MASTER OF PUBLIC POLICY
CAPSTONE PROJECT

The State of Infant and Under 5 Mortality in The Gambia: A Socioeconomic Perspective to Child Survival.

Submitted by:

Isatou Njai

Approved by Supervisor:

Dr. Kevin McQuillan
September 10, 2019.

Submitted in fulfillment of the requirements of PPOL 623 and completion of the requirements for the Master of Public Policy degree.

THE SCHOOL OF PUBLIC POLICY

UNIVERSITY OF CALGARY

Capstone Approval Page

The undersigned, being the Capstone Project Supervisor, declares that

Student Name: Isatou Njai

has successfully completed the Capstone Project within the

Capstone Course PPOL 623 A&B

Dr. Kevin McQuillan

(Name of supervisor)

Signature

(Supervisor's signature)

September 10 2019

(Date)

Acknowledgements

I take this opportunity to extend my appreciation to my Academic Director and supervisor, Dr. Kevin McQuillan for listening and providing me with useful guidance and direction, comments and engagement throughout the learning process of my capstone. I would also like to thank the School of Public Policy and staff for creating a child-friendly environment that made it possible for me to complete my masters programme while caring for my infant. All of my professors and classmates were very accommodating, understanding and supportive. I would like to thank the Canadian Bureau for International Education (CBIE) for giving me the opportunity to acquire a masters degree at Canada's leading School of public policy. Lastly, I extend my gratitude to Anne Marie Harrison who welcomed me into Canada and supported me through the year. I am grateful to my husband and my family who stood by me and gave me the courage to take a break from family responsibilities in order to accomplish this achievement.

Table of Contents

Table of Contents

Capstone Executive Summary

Health is a major driver of economic growth and productivity in both developed and developing countries. Research shows that providing opportunities for access to health and reproductive services together with good nutrition can positively impact society's welfare (Onarheim, et al, 2016). This is fundamental to the survival of women and children, especially in developing countries, where the absence of good health care can have an adverse impact on their overall wellbeing.

Infant mortality, the death of a child before his or her first birthday, and under 5 deaths are some of the adverse consequences of poor health and nutrition care. Their prevalence in Sub-Saharan Africa, particularly The Gambia are critical to development. In 2017 alone, WHO estimated more than 4 million deaths among children under 5 and highlighted that for children in Africa (51 per 1000 live births), the rates are up to six times higher than for children in Europe at 8 per 1000 live births (World Health Organisation, 2019).

In The Gambia, much like the rest of Africa, the causes of child death are numerous, interrelated, and complex. Disease, malnutrition, food insecurity and poverty, are among the most prominent. An examination of Gambia's most recent demographic health survey shows strong correlations between poverty, and infant and under 5 mortality. Shockingly, there is negligible difference between the lowest wealth group and the second and third, but a significant gap between the wealthiest and the other categories. This suggests the absence of a middle class.

The picture illustrated by the DHS data shows that age is a critical determining factor in children's survival. Babies born to mothers under the age of 20 have reduced chances of celebrating their fifth birthday. The impact of child marriage on child deaths creates a major cultural and, in some cases, religious challenge for policy makers.

Data also demonstrates differences in prevalence by location (urban versus rural communities) and the sex of the baby, with boys most at risk. Interestingly, rates are also different for communities within rural Gambia. For instance, children born in Kuntaur, Basse and Mansokonko are more vulnerable than children in other parts of rural Gambia. In addition to high infant and under 5 mortality rates, these communities also have the highest rates of malnutrition and hunger, leading to a multitude of challenges for children and their families to survive.

Malnutrition is a major contributing factor. Its most severe forms – stunting and wasting - are more prevalent among poor households in The Gambia. Up to 50 percent of children under 5 were found to be anemic by the 2018 micronutrient survey, approximately 56 percent of pregnant women are anemic and up to 50 of non-pregnant women are also anemic.

Education is critical. While a mother's level of education, especially at a secondary level, seems to affect the levels of mortality positively, data shows that very few women in affected communities have access to secondary education. The study proposes a viable and affordable policy solution, which is to invest in reproductive health education at the primary level combined

with nutrition education. This will help raise awareness, improve girls' knowledge on health and nutrition, and have a positive and lasting impact.

The country has made significant progress since the 1990s. Access to immunization is free with more than 90 percent coverage and almost all babies are breastfed. Policy shifts such as the 2016 ban on female genital mutilation and child marriage will also contribute positively to children's chances of survival and reduce the health risk for both women and children.

Although health care is the primary responsibility of the government, infant and under 5 mortality are addressed by a multitude of stakeholders including local and international NGOs, as well as United Nations agencies. However, the government's unsustainable public debt and reliance on donor funding limit its ability to provide the resources and technical capacity required to ensure that women in all parts of the country have access to basic health care and emergency care during labour and delivery.

Introduction

Many children around the globe have a chance of surviving to celebrate their fifth birthdays today than they did almost three decades ago. The world has made significant progress in reducing infant and under 5 mortality rates. Worldwide, the Infant Mortality Rate (IMR) has dropped from approximately 65 deaths per 1000 live births in1990 to 29 deaths per 1000 live births in 2017 (WHO, 2019). While this progress is worthy of recognition, researchers are concerned that millions of children are still at risk. A majority of these babies live in sub-Saharan Africa, where almost half of the global deaths among children take place and most of these deaths occur within the first year of life (WHO, 2019).

Infant and under 5 mortality are important indicators of a population's health. This is because the first 1000 days from pregnancy to a child's second birthday are a critical foundation that determines his or her ability to survive, to live a healthy life, learn and be a productive member of society (UNICEF, 2017). It is also a common measure of vulnerability. As a result, all governments, collectively and individually, have made commitments to tackle both infant and under 5 mortality through global and national strategies. The Millennium Development Goals (MDGs) and now the Sustainable Development Goals (SDGs) outline targets that countries aim to reach. These targets have become more results based to promote better outcomes. For example, while MDG 4 targeted a two-thirds proportional reduction in child mortality between 1990 and 2015, SDG 3 seeks to reduce mortality with specific targets for infant mortality (12/1,000 live births) and under 5 mortality rates (25/1,000 live births) and the elimination of avoidable child deaths between birth and five years by 2030 (Li, et al, 2019).

