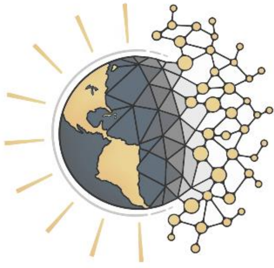

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World-Systems Analysis and Postnatal Care Utilization among Periphery Women

The Case of Tanzania (2010–2016)

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Abstract

Current cross-national research suggests that increased economic dependence by peripheral countries on core ones is associated with poor maternal health outcomes and greater socioeconomic inequalities in the periphery. However, not enough attention has been given to analyzing how this economic dependence—via foreign direct investment (FDI), importation, and exportation between peripheral and core nations—specifically influences periphery utilization of postnatal care. Utilizing a world-systems framework, this study examines data from the Tanzania Demographic Health Survey (TDHS) and World Development Indicators (WDI) from the World Bank to shed light on the detrimental impacts of economic dependence on Tanzania's postnatal care utilization between 2010–2016. Findings show that data constructed around socioeconomic status, rural/urban residence, and region disclose noteworthy negative correlations for importation, exportation, foreign direct investment, and Tanzanian postnatal care utilization over 2010–2016. Even after controlling for these factors, it was observed that marginalized women in Tanzania continued to have significantly lower utilization of both mother's and newborn postnatal care during this period. Higher and statistically significant inequalities in the use of newborn postnatal care were also found for rural women with less than secondary education compared to urban women with the same education level. These findings highlight the need to consider economic dependence on core countries when crafting policies and strategies for addressing disproportional effects on postnatal healthcare utilization among underserved women in Tanzania.

Keywords: Underdevelopment, Healthcare Inequalities, Maternal Healthcare Utilization

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Despite seeming development and global economic integration, maternal healthcare utilization remains in crisis in many periphery nations, particularly those in sub-Saharan Africa, including Tanzania. While post-colonial periphery nations in sub-Saharan Africa have delved into global economic relationships from the 1980s onward (Chase-Dunn 1999), the advantages of this have not consistently yielded improvements for postnatal maternal healthcare, as inequalities in maternal healthcare outcomes remain wider in underdeveloped nations compared to others (Bain et al. 2022; Langa 2023a). Each day, approximately 800 women (one every two minutes) die due to complications due to pregnancy or postpartum, with roughly 95 percent of this mortality occurring in the global South (World Health Organization 2023). In Tanzania, approximately half of all maternal deaths occur during the postnatal periods, mostly within twenty-four hours after childbirth (Warren 2015; Warren et al. 2006).

Like many peripheral countries, Tanzania has actively engaged in global trade, investments, and economic exchanges since its independence in 1961 (Ministry of Foreign Affairs and East African Cooperation 2023). In 2021, Tanzania received a total of US$922 million in Foreign Direct Investment (FDI), an increase from US$685 million in 2020 (United Nations Conference on Trade and Development 2022; Lloyd Bank 2023; World Bank 2023). Total FDI has increased to US$17,153 million, equivalent to 24.4 percent of its GDP (United Nations Conference on Trade and Development 2022; Lloyd Bank 2023).

Despite these milestones of foreign investments and trade in Tanzania, postnatal care remains the country's most underutilized form of maternal healthcare (Benova et al. 2019; Langa and Bhatta 2020; Tessema et al. 2020; Langa 2022). Although postnatal care is crucial for women's postpartum health, only 13 percent receive it at healthcare facilities within 48 hours post-delivery (Langa 2024; MoHSW 2008). Moreover, 83 percent of Tanzanian women who gave birth outside of health facilities do not utilize postnatal care (MoHSW 2008). While urban areas show more postnatal care usage than rural women (48 percent vs. 28.9 percent) (UNICEF 2016), only 41 percent of newborns had postnatal care within 48 hours post-delivery (Ministry of Health, Community Development and Elderly and Children 2016). Urban areas also show more incidence of postnatal care (61 percent) compared to rural areas (35 percent) (UNICEF 2016).

This is not puzzling; researchers utilizing the world-systems framework have illuminated and can predict this phenomenon. They have identified the association between macro-structural factors—including foreign investments, importation, and exportation—and impacts on accessibility to healthcare, education, and wealth in peripheral countries (York and Ergas 2011; Burroway 2017). These scholars have argued that the *underdevelopment* of peripheral countries by core countries results from the extent of periphery economic dependence on core nations (Martínez-Vela 2001; Beer and Boswell 2002; Wallerstein 2004; Moore, Teixeira, and Shiell 2006). While evidence shows that multinational corporate FDI can benefit economic growth in the short run (Wimberley 1990), the long-term effects can be adverse (Wimberley 1990).

As with the colonial situation, profits from post-colonial foreign investment and trade typically go abroad and are not locally reinvested, leading to displacement, underdevelopment, or nondevelopment of smaller businesses (Wimberley 1990; Burroway 2017). Post-colonial

international investors and policies have also tended to impede national health and welfare by discouraging or prohibiting social policies advantageous to communities (Shen and Williamson 2001; Beer and Boswell 2002; Burroway 2017). By further evading taxes and concealing taxable revenue, post-colonial investors diminish local and national resources that could have been allocated for needed healthcare and social services infrastructures (Wimberley 1990; Burroway 2017). Export concentration can also harm health and wellbeing(Burroway 2017) by making national economies less resilient to fluctuations in focused-on markets, local shortages of those essential products, and an increased need to import goods not focused on or susceptible to—all with accumulating impacts on social welfare and the government's ability to provide essential services (Burroway 2017). It is a self-perpetuating and perfect storm of misfortune in most cases.

The unequal patterns of Tanzanian women's postnatal care utilization across otherwise differing socioeconomic, residential (urban/rural), and regional statuses paint a general picture of the country's underdevelopment. Understanding these patterns is essential for crafting postnatal care and strategies to prevent the personal and social harms of maternal and infant mortality. Borrowing insights from multi-country world theory studies (Shen and Williamson 1997, 1999; Beer and Boswell 2002; Moore 2006; Burroway 2017), this study illuminates how global inequalities manifest locally and non-uniformly across different groups of women in one country. It applies Wallerstein's (2004) world-systems approach to disclose inequalities of postnatal care utilization from different socioeconomic, residential, and regional statuses under Tanzania's underdevelopment within the world system from 2010–2016.

World-Systems Analysis, Socioeconomic Status, and Postnatal Care Utilization

The current world system originated during the sixteenth century in Europe and the Americas with the global expansion of colonialism and organizational logic to access those expanded markets. The industrial revolutions, beginning in England, further "technologized" that expansion and contributed to the emergence of the current capitalistic world economy (Wallerstein 2004).

This growth of global capitalism emerged from and further supported the development of a worldwide market where countries engage in intermeshed yet unequal trade or investment relationships that significantly benefit "core" states, the early adopters that had the means to take advantage of this development (Wallerstein 2004). The most dominant activity consists of a transfer of surplus from less developed areas to more developed ones in a systematic unequal exchange that leads to the accumulation of capital on a global scale in the core and the persistent underdevelopment of less developed areas (Martínez-Vela 2001; Wallerstein 2004). This establishes "periphery" areas that either lacked the resources to participate or could not fend off expanding, colonizing, or neoliberal incursions (Wallerstein 2000, 2004; Moore et al. 2006).

Less discussed also are semi-peripheral areas (Martínez-Vela 2001), corresponding roughly to what could more narrowly be called "developing" nations or regions that served as geographic or technological "intermediaries" between core/periphery activity (e.g., Switzerland or the Cayman Islands as politically inert areas but central hubs of secure banking for core activity). In particular, the semi-periphery relationships reinforce and increase the differential flow of surplus

to the core, thus indirectly benefiting from the underdevelopment of the periphery (Martínez-Vela 2001). Lastly (albeit it is essentially never discussed), there is what could be called the semi-core, corresponding to what could be likened to a declining aristocracy, an old guard that no longer fundamentally participates in the economic activity of the core itself, but still has some (dwindling) influence.

