHIS)** in 2005, operating through various programs, including health insurance for civil servants, urban self-employed, rural communities, children under five, disabled individuals, students, and uniformed services. Initially proposed in 1962, NHIS gained traction after decades of advocacy and issued over four million identity cards by 2005 to expand access and financial sustainability in health care delivery (Adeleke & Gafar, 2012).

Maternal Mortality Rates

Table 1: *Maternal Mortality Rates*

Country	**Maternal Mortality ratio (per 100, 000) births**			**Annualized rate of change in maternal mortality ratio (%)**	
	1990	**2000**	**2015**	1990-2000	2000-2015
Nigeria	470·7	472·0	284·9	0·5	−4·3

Source: Lancet, 2016; World Health Organization, 2017; World Bank, 2016

Table 1 shows the maternal mortality rates in Nigeria. Nigeria has been experiencing successive increases in maternal mortality for several decades, but recorded a magnificent fall in 2015 (World Health Organization, 2017; World Bank, 2016). Although Nigeria recorded a considerable increase in maternal mortality rate by 0.5% in the past ten years (1990-2000) of the Millennium Development Goals (MDGs)

implementation (pegged at a reduction rate of -5.5% at any time period). Between 2000 and 2015, Nigeria was able to record -4.3% reductions in maternal mortality rate. Despite current the country's reduction in maternal mortality in 2015, the country is yet suffering from the challenges of inequalities, geographical disparities, political instability, and low economic growth (ISSER, 2013; AbouZahr, 2011; Okeibunor, 2010).

Authoritarianism Theory

Authoritarianism is a term political scientists use for a worldview that values orderliness and authority, and distrusts outsiders and social change (Sekiguchi, 2010; Richard, 2012, Gretchen, 1964). As a form of government, it is characterized by strong central power and limited political freedoms (Sekiguchi, 2010; Richard, 2012, Gretchen, 1964). Individual economic or personal freedoms are subordinate to the state and there is no constitutional accountability under an authoritarian regime (Sekiguchi, 2010; Richard, 2012, Gretchen, 1964). According to Richard (2012) Juan Linz's influential 1964 description of authoritarianism characterized authoritarian political systems by four qualities or assumptions: (1) Limited political pluralism, that is such regimes place constraints on political institutions and groups like legislatures, political parties and interest groups(Gretchen, 1964; Linz, 1964); (2) A basis for legitimacy based on emotion, especially the identification of the regime as a necessary evil to combat "easily recognizable societal problems" such as underdevelopment or insurgency (Gretchen, 1964; Linz, 1964); (3) Minimal social mobilization most often caused by constraints on the public such as suppression of political opponents and anti-regime activity; and (4) Informally defined executive power with often vague and shifting powers (Gretchen, 1964; Linz, 1964).

Theory of Democracy

Democracy, as defined by Abraham Lincoln in his 1863 Gettysburg Address, is government of the people, by the people, for the people (Watkins, 1970; Przeworski, 1991; Midlarsky, 2012). Modern interpretations of democracy encompass three main forms: direct, representative, and constitutional democracy. In direct democracy, citizens vote on every issue directly (Watkins, 1970; Przeworski, 1991; Midlarsky, 2012). Representative democracy involves citizens electing representatives who make decisions on their behalf, while constitutional democracy limits majority power to protect individual rights, such as freedom of speech or association (Watkins, 1970; Przeworski, 1991; Midlarsky, 2012). Democracy is a dynamic system where outcomes depend on active participation, with no single force dictating results. This inherent uncertainty fosters constant struggles for power among various groups (Przeworski, 1991; Diamond, 2004; Diamond & Morlino, 2016; Landman, 2018). Western democracy, distinct from pre-modern forms, evolved from city-states like Classical Athens and the Roman Republic (Przeworski, 1991; Diamond, 2004; Diamond & Morlino, 2016; Landman, 2018). Larry Diamond identifies four key elements of democracy: free and fair elections, active civic participation, human rights protection, and the rule of law (Przeworski, 1991; Diamond, 2004; Diamond & Morlino, 2016). Over time, four major theories of democracy have developed. The Traditional Theory emphasizes majority rule while respecting minority rights (Przeworski, 1991; Diamond, 2004; Diamond & Morlino, 2016; Landman, 2018). The Pluralist Theory suggests that organized groups with common interests influence politics, preventing dominance by any one group (Przeworski, 1991; Diamond, 2004; Diamond & Morlino, 2016; Landman, 2018). The Elite Theory argues that power is concentrated in the hands of a few influential individuals or groups, with policies often favoring the elite (Przeworski, 1991; Diamond, 2004; Diamond & Morlino, 2016; Landman, 2018). Lastly, Hyperpluralism shares similarities with Pluralism but asserts that some groups exert disproportionate influence on government (Przeworski, 1991; Diamond, 2004; Diamond & Morlino, 2016; Landman, 2018). Despite their differences, these theories all underscore the importance of participation in ensuring that the government remains responsive to its citizens.