This study focuses on the prevalence and trends of infant and under 5 mortality in The Gambia within the context of sub-Saharan Africa. It relies on secondary data and reviews the evidence presented in the Demographic Health survey (DHS) database, the World Bank child mortality database, and UNICEF and World Health Organisation (WHO) databases. It goes further to review the Human Development Index (HDI) profiles of Sub-Saharan African countries through United Nations Development Programme's (UNDP) HDI portal to assess the standard of living in the region and its potential impact on infant and under 5 mortality in Africa. For The Gambia, the 2013 DHS is utilized in addition to the 2010 Multiple Indicator Cluster Survey (MICS).

To better understand the multidimensional nature of the causes of infant and under 5 mortality, the paper presents the country context highlighting the economic, political, environmental and geographical situation. Additionally, cultural practices, food taboos and misconceptions around nutrition and how they affect the health status of women and children are also examined. This is because studies have generally pointed to a combination of causes including the overall health and nutrition or malnutrition status of a mother and/or child, household income, level of education, access to health care, cultural practices and the environment. This analysis is followed by some of the existing challenges in The Gambiaand a discussion of possible policy solutions.

Country Context

Geography

In sub-Saharan Africa, on the west coast, a finger-like demarcation on the map of Africa shows one of the smallest countries in the world - The Gambia. With an estimated population of 2.3 million (World Population Review, 2019), the country is named after the river Gambia, which runs right through its 11,295 kilometers square, and is approximately 1,300 square kilometres (500 square miles) covered by water. This is primarily why the country is officially referred to as The Gambia, and not just Gambia. Historians also claim that at the time of independence, officials maintained The Gambia to avoid confusion with Zambia, a country in the Southern part of Africa. In this capstone, both Gambia and The Gambia will be used interchangeably.

Politics

Although normally referred to as a democratic country, The Gambia has had only three presidents since independence in 1965. Three decades under Sir Dawda Jawara, the first president, twenty-two years under the brutal dictator, Yahya Jammeh followed by three years of transition under the current coalition government led by President Adama Barrow. Until recently, opposition parties have been quite dormant. For the first time, in 2017, parliamentary elections saw an absolute majority for United Democratic Party (UDP), former President Jammeh's main opposition, with 31 seats in the National Assembly made up of 53 members. The former ruling Alliance for Patriotic Reorientation and Construction (APRC) party under Jammeh secured only five seats. In the local elections of May 2018, 62 of the 120 seats went to the UDP and 18 to the APRC, making it the new main opposition party. Jammeh was exiled to Equatorial Guinea, following his loss. The country remains fragile with frequent tensions between Jammeh's sympathizers and members of his ethnic group, the Jolas, against other Gambians who seek justice for the human rights abuses under the former dictator's rule. In his last attempts to hold onto power, Jammeh campaigned on ethnic grounds. The Barrow Administration has commissioned a Truth and Reconciliation and Reparation Commission to address the injustices.

Economy

The Gambia's economy relies on subsistence, rain-fed agriculture, tourism and remittances. Since 2011, it has experienced a series of climate-related shocks, including floods and crop failures, leading to a food security crisis especially in the rural parts of the country. An estimated 5.1 percent of the population is considered food insecure (World Food Programme, 2016). In addition, the Ebola crisis in neighbouring Guinea, Liberia and Sierra Leone (2014-2016) drastically reduced the influx of tourists and consequently affected the economy during this period. The International Monetary Fund (IMF) and World Bank estimated real gross domestic product (GDP) growth at 6.6% in 2018 (from 4.6% in 2017), as a result of recovery in tourism and trade, and other sectors (World Bank Group, 2019). Tourism peaked again significantly following the EBOLA pandemic and increased by 26% in 2018 compared to 2017 (World Bank Group, 2019). However, the country has an unsustainable public debt of 120 percent of GDP ($ US 1 billion), which continues to limit the government's fiscal capacity to invest in critical sectors including health, education and agriculture. Female participation in the labour market is 51.2 percent compared to 67.7 for men (UNDP, 2018).

Socioeconomic Factors

According to the United Nations Development Programme (UNDP), The Gambia's 2017 Human Development Index (HDI) value is 0.460, ranking 174 out of 189 countries and territories.

This places Gambia within the low human development category like many other African nations. From 1990 to 2017, Gambia's HDI value increased by 38.2 percent (UNDP, 2018). Poverty remains common and a challenge with at least 48 percent of households living below the poverty line of $1.25 a day (Gambia Government, 2017). Rural communities are disproportionately affected. The 2013 DHS shows that rural households are in the bottom quintile of the country's wealth index, have lower rates of educational achievement, no health care coverage, higher fertility rates and are at risk of food and nutrition security (Gambia Bureau of Statistics, ICF International, 2014).

With an annual population growth rate of 3.3 percent (Gambia Government, 2014), Gambia has a high total fertility rate of 5.6 births per woman (Gambia Government, 2014) which has resulted in a youthful population. Close to 44 percent of the population is below 15 years of age, 19 percent are between the ages of 15 and 24 years and only 3.4 percent of the population, are aged 65 and above (Gambia Government, 2014). With a very youthful population, the government is also dealing with an illegal migration crisis that is fueled by the socioeconomic state of the country. Gambia was among the top five contributors of illegal migrants to Europe in 2016 with up to 0.5 percent of the Gambian population arriving in Italy every year compared to 0.04 percent of other West African countries (Hunt, 2017).

The country achieved gender parity in education after many years of male dominance, thanks to a policy on free education for girls at the primary level. Mean years of schooling increased by 2.3 years and expected years of schooling increased by 4.1 years (Gambia Government, 2014). While the gross enrolment rate of primary education was an estimated 104 percent, up to 187,000 children (22 per cent of school-age children) are still either out of school or at risk of dropping out (Gambia Government, 2014). Overall, improvements in access to education were registered at primary level and not secondary. Also, many researchers have highlighted that the quality requires attention.