While this framework can be used to critique the predatorily diffusionist economic perspective—whereby maximally unregulated markets for for-profit foreign investment, privatization of governance functions, and minimizing social safety nets are advocated (Freeman 1981)—it also discloses the gross inefficiencies of such a perspective and differential impacts across nation-states. Maternal health metrics and infant mortality have been utilized as the "gold standard" metric for assessing national health generally (Tesema et al., 2022). Thus, peripheral underdevelopment from economic dependence on core countries predicts more significant inequalities across the markers for residence (urban/rural), region, and socioeconomic status (education and wealth) (York and Ergas 2011; Boone and Simson 2019; Maliti 2019; Schrecker 2019).

Progress can mask lost ground. For example, while the absolute number of uneducated Tanzanian women has decreased compared to a quarter-century ago, severe educational disparities persist (Maliti 2019). Even though free primary and secondary national education exist, stark educational differences are visible between rural and urban women in both privileged and less privileged regions of Tanzania (Al-Samarrai and Reilly 2000; Maliti 2019; Osorio, Percic, and Di Battista 2014). Relatedly, while the wealth gap between rural and urban Tanzania has decreased, rural residents are still most likely to be in the country's lowest wealth quintiles (Maliti 2019). Regional differences—as the afterlife of colonialism—continue to show disparities, with Eastern and Northern "privileged" regions having fewer uneducated women than Western and all other ("unprivileged") regions (Osorio et al. 2014; Maliti 2016).

It is not that these patterns are startling; one expects poor rural women in disadvantaged national regions to intersectionally get the shortest shrift of all (Langa 2023b). What stands out is how the progress that has occurred continues to reproduce the same general patterns of impoverishment, even after the global goal of reducing extreme poverty by half has been achieved. What the world-systems framework affords is an understanding of this persistence and even predicting core/periphery/semi-periphery disparities in maternal health outcomes (Shen and Williamson 1997, 1999, 2001; Moore et al. 2006). These patterns are not "neutrally" reducible primarily to Africa's geography unless such an analysis includes who and in what ways people have accessed that geography. Hence, the more the periphery geographies are integrated into the global economy, the greater their likelihood of having limited resources for social services, including women's health (e.g., prenatal and postnatal care) (Scott and Wanjun 2016; Burroway 2017; Langa 2023b) and thus, adverse maternal health outcomes (Shen and Williamson 1997, 1999; Moore et al. 2006; York and Ergas, 2011; Boone and Simson 2019; Schrecker 2019).

Variations in Postnatal Care Utilization by Regions, Residence, and Socio-Economic Status in Tanzania

While the literature cited above has mostly focused on international contexts, national level studies of peripheries, including Tanzania, have tended to place responsibility for non- or under-utilization of postnatal care on mothers (Konje et al. 2018; Msemwa 2021; Panga and Mosha 2022) often due to (unfavorable) attitudes toward postnatal care. Besides a lack or shortage of sound information about the importance of postnatal care (Konje et al. 2018; Msemwa 2021; Panga and Mosha 2022), studies identify limited knowledge about complications from pregnancy (Konje et al. 2018), poor healthcare provider attitudes, and disrespect (Panga and Mosha 2022), and cultural beliefs around the practice of forty days of indoor confinement after giving birth (Kissa 2015) as factors that decrease or inhibit women's likelihood of postnatal care use.

However, Link and Phelan find socioeconomic status and other social conditions "are the fundamental cause of health inequalities" (Link and Phelan 1995:80). This is mainly because lower socioeconomic status (as an upstream factor or the fundamental cause) impacts participation or non-participation around individual health behaviors (the downstream or proximate factor). This socioeconomic aspect includes access to the necessary resources for accessing healthcare in the first place (Link and Phelan 1995; Braveman, Egerter, and Williams 2011). We would note that socioeconomic status (which tends to link wealth and education level) can explain the lack of information pointed out in the other studies; that is, decreased access to education results in less access to sound information about postnatal care. We would add that a remedy of offering education to correct this situation would still miss the women who have already been missed by freely available primary and secondary education.

Some studies in Tanzania have considered the impact of socioeconomic status and residence on postnatal care use. Specifically, rural women with less education and income show decreased postnatal care use compared to urban, wealthier, or more highly educated counterparts (Kanté et al. 2015; Ndugga, Namiyonga, and Sebuwufu 2020; Tessema et al. 2020; Idris and Syafriyanti 2021; Krishnamoorthy and Majella 2021a; Msemwa 2021; Sserwanja et al. 2022). In peripheries outside of Tanzania, education and wealth are associated with greater postnatal care utilization (Iqbal et al. 2006; Iqbal et al. 2017; Mekonnen et al. 2020; Yadav et al. 2020; Dey et al. 2021; Aziz et al. 2022). Similarly, over time, women with less education (Iqbal et al. 2006, 2017; Krishnamoorthy and Majella 2021) or wealth (Iqbal et al. 2006, 2017; Mekonnen et al. 2020) with rural residents utilizing postnatal care less than their counterparts (Yadav et al. 2020). Similar trends arise for antenatal and skilled delivery assistance (Magadi, Zulu, and Brockerhoff 2003; Magadi, Agwanda, and Obare 2007; Makate and Makate 2017; Cotton 2019; Yaya et al. 2019).

How one frames a problem typically determines its solution. If certain women's lack of knowledge (education) or resources (wealth) constitutes the explanation for the problem of women's under- or non-utilization of postnatal care, then providing that knowledge (education) and money (wealth)—or, alternatively, no-cost access to postnatal care—emerges as a solution. However, it is equally clear that efforts along those lines, while yielding some improvements as noted, have also maintained and reproduced the overall pattern of disparities after implementing

those solutions. That suggests that the problem may be incorrectly framed, so a world-systems approach offers an alternative. It also reframes how one considers available data.

The Study Contribution: Why Intra-National Intersecting Variations Rather than Cross-National Comparisons?

In that way, this research explores how foreign direct investment, importation, and exportation between peripheral and core nations influence socioeconomic inequalities and, hence, the utilization of postnatal care in Tanzania between 2010 and 2016. It examines intra-national variations of residence, region, and socioeconomic status resulting from their intersections and contributing to the prevalence of postnatal care utilization.

This intra-national rather than cross-national approach also reflects feminist scholars' calls for examining women in their particular cultural situations, that is to say, not as presumptively assimilable or identical to women in the core countries. According to periphery scholars, the writings of core-country feminists have tended to depict all women as a single monolithic group "with identical interests and desires, regardless of class, ethnic or racial location" (Mohanty 1988: 64). Whatever experiences women share cross-culturally, it is also critical to consider their significant differences of histories, culture, and practice (Mohanty 1984, 1988; Oyěwùmí 1997); for example, the spiritual, collective, and intergenerational aspects that can inhere in the practices of women who assist other women in childbirth (Bello-Bravo 2023) are typically not present in the experiences or practices of core-nation midwives. Conflating periphery and core women erase and ahistoricize African women, making their contributions aside to the imperial project of core-country gender (Oyěwùmí 1997) and re-inflicting the paired wounds of (neo)colonialism and patriarchy (Rajan and Park 2005).

Examining periphery women through their own local intersection of history, nationality, gender, sexuality, tribe, class, race, geographical location, and socio-economic status (Rajan and Park 2005) is a necessary step for any cross-cultural comparisons. This is especially crucial for uncovering subtle differences among diverse groups of women with respect to accessing maternal healthcare in developing nations (Muirhead et al. 2020). However, limitations on the possibility of such research are at the mercy of the data collected by mass-scale surveys (like the TDHS and the WDI). As such, although not all "categories" of women face identical limitations (Langa 2023a, 2023b), available data can be used to identify and sort the most susceptible groups requiring the most immediate healthcare assistance (Hankivsky 2012; Muirhead et al. 2020; Samra and Hankivsky 2021).