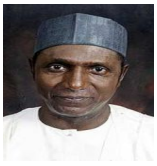
Nigeria's Political History

Nigeria's political history is characterized by alternating civilian and military governments from independence in 1960 to the present (see Table 2 for more details). Below is a timeline of key leaders and events:

Table 2: Timelines of Key Political Leaders in Nigeria

TIME IN OFFICE	GOVERNMENT	HISTORICAL EVENTS
1960-1963	Nnamdi Azikiwe  (Governor General).	Independence
1963-1966	Nnamdi Azikiwe (President)  *Civilian* Died in 1996	Civilian
January 16, 1966 - July 29, 1966	Johnson Aguiyi-Ironsi  *Military* Killed in 1966.	Military
July 29, 1966 - July 25, 1975	Yakubu Gowon  *Military* Still alive	Military
July 25, 1975 - February 13, 1976	Murtala Muhammed  *Military* Killed in 1976.	Military
February 13, 1976	Olusegun Obasanjo	Military

- September 30, 1979	 *Military*	
October 1, 1979 - December 30, 1983	Shehu Shagari  *Civilian* Still alive but placed under house arrest in 1983.	Civilian
December 31, 1983 - August 27, 1985	Muhammadu Buhari  *Military* Still alive.	Military
August 27, 1985 - August 27, 1993	Ibrahim Babangida  *Military* Still alive	Military
August 27, 1993 - November 17, 1993	Ernest Shonekan *Civilian* Still alive	Civilian
November 17, 1993 - June 8, 1998	Sani Abacha  *Military* Died of heart attack on June 8, 1998.	Military
June 8, 1998 - May 29, 1999	Abdulsalam Abubakar	Military

	 *Military*	
May 29, 1999 - May 29, 2007	Olusegun Obasanjo  *Civilian*	Civilian
29 May 2007 - 2015	Umaru Musa Yar'Adua  *Civilian*	Civilian
29 May 2015 - present	Muhammadu Buhari  *Civilian*	Civilian

Source: The Library of Congress Country Studies, 2010, and Author's Modification

METHODOLOGY

The methodology for this study employs a comparative research method to analyze the significant differences in maternal mortality between civilian and military regimes in Nigeria. The study utilizes a variable *Y* which is describe in this study as maternal mortality, with a sample size *N* divided into ni subgroups, where Ni represents the sample size of the *ith* subgroup of the different political administrations or regimes (i.e. civilian and military). The Levene test is applied to assess the equality of variances across these subgroups. The formula for the Levene test statistic is:

$$W = \left[\frac{(N-n_i)}{(n_i-1)}\right]\left[\frac{\sum_{i=1}^{n_i} N_i(\overline{Z_i}-\overline{Z_.})^2}{\sum_{i=1}^{n_i}\sum_{i=1}^{N_i} N_i(Z_{ij}-\overline{Z_i})^2}\right] \quad (1)$$

Where $Z_{ij} = |Y_{ij} - \overline{Y_i}|$, for $\overline{Y_i}$ is the mean of the *i*th subgroup. The $\overline{Z_i}$ are the group means of the Z_{ij} and $\overline{Z_.}$ is the overall mean of the Z_{ij}. The significance level or the type I error is α [5%]. The critical region is given as: The Levene test rejects the hypothesis that the variances are equal if:

$$W > F_{\alpha,\, n_i\text{-}1,\, N\text{-}n_i} \quad (2)$$

Where $F_{\alpha,\, n_i\text{ - }1,\, N\text{-}n_i}$ is the upper critical value of the F distribution with n_i-*1* and *N*-n_i degrees of freedom at a significance level of *α*.