With some registered improvements, such as increased rates of immunization and a reduction in the prevalence of stunting and underweight (NaNA, UNICEF, GBOS, GroundWork, 2019), The Gambia, like many developing countries in sub-Saharan Africa, faces health challenges. These include the prevalence of iron deficiency in children, malnutrition and other forms of micronutrient deficiencies, especially in poor and rural communities. "Increasing morbidity and mortality, deterioration of physical infrastructure, inadequate medical supplies and equipment, shortage of adequately trained health personnel, high attrition rate, as well as, inadequate referral system" are challenges that were highlighted by the ministry of health in the current National Health Strategic Plan, 2014 – 2020 (Gambia Government, 2014).

Infant Mortality Trends and Levels.

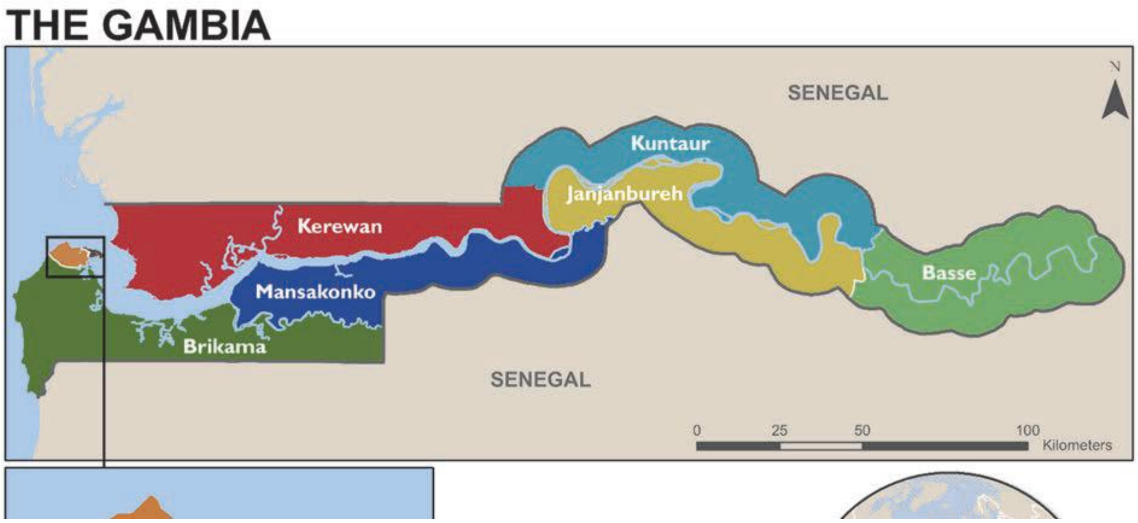
Significant progress has been in improving children's survival worldwide. About 1 in 26 children under the age of 5 died in 2017, compared to 1 in 11 in 1990 (UNICEF, 2018). Despite the global decrease in the number of child deaths, the world saw an estimated 5.4 million children die in 2017 alone. These were children who did not live to celebrate their fifth birthdays (UNICEF, 2018). Approximately half of the 5 million (2.5 million), that is, 47 percent are babies who did not make it past their first month of life (UNICEF, 2018).

Both the demographic health survey and the Multiple Indicator Cluster Survey (MICS) 2010 show a similar trend in The Gambia. The IMR has declined – from 50 deaths per 1000 live births to 34 within a fifteen-year period (GBOS, 2011). This is a significant improvement. Both the MICS and the DHS data show a decline from 81 deaths per 1000 live births to 34 deaths

(GBOS, ICF International, 2014). The overall reduction demonstrated is consistent with findings of independent surveys that were conducted by UNICEF during the same. The data shows that child mortality is more prevalent among children between the ages of 2 and 5, unlike the trends in other parts of the world where studies have found that the risk of dying within the first month of life is higher at 18 deaths per 1000 live births, compared to the risk of dying within the remainder of the first year at 12 deaths per 1,000 and this rate decreases as children grow older (UNICEF, 2018). For example, while the IMR is at 34 deaths per 1000 live births, under 5 mortality is at 54 deaths per 1000 live births (GBOS, ICF International, 2014) despite a higher reduction in under 5 deaths.

One of the most significant findings for the government and policy makers is that both the DHS and MICS reveal averages that differ widely by location, suggesting a higher prevalence in rural communities compared to urban areas. Both infant and under 5 mortality rates are higher in rural Gambia, although the differences are negligible among the neonatal and postnatal categories. The difference is more prominent among children aged 1 to 5, where the urban rate is 53 per 1000 live births versus the rural rate of 69. The urban-rural differences are not new challenges that Gambians face. Studies have repeatedly found disparities between urban and rural communities in terms of educational outcomes, malnutrition rates, food insecurity and overall health status amongst others.

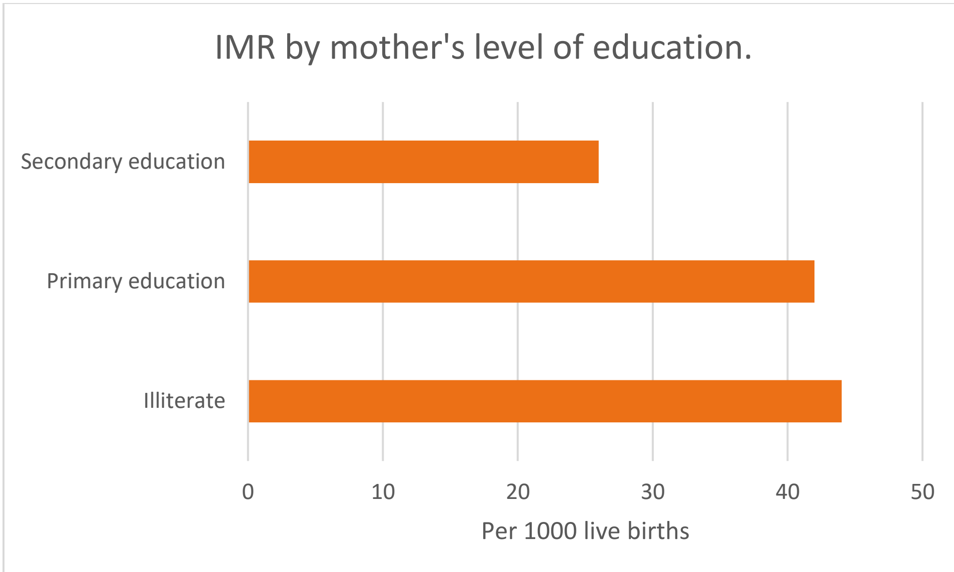
A closer look at geographical differences reveals that even at the rural level, there are significant disparities. Three Local Government Areas (LGAs) namely, Basse (92 per 1000), followed by Kuntaur (70 per 1000) and Mansakonko (63 per 1000) respectively, have higher rates when compared to other LGAs and overall have rates higher than the national average. Below is the map of The Gambia for illustration:



Source: The Gambia Demographic Health Survey 2013.