This study hence explores the following research questions:

a. Did socioeconomic status (education and wealth) and world system indicators (foreign direct investment, importation, and exportation) influence the likelihood of postnatal care utilization in Tanzania between 2010–2016?
b. Did the influence of education persist or change after controlling for world system indicators between the periods?

c. Did the effect of respondents' levels of education and their household wealth on postnatal care usage vary between residencies and regions after controlling for the world system indicators?

Applying a world systems lens, this research hypothesized that between 2010–2016, women with lower education and wealth would have lower postnatal care utilization compared to more educated and wealthier women. Similarly, a lower likelihood of postnatal care utilization by these women will persist or worsen after controlling for FDI, importation, and exportation between the periods. Due to the negative impacts of FDI and trade, stronger education and wealth inequalities in rural and unprivileged regions of Tanzania were expected compared to urban and privileged regions between 2010–2016.

Methods

Data

This research analyzed two sources of data: the Tanzania Demographic Health Survey data and the World Development Indicators collected by the World Bank in Tanzania in 2010 and 2016. The WDI is a compilation of comparable indicators that provide information on countries' foreign direct investment, exports, and imports (Scott and Wanjun 2016; The World Bank 2024).

The TDHS focuses on the stratified multistage cluster sample technique to generate representative national samples of women aged 15 and 49 (Stephenson et al. 2006). It also uses a cross-sectional, two-stage cluster sampling approach representing Tanzania's mainland and the island of Zanzibar (The DHS Program 2020). Eligible women were asked questions regarding their postnatal healthcare, socioeconomic status, fertility, and other mothers' and children's health indicators, and had given birth within five years (Croft, Marshall, and Allen 2018; ICF 2022). Household-level and individual datasets were merged to obtain the household assets variables. Overall, a total of 12,408 women (5,358 in the year 2010 and 7,050 in the years 2015–2016) were assessed in this study. TDHS is also a public dataset. After submitting the study description, authorization for access and data was sought and approved on June 11, 2021, by the University of Nevada Las Vegas Social/Behavioral Institutional Review Board (IRB), which said that it is not human subject research.

Three outcomes of postnatal care (for mothers and newborns) were measured. Mothers were asked whether they were checked after discharge or giving birth at home (ADPNC) and whether they were checked before discharge after giving birth in the hospital (BDPNC). Likewise, mothers were asked whether their newborns were checked within two months of birth (NPNC). Respondents who responded "yes" to all three questions were recoded as 1, while those who answered "no" were recoded as 0. WDI provided us with some variables to measure the world system. These included foreign direct investment, net inflows (percentage of GDP; FDI), as well and trade, which was represented by two variables: imports of goods and services (percentage of

GDP; importations) and exports of goods and services (percentage of GDP; exportation) (The World Bank 2024b). Other independent variables are shown in Table 1.

Analytical Methods

First, the distribution of study variables was examined. Frequencies and means for all variables based on the overall sample, residencies, and regions between all survey years were calculated to check for percentage change in postnatal care use, education, and wealth status over time. The bivariate statistics were also calculated to examine the relationship between socio-economic status and residence and region over time. All TDHS data were appended to create one merged dataset with the WDI data.

Binary logistic regression models were estimated to examine the influence of independent variables on postnatal care use. Models were fitted based on the pooled sample at three levels: (1.) with all independent variables to show socio-economic status impacts on postnatal care use from 2010–2016; (2.) with all independent variables and mediator variables, including FDI, market, and export indicators to show the extent of Tanzania integration and how it influences postnatal care usage (each WDI were fitted separately in the models because of the collinearity issues) (3.) two-way interactions between education, region or residence (estimated on models with all predictors and mediators) to detect any significant socio-economic status changes between residencies and regions on postnatal care use between 2010–2016 (Magadi and Curtis 2003; Onukwugha et al. 2020; Langa, Bhatta, and Amuta 2023).

Findings

Table 1 presents the descriptive statistics and summarizes postnatal care use and its predictors based on the overall sample, regions, and residences from 2010–2016. Results indicate very low postnatal care use (NPNC=28.81 percent, APNC=18.38 percent, BDPNC=30.78 percent), with higher use of APNC, BDPNC, and NPNC among urban compared to rural women between 2010 and 2016 and higher NPNC by women in underprivileged compared to privileged regions. For education, more women overall had lower levels of education (83.28 percent) compared to those with secondary or higher education (18.38 percent), with rural (88.1 percent) and unprivileged regions (90.96 percent) having lower levels of education compared to urban (67.96 percent) and privileged regions (70.96 percent). Likewise, more women overall belonged to the lowest wealth quintiles, with more women from rural areas and unprivileged regions belonging to the lowest wealth quintiles (26.50 percent and 26.64 percent) compared to urban and privileged regions (2.76 percent and 11.5 percent). Also, fewer women were from urban and privileged regions overall. The highest FDI net inflows (percentage of GDP) was 5.66, while the top imports of goods and services (percentage of GDP) were 28.03. The highest exportation of goods and services (percentage of GDP) was 19.61.

Table 1: Descriptive Statistics of Study Variables from TDHS and WDI, 2010–2016

Type	Variable Name	Total n=12,408	Region* Privileged n=4,764	Unprivileged n=7,644	Residence* Urban n=2,967	Rural n=9,441
Outcomes	NPNC (1=Yes)	28.81	25.9	30.55	34.78	27.12
	ADPNC (1=Yes)	18.38	15.58	12.18	17.81	12.2
	BDPNC (1=Yes)					
Predictors	Education					
	Lower than secondary (1)	83.28	70.96	90.96	67.95	88.11
	Secondary and higher (0)	16.72	29.04	9.04	32.05	11.89
	Household wealth					
	Poorest (5)	20.83	11.5	26.64	2.76	26.5
	Poorer (4)	24.94	15.41	30.89	8.29	30.18
	Middle (3)	15.61	15.05	15.96	8.56	17.83
	Richer (2)	18.93	24.58	15.41	25.04	17.01
	Richest (1)	19.69	33.46	11.11	55.34	8.48
	Parity (1=5+)	23.29	21.58	24.36	12.37	26.72
	Residence					
	Rural (1)	23.91	32.12	18.8		
	Urban (0)	76.09	67.88	81.2		
	Household head (1=female)	17.92	17.19	18.38	20.93	16.98
	Region					
	Unprivileged (1)	38.39			51.57	34.25
	Privileged (0)	61.61			48.43	65.75
	Occupation (1=informal)	91.34	86.88	94.13	84.43	93.52
	Age	29.44	30.21	28.96	28.93	29.6
World system predictors	FDI, net inflows (% of GDP)					
	Highest FDI (1)	5.66				
	Lowest FDI (0)	1.74				
	Importation (% of GDP)					
	Highest importation (1)	28.03				
	Lowest importation (0)	19.07				
	Exportation (% of GDP)					
	Highest exportation (1)	16.35				
	Lowest exportation (0)	19.61				

*%/mean

Effect of Socio-Economic Status, Regions, and Residence on Postnatal Care Utilization in Tanzania (2010–2016)

Model 1 in Tables 2–4 indicates changes in the effect of socio-economic status on postnatal care use in Tanzania between 2010–2016, where women with less than secondary education were *significantly less likely to utilize postnatal care* between 2010–2016. This implies that women with lower than secondary levels of education were 32 percent less likely to use ADPNC (OR=0.68, SE=0.07, p <.001), 39 percent less likely to use BDPNC (OR=0.69, SE=0.08, p <.001), and 25 percent less likely to use NPNC (OR=0.75, SE=0.06, p <.05). Likewise, women belonging to the lowest wealth quintiles were *significantly less likely to utilize* (P<0.05) all postnatal care outcomes.