The dependent variable in this study is the maternal mortality rate in Nigeria, spanning from 1960 to 2015. The study aims to explain variations in maternal mortality across different political regimes (civilian or military) and

over time. Additionally, economic development indicators such as per capita GDP and government health care expenditure from 1960 to 2015 will be used as independent variables to provide further context and explanation for the observed trends in maternal mortality.

RESULTS AND DISCUSSION

Table 3: Descriptive Summary of Levene's Test Variables for Civilian Administration

Descriptive Statistics		Institutional Maternal Mortality Ratio	Healthcare Expenditure as a Share of GDP	Education Expenditure as a Share of GDP	GDP Per Capita
N	Valid	29	29	29	29
	Missing	0	0	0	0
Mean		411.0569	7.3763	6.8982	1756.1077
Median		370.8000	6.9553	6.8764	1595.1456
Standard Deviation		71.83433	1.46127	1.63280	460.63920
Variance		5160.170	2.135	2.666	212188.474
Range		191.70	5.20	9.33	1310.04
Minimum		312.50	4.99	0.00	1253.05
Maximum		504.20	10.18	9.33	2563.09
Percentiles	25	348.6500	6.4044	6.6666	1318.3745
	50	370.8000	6.9553	6.8764	1595.1456
	75	493.2000	8.4445	7.8569	2172.5830
Skewness		0.185	0.887	-2.754	0.510

Table 3 above provides a descriptive summary of four development outcome indicators used in Levene's test statistics analysis for civilian administration, covering a 29-year period from 1960 to 2015. The indicators analyzed include institutional maternal mortality ratio, healthcare expenditure as a share of GDP, education expenditure as a share of GDP, and GDP per capita. The summary presents central tendencies (mean, median), shape (skewness), and measures of dispersion (range, standard deviation, and variance). For the institutional maternal mortality ratio, the mean is 411.06, and the median is 370.80, with a standard deviation of 71.83, indicating notable variability. The range spans from 312.50 to 504.20, and the skewness is slightly positive (0.19), suggesting a mild right skew. In the case of healthcare expenditure as a share of GDP, the mean is 7.38, and the median is 6.96, with a standard deviation of 1.46. The range extends from 4.99 to 10.18, and the skewness is 0.89, indicating a more pronounced right skew. For education expenditure as a share of GDP, the mean is 6.90, and the median is 6.88, with a standard deviation of 1.63. The range is 9.33, from 0.00 to 9.33, with negative skewness (-2.75), reflecting a strong left skew. Finally, the mean GDP per capita is 1756.11, with a median of 1595.15 and a standard deviation of 460.64. The range is 1310.04, and the skewness is 0.51, showing a mild right skew. This descriptive analysis helps to understand the dispersion, central tendencies, and skewness of each indicator, offering valuable insights into the effects of civilian administration on these development outcomes over the specified period.

Table 4: Descriptive Summary of Levene's Test Variables for Military Administration

Descriptive Statistics		Institutional Maternal Mortality Ratio	Healthcare Expenditure as a Share of GDP	Education Expenditure as a Share of GDP	GDP Per Capita
N	Valid	27	27	27	27
	Missing	0	0	0	0
Mean		494.7278	6.0644	5.4554	1502.4533
Median		470.8000	5.5150	5.5476	1331.6120
Std. Deviation		34.92707	1.45369	1.40188	316.79658
Variance		1219.900	2.113	1.965	100360.076
Range		79.40	4.69	7.75	951.12
Minimum		455.90	4.26	0.00	1089.14
Maximum		535.30	8.95	7.75	2040.26
Percentiles	25	459.8000	4.9177	4.7133	1272.7293
	50	470.8000	5.5150	5.5476	1331.6120
	75	530.3000	7.5561	6.4515	1865.0094
Skewness		0.052	0.546	-2.170	0.527