Basse is represented by the area shaded light green on the tail end of the map (right). Kuntaur is light blue close to Senegal top of the map, while Mansakonko is in the middle of the country in dark blue. All of these communities are vulnerable not just to infant mortality but also have the highest rates of food insecurity, malnutrition and Female Genital Mutilation (GBOS, 2011).

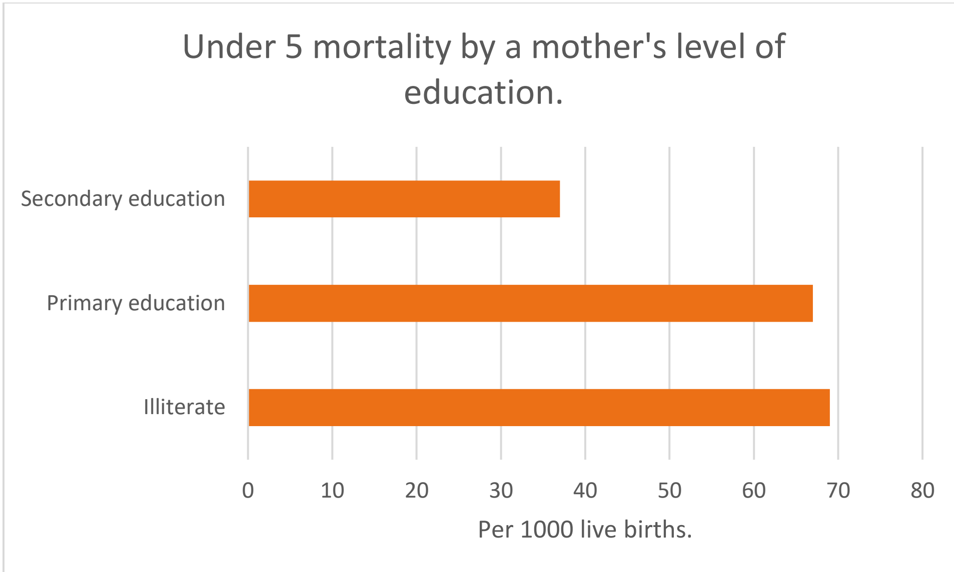
The data presented in the DHS and MICS measured infant mortality by demographic characteristics of both mother and child. Mortality among babies and children under 5 fluctuate depending on the level of education attained by the mother. Children whose mothers acquired secondary education have higher chances of survival than children whose mothers have primary education. Mothers who are uneducated face a greater chance of losing their babies before their fifth birthday. The IMR gap between mothers without education at 44 deaths per 1000 live births, and mothers with primary education at 42 deaths per 1000 live births is not as wide. The difference is more prominent when primary and secondary education categories are compared. In both infant and under 5 mortality, this difference is almost 50 percent suggesting a positive correlation between secondary education and child survival as shown below:



Source: The Gambia Demographic Health Survey 2013.

Difference in infant mortality by a mother's level of education.

In addition to lower infant and child deaths among educated women, the data also shows that pregnancies are fewer among this category of women. The number of pregnancies increases considerably at lower levels of education and almost doubles among women with no education. This could be attributed to a number of reasons including the lack of awareness, inability to make independent reproductive choices, the lack of financial independence and cultural and religious beliefs. According to the DHS, a quarter of married women have an unmet need for contraceptives and it is usually employed for birth spacing (GBOS, ICF International, 2014).

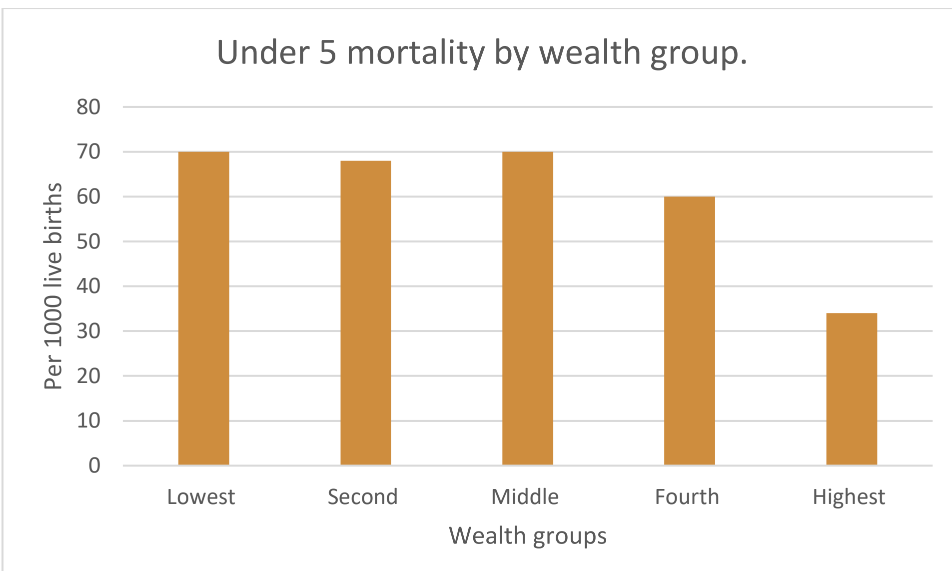


Source: The Gambia Demographic Health Survey 2013.

Difference in under 5 mortality by a mother's level of education.