Between 2010 and 2016, the poorest odds of utilizing ADPNC, BDPNC, and NPNC were 10 percent, 19 percent, and 8 percent lower than those of the richest (see Model 1 in Tables 2, 3, and 4). Rural women had a non-significant *lower* likelihood of using both NPNC and ADPNC and a significantly lower likelihood of using BDPNC. Unlike women in privileged regions, women in unprivileged regions had s*ignificantly higher* odds of using NPNC (OR=1.40, SE=0.11, p <.001) than their counterparts in privileged regions. In contrast, women in the unprivileged regions had a non-significant lower likelihood of using ADNC (OR=0.85, SE=0.08, p >.05) and BDPNC (OR=0.93, SE=0.07, p >.05).

Table 2: Newborn Postnatal Checkups in Tanzania, 2010–2016 (n=10,849)

	Model 1	**Model 2**	**Model 3**	**Model 4**
Residence	0.87(0.08)	0.95(0.08)	0.95(0.08)	0.95(0.08)
Regions	1.4(0.11)***	1.4(0.1)***	1.4(0.1)***	1.4(0.1)***
Respondents' age	1.01(0)	1.01(0)	1.01(0)	1.01(0)
Respondent's occupation	0.87(0.08)	0.92(0.08)	0.92(0.08)	0.92(0.08)
Parity	0.83(0.07)*	0.85(0.07)	0.85(0.07)	0.85(0.07)
Head of household sex	0.95(0.08)	0.94(0.08)	0.94(0.08)	0.94(0.08)
Education	0.75(0.06)***	0.89(0.07)	0.89(0.07)	0.89(0.07)
Household wealth	0.92(0.02)***	0.92(0.02)**	0.92(0.02)**	0.92(0.02)**
FDI, net inflows (% of GDP)		0.77(0.02)***		
Importation (% of GDP)			0.9(0.01)***	
Exportation (% of GDP)				0.74(0.02)***
Y-Intercept	0.59(0.11)**	0.98(0.19)	5.21(1.39)***	91.4(42.19)***

P-values are: *p<.05, **p<.01, ***p<.001.

World-Systems Indicators and Postnatal Care Utilization in Tanzania (2010–2016)

Between 2010–2016, higher world systems indicators were negatively associated with postnatal care utilization in Tanzania (see Models 2–4 in Tables 2–4). The likelihood of APNC, BDPNC, and NPNC use for women when FDI, importation, and exportation were high was lower than when FDI was low. For instance, the likelihood of women utilizing NPNC was significantly lower when FDI (OR=0.77, SE=0.02, p <.001), importation (OR=0.90, SE=0.01, p <.001), and exportation (OR=0.74, SE=0.02, p <.001) were higher (see Models 2–4 in Table 2). Women were 6 percent, 2 percent, and 7 percent significantly less likely to utilize the BDPNC care when FDI, importation, and exportation were higher, respectively (see Models 2–4 in Table 4). Even though higher exportation, importation, and FDI were associated with a lower likelihood of utilizing ADPNC, the results were not statistically significant (see Models 2–4 in Table 3**.**

Table 3: After Discharge Postnatal Checkups in Tanzania, 2010–2016
n=10,971

Residence	0.92(0.1)	0.92(0.1)	0.92(0.1)	0.92(0.1)
Regions	0.85(0.08)	0.85(0.08)	0.85(0.08)F	0.85(0.08)
Respondents' age	1.02(0.01)**	1.02(0.01)**	1.02(0.01)**	1.02(0.01)**
Respondent's occupation	0.83(0.1)F	0.83(0.1)F	0.83(0.1)	0.83(0.1)
Parity	0.69(0.08)***	0.69(0.08)***	0.69(0.08)***	0.69(0.08)***
Head of household sex	0.92(0.09)F	0.92(0.09)	0.92(0.09)	0.92(0.09)
Education	0.68(0.07)***	0.68(0.07)***	0.68(0.07)***	0.68(0.07)***
Household wealth	0.9(0.03)**	0.9(0.03)**	0.9(0.03)**	0.9(0.03)**
FDI, net inflows (% of GDP)		0.99(0.02)		
Importation (% of GDP)			0.99(0.01)	
Exportation (% of GDP)				0.99(0.03)
Y-Intercept	0.26(0.06)***	0.26(0.06)***	0.26(0.08)***	0.26(0.13)**

P-values are: *p<.05, **p<.01, ***p<.001.

After controlling the world system indicators (FDI, importation, and exportation) in the models (see Models 2–4 in Tables 2–4), the influence of education and household wealth did not change for ADPNC and BDPNC outcomes. Here, 0.68 and 0.90 odds representing the effects of education and household wealth on ADPNC, and 0.81 odds on the influence of household wealth on BDPNC remained the same and lower for women in Tanzania between 2010–2016. On the other hand, the odds of women with less than secondary education improved and were statistically significant by 3 percent after including the world system indicators on the BDPNC models (from 0.61 to 0.64). Even with this slight improvement, women with lower education continued to be less likely to have their BDPNC. The odds of rural women reporting a lower likelihood of utilizing improved significantly for BDPNC improved non-significantly (but continued to be lower odds) for the NPNC and remained the same for ADPNC after controlling for the influence of world system indicators. Even though the odds of education were higher after including the indicators than before, the results were still not statistically significant, and the odds of using the care were still lower. The effect of the region where a respondent lived remained the same (odds ratios did not change) on all postnatal care outcomes. In contrast, in unprivileged regions, women continued to have lower odds of using BDPNC (0.93) and ADPNC (0.85) and higher odds of using NPNC (1.40).

Except for the odds of women from unprivileged regions who utilized BDPNC, these findings suggest that, even after including FDI, importation, and exportation variables in our analysis, women who were less educated, the poor, and women from rural and unprivileged regions still had a lower likelihood of utilizing postnatal cares in Tanzania between 2010 and 2016 (hence, FDI, importation, and exportation contribute nothing to the usage of postnatal care).

Table 4: Before Discharge Postnatal Checkups in Tanzania, 2010–2016
n=12,159

Residence	0.62(0.05)***	0.63(0.05)***	0.63(0.05)***	0.63(0.05)***
Regions	0.93(0.07)	0.93(0.07)	0.93(0.07)	0.93(0.07)
Respondents' age	1.01(0)***	1.01(0)***	1.01(0)***	1.01(0)***
Respondent's occupation	0.76(0.07)**	0.76(0.07)**	0.76(0.07)**	0.76(0.07)**
Parity	0.56(0.04)***	0.56(0.04)***	0.56(0.04)***	0.56(0.04)***
Head of household sex	1.17(0.08)*	1.18(0.08)*	1.18(0.08)*	1.18(0.08)*
Education	0.61(0.05)***	0.64(0.05)***	0.64(0.05)***	0.64(0.05)***
Household wealth	0.81(0.02)***	0.81(0.02)***	0.81(0.02)***	0.81(0.02)***
FDI, net inflows (% of GDP)		0.94(0.02)***		
Importation (% of GDP)			0.98(0.01)***	
Exportation (% of GDP)				0.93(0.02)***
Y-Intercept	1.71(0.28)***	2.02(0.34)***	2.02(0.34)***	5.68(2.28)***

P-values are: *p<.05, **p<.01, ***p<.001.

Residential and Regional Divide in the Effect of Socio-Economic Status on Postnatal Care Utilization in Tanzania 2010–2016

Residence and socio-economic status interaction effects (residence*socio-economic status) were estimated to examine whether changes in the effect of socio-economic status on postnatal care are statistically significant across residences. These interaction effects were included in the models that had all predictors and mediators (world systems indicators). Findings suggested the significant residential divide in the effect of education on NPNC only. Here, differences in the likelihood of NPNC use for women with lower than secondary education and those with more than secondary levels of education were significantly greater/stronger in rural compared to urban areas between 2010–2016 (OR=1.54, SE=0.26, $p < .01$). Even though the stronger influence persisted for the wealth interaction on NPNC and regional variations, results were not statistically significant. Likewise, the stronger divide between residences and regions in the effect of socio-economic status on the usage of ADPNC was noted, but the results were not statistically significant. Results regarding BDPNC suggested non-significant weaker regional and residential variation in the effect of socio-economic status on the use of the care.