Table 4 presents a descriptive summary of key development outcome indicators used to estimate Levene's test statistics under military administration from 1960 to 2015. The analysis includes central tendencies, shape (skewness), and measures of dispersion (range, variance, and standard deviation). For institutional maternal mortality ratio (IMMR), the mean is 494.73, with a median of 470.80. The standard deviation is 34.93, and the range is 79.40, indicating variability between 455.90 and 535.30. The skewness of 0.052 suggests a slight right skew. Regarding healthcare expenditure as a share of GDP, the mean is 6.06, with a median of 5.52. The standard deviation is 1.45, and the range is 4.69, with values ranging from 4.26 to 8.95. The skewness of 0.55 indicates a right skew. For education expenditure as a share of GDP, the mean is 5.46, with a median of 5.55. The standard deviation is 1.40, and the range is 7.75. The skewness of -2.17 suggests a strong left skew. Lastly, GDP per capita has a mean of 1502.45, a median of 1331.61, and a standard deviation of 316.80. The range is 951.12, and the skewness of 0.53 indicates a right skew. These indicators, including IMMR, healthcare expenditure, education expenditure, and GDP per capita, highlight variations in military administration's impact on development outcomes, offering insights into central tendencies, dispersion, and the direction of data skewness over the 27 years of military governance.

Figure 2: Efforts by Different Administrations in Minimizing Maternal Mortality through Fiscal Spending.

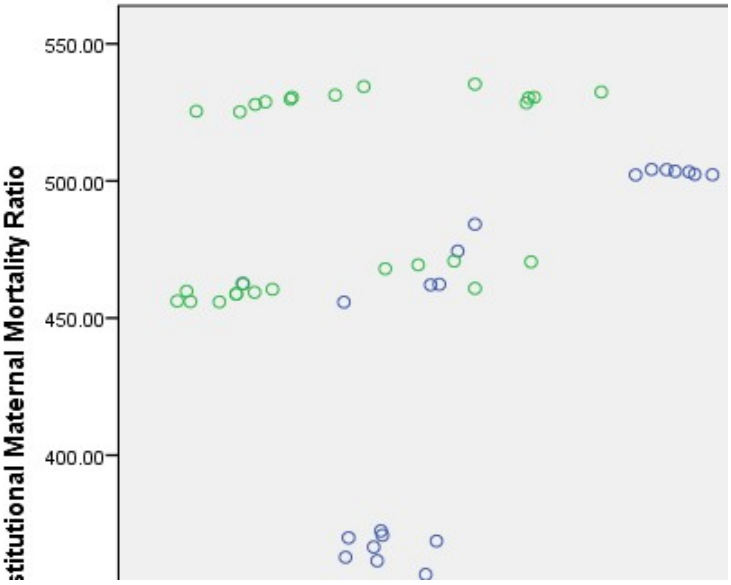


Figure 2 illustrates the relationship between healthcare spending as a share of GDP (fiscal spending) and institutional maternal mortality ratio (IMMR) across different political administrations in Nigeria from 1960 to 2015. The diagram highlights significant differences in both IMMR and healthcare spending under civilian and military governments. For the military administration (represented by green dots), the IMMR values range from around 450 to just below 550, indicating a high institutional maternal mortality ratio. In contrast, healthcare spending as a share of GDP is relatively low, with values ranging from 4.0 to slightly above 8.0. This suggests that during military rule, healthcare spending remained low while IMMR remained high, likely due to poor governance, corruption, and the impact of military coups. Under civilian administration (represented by blue dots), IMMR values are lower, ranging from approximately 300 to 500, with the higher values occurring closer to Nigeria's independence in 1960. Healthcare spending as a share of GDP is higher during civilian rule, ranging from 6.0 to just above 10.0. This indicates that during civilian governments, higher healthcare spending was associated with a lower IMMR, suggesting that good governance, democratic stability, and reduced corruption played a role in improving healthcare outcomes.

Table 5: Levene's Test Analysis for Institutional Maternal Mortality by Different Political Administrations in Nigeria, 1960-2015

Development Variables	**Levenes Test** [Homogeneity Test of Variance]	**ANOVA**	**Robust Test of Equality of Means/Variance**	
			Welch	Brown-Forsythe
Institutional Maternal Mortality	67.256*** (0.000)	29.999*** (0.000)	31.377*** (0.000)	31.377*** (0.000)

Note: p-values are reported in parentheses underneath the Test statistic values for Levene's, ANOVA, Welch, and Brown-Forsythe robust test of equality of variance, p-value < 0.01 ; 0.01 < p-value < 0.05; 0.05 < p-value < 0.10; p-value > 0.10. The various homogeneity tests techniques is evaluated by *,**,*** denoting statistical significance levels at 10%, 5%, and 1% respectively.