Differences in infant and under 5 mortality are also evident when comparing the different wealth groups. As many other studies have demonstrated, wealth plays a fundamental role in the health and wellbeing children. Evidently, babies born in households within the lowest wealth category have lesser chances of survival compared to babies born to parents within the highest wealth quintile. It is important to note that the difference between the wealth groups is not as significant comparing the poorest households. However, the gap is striking between the highest quintile and the other categories. This is illustrated below:

Source: The Gambia Demographic Health Survey 2013.



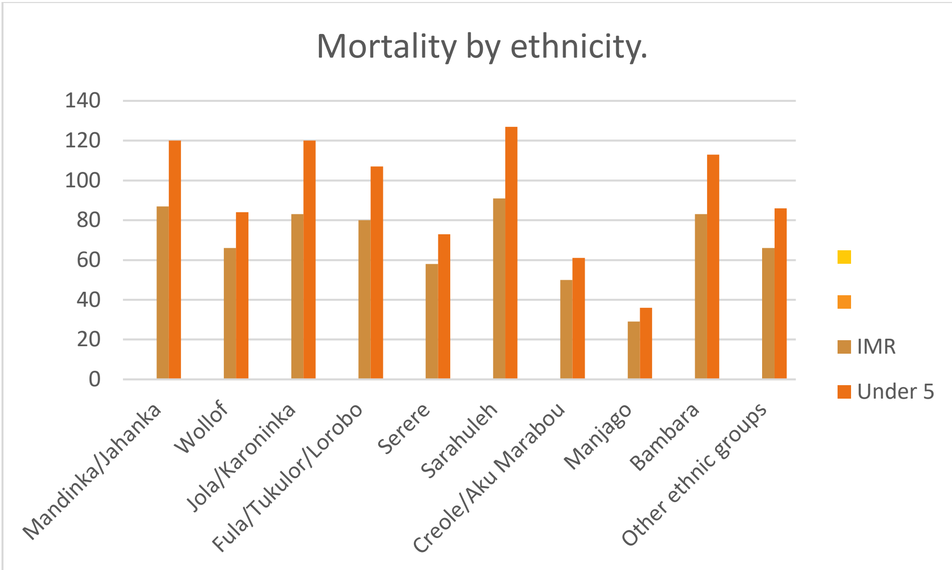
Source: The Gambia Demographic Health Survey 2013.

The narrow gap between the different wealth groups with the exception of the wealthiest reflects the socioeconomic state of Gambians. Up to 48 percent of the population live below the income poverty line of $1.25 a day (WFP, 2016). The findings of the DHS are consistent with numerous studies in Sub-Saharan Africa where wealth determines a person's health status and the way in which medical care is sought. Research has found that families in the highest wealth ranks have better chances of securing medical attention when they are sick, can afford their prescriptions and in some cases can obtain health care that is not available in-country (Anyamele, 2011). Many of these people rely on public health care systems and some rural households have no health care coverage.

Poverty plays a critical role in the survival chances of babies in The Gambia and is arguably the most important socioeconomic determinant of health. Apart from occurring as a result of poverty, poor health or access to health care often leads to poverty, thereby creating a vicious cycle difficult for poor Gambian households to break out of. According to the World Bank, more than half of the extreme poor live in Sub-Saharan Africa. Up to 413 million people lived on less than US$1.90 a day in 2015, and it is projected that nearly 9 out of 10 of the extremely poor will be in Sub-Saharan Africa. This projection does not just show high prevalence but also demonstrates that the vulnerability to poverty is alarming.

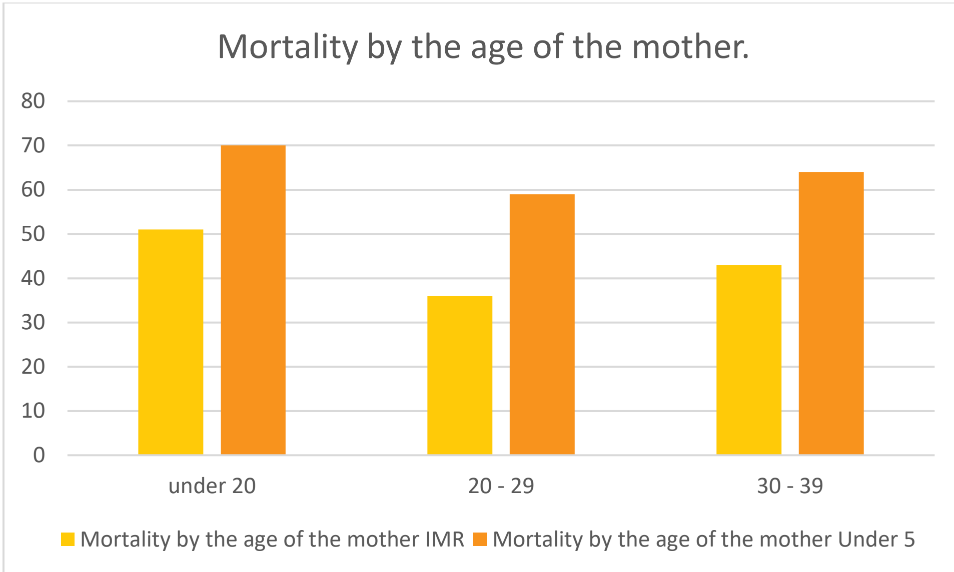
For many families in The Gambia, this vulnerability is deepened by household composition. The DHS reveals that the average household size is at least 8 persons per household and in rural communities up to 9.9. Overall, up to 37 percent of households have 9 or more members, although this is more prevalent in rural communities (48 percent). With almost 50 percent of the population living on less than US$2 a day, this presents an environment of competition for resources, especially food.

The 2010 MICS takes a deeper look at vulnerability based on ethnicity and finds that both infant and under 5 mortality rates are highest among certain ethnic groups, namely, the Sarehule, Mandinka, Jola and Bambara ethnic groups. Although these are among the majority tribes in The Gambia, they are also notorious for cultural practices that marginalize women and girls. Some of these practices include child marriage and female genital mutilation. Below is a graphical representation of the prevalence by ethnicity:



Source: The Gambia Demographic Health Survey 2013.