Discussion

Increased economic interdependence between peripheral and core countries is linked to poor maternal health outcomes and greater socioeconomic inequalities in the periphery. However, there is not enough research to understand the impact of this interdependence on maternal healthcare utilization in the global South. Existing studies lack documentation on the variations resulting from the core-periphery integrations, specifically in postnatal care.

This study found that foreign direct investment, importation, and exportation had a significant negative influence on postnatal care utilization in Tanzania between 2010–2016, consistent with

previous world systems theorists who have suggested insights that the capitalist world system is a primary source of inequality and hierarchy on a global scale with detrimental impacts (Moghadam 2023). Economic integration between peripheral nations and the core is generally not harmful to the well-being of people in the periphery; however, when the periphery becomes overly dependent on the core, this integration becomes disadvantageous (Burroway 2017). This is because multinational corporations investing or trading with underdeveloped nations do not reinvest their profits in periphery nations like Tanzania (Wimberley 1990).

Since the late 1980s, Tanzania has experienced a significant increase in economic integration with developed nations regarding services, goods, and capital. The Washington Consensus, which advocated for trade and economic liberalization, has prompted the country to welcome foreign investors and trade to spur development (Archibong, Coulibaly, and Okonjo-Iweala 2021). The government has placed its hopes on the promises of improved medical technologies and expertise, infrastructure development, and accessibility. Despite the benefits of Tanzania's integration into the capitalist world system, certain groups within the population are unfortunately at risk, particularly women (Beer and Boswell 2002; Hartmann et al. 2020). Women have been particularly affected, as they have been excluded from or less able to access the gendered world system, hindering the transition towards a more egalitarian gender regime globally (Shoola 2014).

In this light, it is impossible to separate socioeconomic inequality from the status and wellbeing of women when their nations are economically integrated to the core. This research found the persistent lower likelihood of marginalized, less educated, poor, rural, and those residing in unprivileged regions between 2010–2016 in utilizing postnatal care, even when the analysis was controlled for foreign investment, importation, and exportation. It has been observed that FDI and trade have not been effective in improving the socio-economic status of marginalized women (Wimberley 1990; Burroway 2017). This is concerning because socio-economic status is the root cause of health inequalities, particularly in maternal healthcare in Tanzania (Langa and Bhatta 2020). Tanzania has also faced ongoing issues with its foreign investors and traders' contracts. Many of these contracts are not favorable to Tanzania's interests, resulting in significant losses in taxation and revenue, for example, in the mining sector (Vis-Dunbar 2008; Scufield 2023). Reports have criticized contracts Tanzania enters for having more generous tax exemptions and loyalty rates and lack of transparency(Vis-Dunbar 2008; Scufield 2023). The lower the profit the country makes from investments and trade, the lower the investment in social services, including postnatal care.

Evidence from this study shows significantly stronger educational inequalities (differences between those with higher and lower) in the use of newborn postnatal care. This means that rural women with lower levels of education had a significantly lower likelihood of newborn postnatal care between 2010–2016, even after mediating this effect with foreign trade, importation, and exportation compared to their counterparts in urban areas. This also means that foreign investment, importation, and exportation do not help or solve newborn postnatal care access issues among rural disadvantaged women as compared to their urban counterparts. Even though the education-based inequalities in mothers' postnatal care were stronger between residences, the results were not

statistically significant. The non-significance of this finding may be attributed by other factors, including access to transportation, healthcare facilities, the lower quality of education offered, and cultural beliefs surrounding the postpartum period (Mohan et al. 2015; Langa 2022). The cultural norms of childbirth in Tanzania constrain a woman's movements outside her home for forty days after childbirth (Warren et al. 2006; Warren 2015; Söderbäck et al. 2023). This fact may inhibit her likelihood of utilizing postnatal care even if educated, hence polarizing the effects of education differences across residences in the country.

Generally, there has been a very minimal push regarding mother's postnatal care utilization among Tanzanian women (Pallangyo et al. 2017, 2018). Unlike antenatal care, skilled delivery care, and newborn and children care, which are highly prioritized and known in the country, very little is done toward the mother's postnatal care. Likewise, all other mentioned care is free of charge, except the mother's postnatal care (Langa 2022, 2023a, 2023b). Does foreign investment and trade contribute to this observation? Yes, it does. Scholars have noted that foreign investment and trade have contributed to undermining welfare policies that are not aligned with the interests of multinational corporations (De Groot 2014). Scholars have noted that this often leads to the incapacitation of the government's decision-making abilities and the allocation of resources for healthcare (Burroway 2017).

The privatization of healthcare in 1991 attracted foreign investors and traders who have built and provided private healthcare facilities in Tanzania (Beri Ruchita 2021; The Citizen Reporter 2023). This private health care ranges from pharmacies and dispensaries to corporate hospitals (Mackintosh et al. 2016). Unfortunately, these facilities do not prioritize affordable and accessible healthcare services for marginalized women (Binyaruka and Borghi 2022). This creates and reinforces inequalities in maternal healthcare, particularly along lines of region, residence, and socioeconomic status. It is likely that foreign investment and trade targeted at specific regions or areas worsens these socioeconomic inequalities because it prioritizes profits over accessible healthcare. For example, more health centers and hospitals are built in big cities like Dar es Salaam, while the neglected healthcare infrastructure in rural areas is less improved (Cowling 2024). In 2022, there was a total of 336 hospitals in Tanzania, with 53 of them concentrated in a single region (Dar es Salaam), followed by 20 in Mwanza and 21 in Kilimanjaro (Cowling 2024), which are still more urbanized. Understandably, an economic sector would concentrate this way, but such investments must include easy and affordable travel and accommodations for women who do not live in these urbanized areas.

Conclusion

This research sheds light on how global interdependence and interconnectedness affect peripheral countries' ability to maintain their citizens' health by reproducing social inequalities related to healthcare utilization. Moreover, it highlights the vulnerability of marginalized periphery women specifically, whether unprivileged, rural, uneducated, poor, or not. While this study only documented these changes in Tanzania, it highlights the disadvantages of the current foreign

investment and trade modes. It is not that Tanzania has the means to improve postnatal care use within the limits of its budget or that such foreign investments should end; instead, such investment must be reoriented to direct funds at the most vulnerable groups for two reasons: first, because maternal and newborn mortality are major markers of national wellbeing; and second, because people in more privileged, wealthier, and urban settings already have greater means for accessing of both mothers and newborns postnatal care generally. For for-profit investments, this surely means cutting into the "profit margin" in some way (or finding other ways to "cut corners" so that profit maximization still occurs); for humanitarian or not-for-profit investments, a commitment to policy redirection is needed.

The findings of this research are useful, particularly in this globalized world, as they can enable policymakers to draw on the salient features resulting from the interactions of geographical locations and socioeconomic status when crafting policies for increased postnatal care use. With this understanding, peripheral nations can also establish measures to combat health inequalities related to postnatal care use. Policymakers can better prioritize inclusive health policies that address the needs of underserved populations. This would have collateral benefits as well, such as improved access to cervical cancer tests and monitoring of HIV/AIDS (The United Republic of Tanzania 2011). When we advocate for postnatal care and maternal health generally, particular emphasis and priority should be given to rural, less-educated, poor, and geographically isolated populations of women.

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References

Al-Samarrai, S. and B. Reilly. 2000. “Urban and Rural Differences in Primary School Attendance: An Empirical Study for Tanzania.” *Journal of African Economies* 9(4): 430–74. doi: 10.1093/JAE/9.4.430.

Archibong, Belinda, Brahima Coulibaly, and Ngozi Okonjo-Iweala. 2021. “Washington Consensus Reforms and Lessons for Economic Performance in Sub-Saharan Africa.” *Journal of Economic Perspectives* 35(3): 133–56. doi: 10.1257/JEP.35.3.133.

Aziz, Samia, Abdul Basit, Saima Sultana, Caroline S. E. Homer, and Joshua P. Vogel. 2022. “Inequalities in Women’s Utilization of Postnatal Care Services in Bangladesh from 2004 to 2017.” *Scientific Reports 2022* 12(1): 1–11. doi: 10.1038/s41598-022-06672-z.