Table 5 presents the results of Levene's test, ANOVA, and the robust tests for equality of variances/means in relation to the institutional maternal mortality ratio (IMMR) from 1960 to 2015. The Levene's test for homogeneity of variances reveals a statistically significant difference in the IMMR, attributed to the varying contributions of different administrations. The Levene's test statistic is 67.256***, with a p-value of 0.000. This indicates that there is a statistically significant difference in the IMMR across different political administrations (civilian or military) at the 10% (0.10), 5% (0.05), and 1% (0.01) significance levels, as the p-value is less than 0.01, 0.05, and 0.10. The disparity in the institutional maternal mortality ratio can be observed from the summary statistics in Tables 5.1 and 5.2, with a clear distinction between the military and civilian administrations. The data shows that the IMMR was consistently high under military rule, spanning over 27 years across 8 different military leaders from 1960 to 2015. In contrast, the IMMR was lower during civilian rule, which lasted for over 29 years across 7 democratic leaders during the same period.

The ANOVA analysis, along with the Welch and Brown-Forsythe robust tests, further confirms a statistically significant difference in IMMR based on the political administration. The ANOVA test statistic is 29.999*** with a p-value of 0.000, the Welch test statistic is 31.377*** with a p-value of 0.000, and the Brown-Forsythe statistic is 31.377*** with a p-value of 0.000. As a result, the null hypothesis, which posits no significant difference in IMMR between civilian and military administrations, is rejected. The data strongly supports the conclusion that the type of presidency—civilian or military—has a statistically significant impact on the institutional maternal mortality ratio in Nigeria.

CONCLUSION AND POLICY RECOMMENDATION

The analysis of institutional maternal mortality ratio (IMMR) in Nigeria between 1960 and 2015 reveals a significant correlation between political administration type—civilian or military—and maternal mortality. The findings indicate that military administrations, characterized by lower healthcare spending and poorer governance, were associated with higher IMMR, while civilian administrations, which typically prioritized healthcare reforms and more democratic governance, experienced lower IMMR. These results underscore the

critical role of political leadership in shaping the effectiveness of healthcare policies and outcomes. The stark differences observed across political regimes highlight the need for consistent, long-term healthcare strategies that transcend political cycles to ensure sustained improvements in maternal health. By addressing the underlisted recommendations, Nigeria can create a sustainable framework for improving maternal health and significantly reduce institutional maternal mortality rates across political administrations.

Policy Recommendations

- **Increase Healthcare Spending**: Policymakers should prioritize increasing healthcare spending as a share of GDP, with a particular focus on maternal health. Higher investment in healthcare infrastructure, particularly in rural areas, would help reduce IMMR and enhance access to quality care.
- **Strengthen Governance and Accountability**: Given the observed impact of governance on IMMR, strengthening transparency, accountability, and anti-corruption measures in both civilian and military governments is essential. This can be achieved through regular audits, improved oversight, and ensuring that healthcare budgets are allocated efficiently.
- **Long-term Maternal Health Policies**: Implementing a comprehensive, long-term maternal health policy that remains consistent regardless of political transitions is crucial. This policy should focus on improving prenatal care, enhancing skilled birth attendance, and providing post-natal care to reduce maternal deaths.
- **Invest in Public Health Infrastructure**: Focused investments in healthcare infrastructure, such as more well-equipped hospitals, clinics, and better-trained healthcare professionals, particularly in underdeveloped regions, would help improve maternal health outcomes.
- **Promote Public-Private Partnerships**: Encouraging collaborations between government and private healthcare providers could help fill gaps in the healthcare system, especially in underserved areas. These partnerships can lead to the establishment of more health facilities and improved service delivery.
- **Strengthen Health Data Systems**: Robust and transparent health data collection systems should be established to monitor maternal health indicators consistently. This would enable the government to make data-driven decisions and track progress toward reducing IMMR over time.
- **Focus on Maternal Health Education**: Public education campaigns that focus on maternal health, including the importance of antenatal care and access to skilled birth attendants, should be prioritized to reduce preventable maternal deaths.

REFERENCES

Abdulai, A. (2014). *Maternal health and sustainable development in Africa: A critical review. Journal of African Health, 21*(2), 45-56.