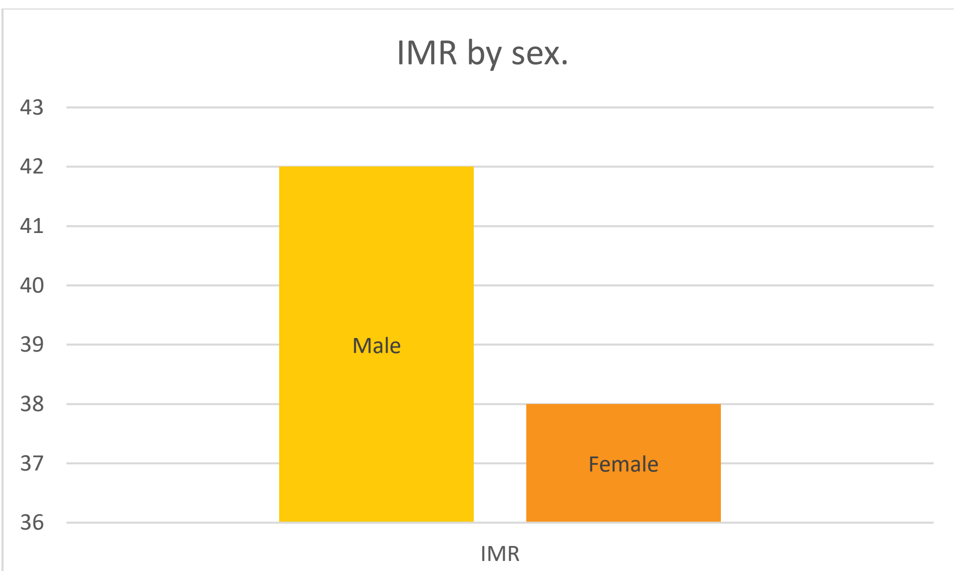
Women are often the victims in a patriarchal society such as The Gambia where men are not just the household heads but also the decision-makers. Some of these decisions include when a woman or a girl gets married and/or conceives and other critical aspects of women's reproductive health. This leads to another factor – the age of a mother, which impacts the health and survival chances of a baby (Neal, Channon and Chintsanya 2018). According to the DHS data, the younger a mother, the less likely her child will live to see his or her second or fifth birthday. Specifically, infant and under 5 mortality rates are higher for women under the age of 20as illustrated below:

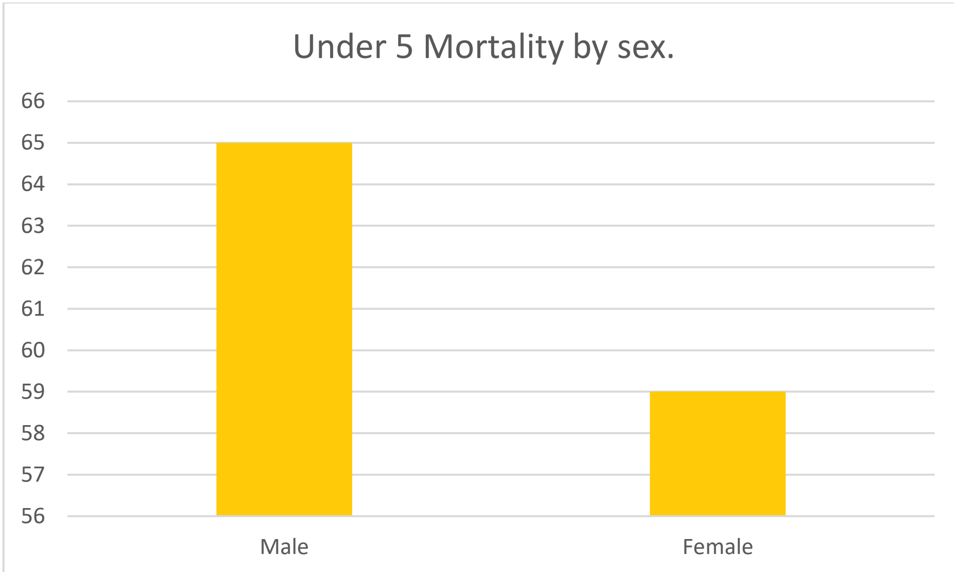


As the data shows, the risk is higher among women under the age of 20 years. This vulnerability is not peculiar to Gambia alone. Studies show that early childbearing is a risk factor to children's survival (Neal et al, 2018). An estimated 16 million young women give birth between the ages of 15 and 19 years annually (Neal et al, 2018). Almost a million give birth before the age of 15 years, and up to 95 percent of these births occur in low- and middle-income countries (Neal et al, 2018). This increased risk may partly be a result of malnutrition as science has shown that adolescent mothers are more likely to give birth prematurely or have babies that are low birth weight (Neal et al, 2018), both of which are critical to infant mortality. Some researchers have argued a theory that being pregnant under the age of 18 years may involve "mother-foetus competition for nutrients" as younger girls in particular may still require additional energy for growth (Neal et al, 2018). This seems to reflect the infant and under 5 mortality situation in The Gambia where the three most affected regions also have the highest rates of malnutrition and food insecurity, as well as, child marriage and high fertility rates. Mothers with three and/or more or children who are not spaced for at least 2 years fall within the same risk category. The likelihood of having an adolescent mother in this category is high considering the low level of education, empowerment and sexual independence.

Adolescent motherhood is an avoidable risk and The Gambia Government has taken concrete steps in an attempt to prevent it. In 2016, the government introduced a law banning marriage below eighteen years of age. However, implementation has slowed due to a change of government soon after the introduction of the law. Due to its deep cultural and religious roots, it may require more than a policy or health intervention. It must be noted that it is an issue that can easily become a crisis given the rapid population growth and youthful structure of the country.

Another determinant of a baby's survival is his or her sex. The DHS data demonstrates that for all deaths under the age of 5, boys are less likely to survive. This trend has remained unchanged since the 1990s (UNICEF, 2018). Below are charts illustrating the differences:





The pattern is true for almost all countries around the world, including sub-Saharan Africa, and is generally attributed to differences in genetic and biological composition, given that boys are "biologically weaker and more susceptible to diseases and premature death" (Pongou, 2012). The literature further suggests that when babies are treated equally irrespective of their sex, boys are more susceptible to infectious and non-infectious diseases (Pongou, 2012), which is therefore the reason why the trend remains the same, especially in developed societies where sex does not usually determine the treatment babies receive.