Bain, Luchuo Engelbert, Richard Gyan Aboagye, Robert Kokou Dowou, Eugene Justine Kongnyuy, Peter Memiah, and Hubert Amu. 2022. “Prevalence and Determinants of Maternal Healthcare Utilisation among Young Women in Sub-Saharan Africa: Cross-Sectional Analyses of Demographic and Health Survey Data.” *BMC Public Health* 22(1): 1–20. doi: 10.1186/S12889-022-13037-8/TABLES/4.

Beer, Linda and Terry Boswell. 2002. “The Resilience of Dependency Effects in Explaining Income Inequality in the Global Economy: A Cross-National Analysis, 1975–1995.” *Journal of World-Systems Research* 8(1): 30–59. doi: 10.5195/JWSR.2002.273.

Benova, Lenka, Onikepe Owolabi, Emma Radovich, Kerry L. M. Wong, David Macleod, Etienne V. Langlois, and Oona M. R. Campbell. 2019. “Provision of Postpartum Care to Women Giving Birth in Health Facilities in Sub-Saharan Africa: A Cross-Sectional Study Using Demographic and Health Survey Data from 33 Countries.” *PLOS Medicine* 16(10): e1002943. Doi: 10.1371/JOURNAL.PMED.1002943.

Beri, Ruchita. 2021. “India and Tanzania: Cooperation in Healthcare.” *Diplomatist*.

Binyaruka, Peter and Josephine Borghi. 2022. “An Equity Analysis on the Household Costs of Accessing and Utilising Maternal and Child Health Care Services in Tanzania.” *Health Economics Review* 12(1): 1–15. doi: 10.1186/S13561-022-00387-7/TABLES/9.

Boone, Catherine and Rebecca Simson. 2019. “Regional Inequalities in African Political Economy: Theory, Conceptualization and Measurement, and Political Effects Standard-Nutzungsbedingungen.” Working Paper Series, Department of International Development, London School of Economics and Political Science (LSE).

Braveman, Paula, Susan Egerter, and David R. Williams. 2011. “The Social Determinants of Health: Coming of Age.” *Annual Review of Public Health* 32(1): 381–98. doi: 10.1146/annurev-publhealth-031210-101218.

Burroway, Rebekah. 2017. "Political Economy, Capability Development, and Fundamental Cause: Integrating Perspectives on Child Health in Developing Countries." *Journal of World-Systems Research* 23(1): 62–92. doi: 10.5195/JWSR.2017.639.

Chase-Dunn, Christopher. 1999. "Globalization: A World-Systems Perspective." *Journal of World-Systems Research* 5(2): 186–215. doi: 10.5195/JWSR.1999.134.

Cotton, Cassandra. 2019. "Migration and Young Women's Access to Maternal Healthcare in Sub-Saharan Africa." *Health and Place* 55: 136–44. doi 10.1016/J.healthplace.2018.12.006.

Croft, Trevor N, Aileen M. J. Marshall, and Courtney K. Allen. 2018. *Guide to DHS Statistics DHS-7*. Rockville, Maryland.

Cowling, Natalie. 2024. "Number of Hospitals in Tanzania as of 2022, by Region." Retrieved August 13, 2024 https://www.statista.com/statistics/1297787/number-of-hospitals-in-tanzania-by-region/

Dey, Teesta, Sam Ononge, Andrew Weeks, and Lenka Benova. 2021. "Immediate Postnatal Care Following Childbirth in Ugandan Health Facilities: An Analysis of Demographic and Health Surveys between 2001 and 2016." *BMJ Global Health* 6(4): e004230. doi: 10.1136/BMJGH-2020-004230.

De Groot, Olaf. 2014. "Foreign Direct Investment and Welfare." Desarrollo Productivo 37137, Naciones Unidas Comisión Económica para América Latina y el Caribe (CEPAL).

Freeman, Orville L. 1981. *The Multinational Company: Investment for World Growth*. New York: Praeger.

Hankivsky, Olena. 2012. "Women's Health, Men's Health, and Gender and Health: Implications of Intersectionality." *Social Science and Medicine* 74(11): 1712–20. doi: 10.1016/j.socscimed.2011.11.029.

Hartmann, Dominik, Mayra Bezerra, Beatrice Lodolo, and Flávio L. Pinheiro. 2020. "International Trade, Development Traps, and the Core-Periphery Structure of Income Inequality." *EconomiA* 21(2): 255–78. doi: 10.1016/j.econ.2019.09.001.

ICF. 2022. "The DHS Program." Retrieved January 28, 2022 (https://www.dhsprogram.com/).

Idris, Haerawati and Willyana Syafriyanti. 2021. "Determinants of Postnatal Care Service Utilization in Indonesia: A Secondary Analysis Using the Indonesian Health and Demographics Survey." Makara Journal of Health Research 25(1): 7. doi: 10.7454/msk.v25i1.1260

Iqbal, Sarosh, Sidra Maqsood, Rubeena Zakar, Muhammad Zakria Zakar, and Florian Fischer. 2017. "Continuum of Care in Maternal, Newborn and Child Health in Pakistan: Analysis of Trends and Determinants from 2006 to 2012." *BMC Health Services Research* 17(1): 1–15. doi: 10.1186/S12913-017-2111-9/TABLES/6.

Iqbal, Sarosh, Rubeena Zakar, and Florian Fischer. 2006. "Trend Analysis of Multi-Level Determinants of Maternal and Newborn Postnatal Care Utilization in Pakistan from 2006 to 2018." *BMC Health Services Research* 23(642): 1–25. doi: 10.21203/rs.3.rs-1981941/v1.

Kanté, Almamy M., Christine E. Chung, Anna M. Larsen, Amon Exavery, Kassimu Tani, and James F. Phillips. 2015. "Factors Associated with Compliance with the Recommended Frequency of Postnatal Care Services in Three Rural Districts of Tanzania." *BMC Pregnancy and Childbirth* 15(1): 1–10. doi: 10.1186/S12884-015-0769-8/TABLES/3.

Kissa, Hadija I. 2015. "Influence of Cultural Beliefs on the Use of Postnatal Care Services in Tanzania: A Case of Dodoma Urban District." MA Dissertation, Department of Sociology, University of Dodoma.

Konje, Eveline Thobias, Moke Tito Nyambita Magoma, Jennifer Hatfield, Susan Kuhn, Reginald S. Sauve, and Deborah Margret Dewey. 2018. "Missed Opportunities in Antenatal Care for Improving the Health of Pregnant Women and Newborns in Geita District, Northwest Tanzania." *BMC Pregnancy and Childbirth 2018* 18(1): 1–13. doi: 10.1186/S12884-018-2014-8.

Krishnamoorthy, Yuvaraj and Marie Gilbert Majella. 2021. "Determinants of Postnatal Care Coverage among Mothers and New-Borns in India: Evidence from a Nationally Representative Survey." *The International Journal of Health Planning and Management* 36(4): 1276–86. doi: 10.1002/HPM.3179.

Langa, Neema. 2022. "Historical Patterns of Regional, Residential, and Socioeconomic Inequities in the Utilization of Maternal Health Care in Tanzania, East Africa." PhD dissertation, Department of Sociology, University of Nevada, Las Vegas. Doi: 10.34917/31813310.

______. 2023a. "Dependency Theory: An Evaluation of the Period-Based Changes in the Utilization of Maternal Health Care and Neonatal Mortality in Tanzania Between 1991 and 2016." *International Journal of Social Determinants of Health and Health Services* 53(2): 183–94. doi: 10.1177/27551938231156033.

______. 2023b. "Intersectionality and Dependency Lenses in Neonatal Mortality: Evidence of Regional, Residential, and Socioeconomic Inequalities from Post-Colonial Tanzania, 1991–2016." *Sociological Perspectives* 66(4). doi https://doi.org/10.1177/07311214231167172.