Adeleke, A., & Gafar, M. (2012). *The effects of political instability on Nigeria's economic development: A review of the military regime. African Development Review, 24*(4), 334-349.

Adeleke, A., & Gafar, M. (2012). *Colonial legacies and the development of Nigeria's healthcare system: The integration of traditional and Western medicine. African Journal of Healthcare Policy, 18*(2), 56-72.

Aremu, J. (2003). *Corruption, governance, and economic development in Nigeria: The military dimension. African Political Science Review, 13*(1), 71-82.

Diamond, L. (2004). *The rule of law and democracy*. In *Democracy in developing countries* (pp. 14-36).

Diamond, L., & Morlino, L. (2016). Assessing the quality of democracy. *Journal of Democracy*, *27*(3), 10-26.

Fawzi, M. (2013). *The role of medicinal plants in traditional African healthcare: A historical overview. Journal of Traditional Medicine, 22*(3), 144-158.

Gboyega, A. (2003). *Political instability in Nigeria: Impacts and solutions*. *Nigeria Journal of Political Studies, 15*(2), 99-115.

Gretchen, W. (1964). *Authoritarian regimes and political systems: An analysis of governance models. Political Studies Review, 12*(3), 198-215.

Harrison, C. (2007). *Maternal and child health in Nigeria: The impact of political instability*. *Global Health Review, 18*(3), 210-221.

Lawal, T., & Oluwatoyin, A. (2011). *Nigeria's economic challenges: A historical analysis of military and civilian administrations*. *Nigerian Economic Journal, 22*(1), 67-80.

Linz, J. (1964). *An authoritarian regime: A study of political systems and social structures*. In *Authoritarianism: A Reader* (pp. 134-156).

McIntyre, M. (2005). *Maternal morbidity and mortality in sub-Saharan Africa: A closer look at the statistics. African Journal of Public Health, 13*(4), 27-35.

Meredith, M. (2005). *The state of Nigeria's democracy: The role of military interventions. African Politics, 12*(3), 58-71.

Meredith, M. (2005). *The Fate of Africa: A History of Fifty Years of Independence.* New York: Public Affairs Publishing, 2005,

Midlarsky, M. (2012). *Democracy and its discontents: Democracy theories in practice. Political Science Quarterly, 77*(2), 151-173.

Mimiko, S. (1998). *Politics, governance, and the Nigerian state: A critique of military rule*. Journal of African Politics, 10(1), 101-119.

Nedozi, I., Obasanmi, L., & Ighata, K. (2017). *Nigeria's governance challenges: An analysis of corruption and its impact on development*. Nigerian Policy Journal, 5(2), 89-106.

Nwokocha, I. (2007). *The political economy of Nigeria: The military regimes and economic underdevelopment*. African Economic Review, 15(1), 18-34.

Przeworski, A. (1991). *Democracy and the market: Political and economic reforms in Eastern Europe and Latin America*. Cambridge University Press.

Ramani, S. (2015). *Addressing maternal mortality in Africa: The importance of healthcare access. Health Policy Review, 11*(2), 34-47.

Richard, F. (2012). *Political authority and social change: Theories of government. Cambridge Political Science Journal, 15*(2), 115-132.

Sekiguchi, A. (2010). *The concept of authoritarianism in political thought: A historical perspective. Journal of Political Theory, 32*(4), 270-287.

Tormusa, D., & Idom, E. (2016). *Corruption and governance in Nigeria: An overview of military and civilian rule. International Journal of African Studies, 9*(3), 123-140.

Transparency International. (2014). *Corruption perceptions index: Nigeria report*. Transparency International.

United Nations Development Program (UNDP). (2010). *Nigeria Human Development Report 2010: The Challenge of Development in the 21st Century*. UNDP.

Watkins, M. (1970). The theory of democracy. *Political Theory Journal*, *4*(2), 124-140.

World Health Organization (WHO). (2015). *Global Maternal Health Report*. WHO.

World Health Organization (WHO). (1976). *Traditional medicine: A report by the World Health Organization*. WHO.

World Health Organization (WHO). (1978). *Primary health care: Report of the International Conference on Primary Health Care, Alma-Ata, 6-12 September 1978*. WHO.

WHO, UNICEF, & UNFPA. (2013). *Trends in maternal mortality: 1990 to 2013*. World Health Organization.