A closer look at social norms, religious beliefs, and attitudes towards breastfeeding in The Gambia suggests that male babies should possibly have higher chances of survival compared to female babies. For example, it is a widely held social norm for mothers to breastfeed baby boys longer than baby girls. Perhaps, this is motivated by the scientific belief that boys are by nature weaker in their infant years. However, growing up in The Gambia, women are educated on breastfeeding and childcare with the belief that boys should be fed more than girls. Therefore, most women breastfeed their boys for at least two years. Girls are generally fed for a year and a half or less.

Furthermore, given the polygamous nature of Gambian communities, mothers who consecutively give birth only to baby girls, tend to seek boys continuously even at the cost of their health and wellbeing. Boys are a favourite and a source of pride for many parents, especially fathers. Gender preferences have long been seen in many societies in Africa and in other parts of the world, mostly driven by tradition, culture and sometimes religion. A preference for a son goes beyond a desire to carry-on the family. Sons inherit larger proportions of their family inheritance or wealth and have higher chances of generating more income. In fact, research shows that sex preferences are the root causes of gender inequalities and male dominance in labour markets (Jayachandran, 2015). Women in polygamous settings have not only shown strong preferences for a son but seek many in order to maximize their chances of substantive inheritance. This has led to an open discrimination between boys and girls even at infancy, often leading to preferential treatment and neglect in terms of care and nutritional needs (Hesketh et al, 2011s).

This circles back to the issue of short intervals between births, which diminish the survival chances of a child. While contributing to a worsening health and nutrition state of a mother, short birth intervals often limit the number of months a baby breastfeeds, care for the older infant and a deteriorated health and nutrition state of both children. Infant and under 5 mortality risks associated with fertility are also highlighted in the MICS. While the total fertility rate is 5.8 children per woman, again the rural communities are at a greater risk with Kuntaur scoring the highest fertility rate of 7.7 children per woman, followed by Mansakonko with 6.9 and Basse 7 (GBOS, UNICEF 2012).

A comparison within Sub-Saharan Africa.

The problems highlighted in this paper are not unique to The Gambia. The country is located in Sub-Saharan Africa, one of the worst places for a child to live and survive. According to the World Bank, more than half of the world's extreme poor are resident in Sub-Saharan Africa with up to 413 million people living on less than US$1.90 a day in 2015 alone (World Bank Group, poverty overview, 2019). This is more than the population of poor people from all the other regions combined (World Bank, poverty overview, 2019).

The average HDI for Sub-Saharan African countries in 0.537 and average life expectancy is 60.7; The Gambia scores 0.460 and 61.6 respectively (UNDP, 2019). With the exception of a few countries including Cameroon, Benin, Nigeria and Senegal, which is Gambia's closest neighbour surrounding it on three sides, all other Sub-Saharan African countries within the Low Human Development category are below the said average.

Children's chances of survival in Sub-Saharan Africa are strained by armed conflict, instability, famine and disease. A combination of these factors creates an environment difficult for any person, especially children, to thrive or even survive. According to a 2017 World Bank analysis, the IMR in the region is 52 deaths per 1000 live births. The same study puts Gambia at 41 per 1000 live births. Countries such as Central African Republic (88 deaths per 1000 live births), the Democratic Republic of Congo (70 deaths per 1000 live births), Chad (73 deaths per 1000 live births), Somalia (80 deaths per 1000 live births) and Sierra Leone (88 deaths per 1000 live births) show alarming rates well above the average. These countries are commonly classified as fragile states that are or have previously experienced a multitude of challenges, including armed conflict, extreme hunger or famine, high rates of malnutrition and disease. For example, after a decade of civil war, Sierra Leone, faced the deadly EBOLA virus, which took many lives and affected numerous families. While the Sub-Saharan African countries with the highest IMR are usually within the category of fragile states, it should not be assumed that the high rates are a result of war. Famine, disease, poverty, limited health care access and other socioeconomic factors create an environment difficult to survive. A study on infant mortality in Malawi, for instance, suggested that "improving the quality of life in rural areas, evenly distributing health care delivery services and other social economic factors across the nation, could decrease infant mortality" (Ntenda, et al, 2014).

A look at the DHS data from neighbouring countries in West Africa shows that countries with the highest rates such as Guinea Bissau, Mali and Mauritania also have the highest child malnutrition rates, lowest levels of education among women, highest rates of Female Genital Mutilation (FGM) and low access to health facilities at birth for mothers. Mali, which scores an IMR of 63 deaths per 1000 live births and an under 5 mortality of 104 deaths per 1000 live births, for example, has one of the highest FGM rates at 91.4 percent; its fertility rate is 6.3 children per woman; only 10 percent of married women use any form of contraception and just 55 percent of women deliver at health facilities. In terms of education, 14.9 percent of women have attained secondary or higher education. Similarly, Guinea (Conakry), with an IMR of 76 deaths per 1000 live births and an under 5 mortality of 133 scores even worse than Mali in all of the above areas, which makes it potentially an unsafe country for a baby to be born in. Senegal, on the other hand, shows relatively lower rates of infant and under 5 mortality which are similar to that of The Gambia and generally have up to 78 percent of women who deliver at health care facilities. Additionally, more than double the percentage of women compared to Guinea have access to contraceptives and there is a higher literacy rate among women. It is important to note that the overall infant and under

5 mortality rates in West Africa and Sub-Saharan Africa are far from acceptable numbers. With the exception of Cape Verde (15 deaths per 1000 live births), Seychelles and Mauritius, too many children are still at risk. I would highlight that these countries are among Africa's smallest countries with smaller population sizes compared to the rest of Africa with the exception of Gambia. Apart from geography and population size, Gambia is very different from these countries in terms of culture and traditional practices and is in fact much more similar to countries like Senegal, Mali or Guinea.