______. 2024. "Examining the Period-Based Changes in the Effect of Socioeconomic Status in Maternal Healthcare Utilization Across Regional and Residential Contexts in Postcolonial Tanzania (1991–2016)." *Sociological Focus* 57(3): 394–413. doi:10.1080/00380237.2024.2354450.

Langa, Neema and Tirth Bhatta. 2020. “The Rural-Urban Divide in Tanzania: Residential Context and Socioeconomic Inequalities in Maternal Health Care Utilization,” edited by J. Amo-Adjei. *PLOS ONE* 15(11): 1–18. Doi: 10.1371/journal.pone.0241746.

Langa, Neema, Tirth Bhatta, and Ann Amuta. 2023. “Intersecting Upstream Factors: Inequities in Cervical Cancer Screening in Malawi.” *Women's Reproductive Health* 255–272. doi: 10.1080/23293691.2023.2229308.

Link, B. G. and J. Phelan. 1995. “Social Conditions as Fundamental Causes of Disease.” *Journal of Health and Social Behavior* Extra Issue: 80–94.

Lloyd Bank. 2023. “Foreign Direct Investment (FDI) in Tanzania.” Retrieved August 13, 2024 https://www.lloydsbanktrade.com/en/market-potential/tanzania/investment

Mackintosh, Maureen, Amos Channon, Anup Karan, Sakthivel Selvaraj, Eleonora Cavagnero, and Hongwen Zhao. 2016. “What is the Private Sector? Understanding Private Provision in the Health Systems of Low-Income and Middle-Income Countries.” *The Lancet* 388(10044): 596–605. doi: 10.1016/S0140-6736(16)00342-1.

Magadi, Monica A. and Siân L. Curtis. 2003. “Trends and Determinants of Contraceptive Method Choice in Kenya.” *Studies in Family Planning* 34(3): 149–59. doi: 10.1111/J.1728-4465.2003.00149.X.

Magadi, Monica Akinyi, Alfred O. Agwanda, and Francis O. Obare. 2007. “A Comparative Analysis of the Use of Maternal Health Services between Teenagers and Older Mothers in Sub-Saharan Africa: Evidence from Demographic and Health Surveys (DHS).” *Social Science and Medicine* 64(6): 1311–25. doi: 10.1016/J.SOCSCIMED.2006.11.004.

Magadi, Monica Akinyi, Eliya Msiyaphazi Zulu, and Martin Brockerhoff. 2003. “The Inequality of Maternal Health Care in Urban Sub-Saharan Africa in the 1990s.” *Population Studies* 57(3): 347–66. doi: 10.1080/0032472032000137853.

Makate, Marshall and Clifton Makate. 2017. “The Evolution of Socioeconomic Status-Related Inequalities in Maternal Health Care Utilization: Evidence from Zimbabwe, 1994–2011.” *Global Health Research and Policy* 2(1). doi: 10.1186/S41256-016-0021-8.

Maliti, Emmanuel. 2016. “Horizontal Inequality in Education and Wealth in Tanzania: A 20-Year Perspective”, WIDER Working Paper 2016/114 Helsinki: UNU-WIDER. https://doi.org/10.35188/UNU-WIDER/2016/158-1

______. 2019. “Inequality in Education and Wealth in Tanzania: A 25-Year Perspective.” *Social Indicators Research* 145(3): 901–21. doi: 10.1007/s11205-018-1838-y.

Martínez-Vela, Carlos A. 2001. *World Systems Theory*. Retrieved August 13, 2024 https://web.mit.edu/esd.83/www/notebook/WorldSystem.pdf

Mekonnen, Tensae, Tinashe Dune, Janette Perz, and Felix Akpojene Ogbo. 2020. “Postnatal Care Service Utilisation in Ethiopia: Reflecting on 20 Years of Demographic and Health

Survey Data." *International Journal of Environmental Research and Public Health 2021* 18(1): 193. doi: 10.3390/IJERPH18010193.

Ministry of Foreign Affairs and East African Cooperation. 2023. "Opportunities for Investments in Tanzania." Retrieved August 13, 2024 https://www.foreign.go.tz/services/opportunities-for-investment-in-tanzania

Ministry of Health, Community Development, Gender, and Elderly and Children. 2016. "The National Road Map Strategic Plan to Improve Reproductive, Maternal, Newborn, Child and Adolescent Health in Tanzania (2016–2020)." Dar es Salaam.

Moghadam, Valentine M. 2023. "Gender Regimes, Polities, and the World-System: Comparing Iran and Tunisia." *Women's Studies International Forum* 98: 102721. Doi: 10.1016/J.WSIF.2023.102721.

Mohan, Diwakar, Shivam Gupta, Amnesty LeFevre, Eva Bazant, Japhet Killewo, and Abdullah H. Baqui. 2015. "Determinants of Postnatal Care Use at Health Facilities in Rural Tanzania: Multilevel Analysis of a Household Survey." *BMC Pregnancy and Childbirth* 15. doi: 10.1186/S12884-015-0717-7.

Mohanty, Chandra Talpade. 1984. "Under Western Eyes: Feminist Scholarship and Colonial Discourses." *Boundary 2* 12(3): 333. doi: 10.2307/302821.

______. 1988. "Under Western Eyes: Feminist Scholarship and Colonial Discourses." *Feminist Review* 30(1): 61–88. doi: 10.1057/FR.1988.42.

MoHSW. 2008. *The National Road Map Strategic Plan to Accelerate Reduction of Maternal, Newborn and Child Deaths in Tanzania 2008–2015.* Dar es Salaam.

Moore, Spencer. 2006. "Peripherality, Income Inequality, and Life Expectancy: Revisiting the Income Inequality Hypothesis." *International Journal of Epidemiology* 35(3): 623–32. Doi: 10.1093/IJE/DYL026.

Moore, Spencer, Ana C. Teixeira, and Alan Shiell. 2006. "The Health of Nations in a Global Context: Trade, Global Stratification, and Infant Mortality Rates." *Social Science & Medicine (1982)* 63(1): 165–78. doi: 10.1016/J.SOCSCIMED.2005.12.009.

Msemwa, Neema Samwel. 2021. "Factors Affecting Utilization of Postnatal Care Services among Postnatal Women in Dodoma Region, Tanzania." MSc Dissertation, University of Dodoma, Dodoma.

Muirhead, Vanessa, Adrienne Milner, Ruth Freeman, Janine Doughty, and Mary Ellen Macdonald. 2020. "What Is Intersectionality and Why Is It Important in Oral Health Research?" *Community Dentistry and Oral Epidemiology* 48(6): 464–70. doi: 10.1111/CDOE.12573.

Ndugga, Patricia, Noor Kassim Namiyonga, and Deogratious Sebuwufu. 2020. "Determinants of Early Postnatal Care Attendance: Analysis of the 2016 Uganda Demographic and Health

Survey." *BMC Pregnancy and Childbirth* 20(1): 1–14. doi: 10.1186/S12884-020-02866-3/TABLES/3.

Onukwugha, Franklin I., Monica A. Magadi, Ahmed M. Sarki, and Lesley Smith. 2020. "Trends in and Predictors of Pregnancy Termination among 15–24 Year-Old Women in Nigeria: A Multi-Level Analysis of Demographic and Health Surveys 2003–2018." *BMC Pregnancy and Childbirth* 20(1): 1–13. doi: 10.1186/S12884-020-03164-8/FIGURES/2.

Osorio, Martha, Monica Percic, and Federica Di Battista. 2014. *Gender Inequalities in Rural Employment in Tanzania an Overview Gender Inequalities in Rural Employment in Tanzania Mainland: An Overview*. Rome.

Oyěwùmí, Oyèrónkẹ́. 1997. *The Invention of Women: Making an African Sense of Western Gender Discourses*. Minneapolis: University of Minnesota Press.

Pallangyo, E., C. Mbekenga, P. Olsson, L. Eriksson, and A. Bergström. 2018. "Implementation of a Facilitation Intervention to Improve Postpartum Care in a Low-Resource Suburb of Dar Es Salaam, Tanzania." *Implementation Science: IS* 13(1). Doi: 10.1186/S13012-018-0794-X.

Pallangyo, Eunice N., Columba Mbekenga, Carina Källestål, Christine Rubertsson, and Pia Olsson. 2017. "'If Really We Are Committed Things Can Change, Starting from Us': Healthcare Providers' Perceptions of Postpartum Care and Its Potential for Improvement in Low-Income Suburbs in Dar Es Salaam, Tanzania." *Sexual & Reproductive Healthcare* 11: 7–12. doi: 10.1016/J.SRHC.2016.09.001.

Panga, Rehema and Idda H. Mosha. 2022. "Early Postnatal Care Attendance among Postnatal Women in Ubungo Municipal Council, Dar Es Salaam, Tanzania: A Qualitative Study." *Research Square*. doi: 10.21203/rs.3.rs-2151531/v1.

Rajan, Rajeswari Sunder and You-me Park. 2005. "Postcolonial Feminism/Postcolonialism and Feminism." Pp. 53–71 in *A Companion to Postcolonial Studies*, edited by H. Schwarz and S. Ray. Malden: Blackwell Publishing.

Samra, Rajvinder, and Olena Hankivsky. 2021. "Adopting an Intersectionality Framework to Address Power and Equity in Medicine." *The Lancet* 397(10277): 857–59. doi: 10.1016/S0140-6736(20)32513-7.

Schrecker, Ted. 2019. "Globalization and Health: Political Grand Challenges." *Review of International Political Economy* 27(1): 26–47. doi: 10.1080/09692290.2019.1607768.

Scott, Frey R. and Cui Wanjun. 2016. "Infant Mortality in the World-System." *Journal of Globalization Studies* 7(1): 47–55.

Scufield, Thomas. 2023. "Equitable Sharing of Mining Profits: The Best Deal for Tanzania?" *National Resource Governance Institute*.

Shen, Ce and John B. Williamson. 1997. "Child Mortality, Women's Status, Economic Dependency, and State Strength: A Cross-National Study of Less Developed Countries." *Social Forces* 76(2): 667–94. doi: 10.2307/2580728.

______. 1999. "Maternal Mortality, Women's Status, and Economic Dependency in Less Developed Countries: A Cross-National Analysis." *Social Science and Medicine* 49(2): 197–214. doi: 10.1016/S0277-9536(99)00112-4.

______. 2001. "Accounting for Cross-National Differences in Infant Mortality Decline (1965–1991) among Less Developed Countries: Effects of Women's Status, Economic Dependency, and State Strength." *Social Indicators Research* 53(3): 257–88. doi: 10.1023/A:1007190612314/METRICS.

Shoola, Toni. 2014. "The Effect of the Sub-Saharan African Gender Divide on the Rights and Status of Women in a Globalized World." *International Research Scape Journal* 1(1): 7. doi: https://doi.org/10.25035/irj.01.01.07.

Söderbäck, Kristina, Herborg Holter, Sanura Abdulla Salim, Helen Elden, and Malin Bogren. 2023. "Barriers to Using Postpartum Family Planning among Women in Zanzibar, Tanzania." *BMC Women's Health* 23(1). doi: 10.1186/S12905-023-02330-2.

Sserwanja, Quraish, Lilian Nuwabaine, Kassim Kamara, and Milton W. Musaba. 2022. "Prevalence and Factors Associated with Utilisation of Postnatal Care in Sierra Leone: A 2019 National Survey." *BMC Public Health* 22(1): 1–10. doi: 10.1186/S12889-022-12494-5/TABLES/3.

Stephenson, Rob, Angela Baschieri, Steve Clements, Monique Hennink, and Nyovani Madise. 2006. "Contextual Influences on the Use of Health Facilities for Childbirth in Africa." *American Journal of Public Health* 96(1): 84–93. doi: 10.2105/AJPH.2004.057422.

Tessema, Zemenu Tadesse, Lake Yazachew, Getayeneh Antehunegn Tesema, and Achamyeleh Birhanu Teshale. 2020. "Determinants of Postnatal Care Utilization in Sub-Saharan Africa: A Meta and Multilevel Analysis of Data from 36 Sub-Saharan Countries." *Italian Journal of Pediatrics* 46(1): 1–11. doi: 10.1186/S13052-020-00944-Y/TABLES/3.

Tesema, Getayeneh Antehunegn, Beminate Lemma Seifu, Zemenu Tadesse Tessema, Misganaw Gebrie Worku, and Achamyeleh Birhanu Teshale. 2022. "Incidence of Infant Mortality and Its Predictors in East Africa Using Gompertz Gamma Shared Frailty Model." *Archives of Public Health* 80(195). doi: https://doi.org/10.1186/s13690-022-00955-7.

The Citizen Reporter. 2023. "Indian Hospital to Open Coordination Centre in Tanzania." *The Citizen*.

The DHS Program. 2020. "Using Datasets for Analysis." Retrieved May 4, 2020 https://www.dhsprogram.com/data/Using-DataSets-for-Analysis.cfm#CP_JUMP_14042

The United Republic of Tanzania. 2011. *National Postpartum Care Guidelines*. Dar es Salaam.

The World Bank. 2024a. "Data Bank." Retrieved January 9, 2024 https://databank.worldbank.org/

______. 2024b. "World Development Indicators." Retrieved September 30, 2024 https://datatopics.worldbank.org/world-development-indicators/

UNICEF. 2016. *Tanzania Maternal and Newborn Health Disparities*. Dar es Salaam.

United Nations Conference on Trade and Development. 2022. *World Investment Report 2022: International Tax Reforms and Sustainable Investment*. New York.

Vis-Dunbar, Damon. 2008. "Report Says Tanzania is Signing Bad Deals with Foreign Mining Companies – Investment Treaty News." *Investment Treaty News*.

Wallerstein, Immanuel. 2000. *The Essential Wallerstein.* New York: The New York Press.

______. 2004. *World-Systems Analysis: An Introduction*. Durham and London: Duke University Press.

Warren, Charlotte. 2015. "Exploring the Quality and Effect of Comprehensive Postnatal Care Models in East and Southern Africa." https://api.semanticscholar.org/CorpusID:74454348

Warren, Charlotte, Pat Daly, Lalla Toure, and Pyande Mongi. 2006. "Postnatal Care." *Opportunities for Africa's Newborns: Practical Data, Policy and Programmatic Support for Newborn Care in Africa*, 79–90.

Wimberley, D. W. 1990. "Investment Dependence and Alternative Explanations of Third World Mortality: A Cross-National Study." *American Sociological Review* 55(1): 75–91. doi: 10.2307/2095704.

World Bank. 2023. "Foreign Direct Investment, Net Inflows (BoP, Current US$) - Tanzania."

World Health Organization. 2023. "Maternal Mortality." Retrieved March 14, 2024 https://www.who.int/news-room/fact-sheets/detail/maternal-mortality

Yadav, Arvind Kumar, Bhavna Sahni, Pabitra Kumar Jena, Dinesh Kumar, and Kiran Bala. 2020. "Trends, Differentials, and Social Determinants of Maternal Health Care Services Utilization in Rural India: An Analysis from Pooled Data." *Women's Health Reports* 1(1): 179–89. doi: 10.1089/WHR.2019.0022/asset/images/large/whr.2019.0022_figure1.jpeg.

Yaya, Sanni, Olalekan A. Uthman, Ghose Bishwajit, and Michael Ekholuenetale. 2019. "Maternal Health Care Service Utilization in Post-War Liberia: Analysis of Nationally Representative Cross-Sectional Household Surveys." *BMC Public Health* 19(1): 1–12. doi: 10.1186/S12889-018-6365-X/TABLES/3.

York, Richard and Christina Ergas. 2011. "Women's Status and World-System Position: An Exploratory Analysis." *Journal of World-Systems Research* 17(1): 147–64. doi: 10.5195/JWSR.2011.424.