Quite like Gambia, infant and under 5 mortality rates are further staggered by malnutrition in children, although as expected, Gambia and Senegal with lower rates of malnutrition, also have lower rates of child mortality. In Senegal, for instance, 16.5 percent of children are stunted, 8.9 are wasted and 14.3 are underweight. Mali, on the other hand, has a stunting prevalence of 38.8, 12.7 children are wasted and 25.5 are underweight, while in Mauritania, the percentages are 38.9, 14.5 and 27.8 respectively.

As the DHS data from the various countries have shown, Gambia does have a high IMR compared to developed and middle-income countries, but it is performing relatively better than many Sub-Saharan African countries. This is one of the reasons why the country is not a priority for donor countries. Mobilizing financial and technical support to tackle such challenges competes with other crises around the world. Therefore, reducing infant and child mortality remains a public policy test. International organisations that currently prioritize The Gambia for resource allocation and technical assistance focus on stability factors such as transitional justice and security sector reform given the current political context of a transitional period following the twenty-two-year dictatorial rule.

Continuing Challenges

A mother's nutritional status has vital implications for her and the health of her child. Malnutrition remains a fundamental challenge for women and children in The Gambia. According to DHS, 25 percent of children under age 5 are stunted, (short for their age), 12 percent are wasted (thin for their height), and 16 percent are underweight or too thin for their age (GBOS, ICF International, 2014). Research demonstrates that poor nutrition in women has adverse effects on her child and often leaves irreparable damage during the 1000 days of life (United Nations Chronicle, 2007). The relationship between malnutrition and infant and under 5 mortality in The Gambia is critical. Studies have found that iron deficiency is at the top of nutrition related issues (NaNA, GBOS, UNICEF, GroundWork, 2019). Preliminary findings of the 2018 Micronutrient survey (GMNS) suggest that the most common type of anemia in women and children is nutritional anemia. The survey shows that 50 percent of children are anemic, pregnant women scored 56.8, while non-pregnant women of childbearing age scored 50.9 (NaNA, GBOS, UNICEF, GroundWork, 2019). It is important to highlight that preliminary findings of the GMNS present a decline in all three classifications of malnutrition among children – stunting, wasting and underweight. However, this progress is not evenly spread as Kuntaur remains the LGA with the highest prevalence (NaNA, GBOS, UNICEF, GroundWork, 2019). Additionally, stunting and underweight remain high in poorer households. The GMNS presents a strong relationship between stunting and poor household sanitation. This paints a picture of the persistence of malnutrition in rural poor communities.

Vulnerability to malnutrition among women and children should therefore be addressed with consideration to varying levels of poverty, especially among the affected communities. Dietary practice is crucial in The Gambia where culture sometimes dictates what a woman eats during pregnancy and breastfeeding. It puts the health of both mother and child at risk, not to mention the various food aversions that pregnant women face. Mothers of low socioeconomic status are most affected. As demonstrated by the GMNS and other studies, they are usually found to be deficient in iron, zinc, and vitamins A and C, meaning cultural barriers to good nutrition will only deepen the crisis (Zepro, 2015). For instance, across different ethnic groups, pregnant women in The Gambia do not eat eggs which are a great source of protein, for fear of having a child with speech difficulty.

Malnutrition levels vary by sex among children: up to 26 percent of baby boys are stunted, compared to 23 percent of baby girls (GBOS, ICF International, 2014). The DHS also demonstrates that the longer the interval between births, the lower the chances of stunting. For example, 26 percent of non-first-born children with a preceding birth interval of less than 24 months are stunted, compared to 21 percent with a birth interval of 48 months or more (GBOS, ICF International, 2014). Additionally, 10 percent of children whose mothers are thin (BMI less than 18.5) are severely stunted, as opposed to 7 percent of children whose mothers are overweight or obese with a Body Mass Index (BMI) of 25 or above (GBOS, ICF International, 2014). The patriarchal nature of the Gambia society perpetuates this situation. In almost all Gambian communities, men not only receive the best part, but are given largest portion of a meal and are usually served before women and children (Mwangome, Prentice, Plugge, and Nweneka, 2010). This cultural practice can severely affect the nutritional status of women in general and pregnant women in particular, especially those who live in large polygamous households. The average household size in Gambia is above eight (GBOS, ICF International, 2014), In a polygamous family, this could be multiplied by up to 4.

Perhaps the worst nightmare for mothers is malnutrition in newborn babies considering the fact that mortality within the first month is common. In a study on child health and nutrition practices, women in rural Gambia described malnourished babies in a disturbing way. The "evil child" as the women called it, is a baby born with a big head unproportionate to his or her body and a wrinkled body. This stunted baby is then taken to the forest and left alone for a couple of hours to prove if indeed it is possessed by the devil (Mwangome, Prentice, Plugge, and Nweneka, 2010). Should the mother return and find the baby, it is seen as a human being and is then taken home to be treated. Should the mother not find the baby where she had left him or her, the mother assumes it is an evil child and as a result, has been recalled by the evil spirits. Although unimaginable, this practice is almost necessary for these women who live in communities where these babies are stigmatized and discriminated against for a health condition.

Babies and mothers also face common illnesses such as malaria, diarrhoea, anemia. Babies in particular face acute respiratory infections during their first 1000 days of life or rather, the critical window of opportunity (GBOS, ICF International, 2014).

Challenges within the Health Care System

Apart from the enduring challenges of poverty, food insecurity and malnutrition, cultural and harmful traditional practices, the country has a health care system that is unable to meet the needs of all Gambians. With a high fertility rate, a rapidly growing population and limited resources, this strain on the system will continue to put a strain on the health sector.

The health and social sectors are among areas that receive less than 10 percent of the annual government allocation. In 2019, the government increased this allocation from 6 to 7 percent (Gambia Government Budget, 2018). Inadequate investment and shortage of adequately and appropriately trained health care workers contribute to the poor health care services and stagnated infant and maternal health (GBOS, ICF International, 2014).

With limited qualified health personnel, the government invests heavily in specialist services outside the country. Some of the doctors are provided through technical assistance from other countries including Cuba and Syria. This dependence on specialist services is usually timebound and its withdrawal affects the quality and continuity of services in the country.

At present, health care, especially in rural Gambia is largely funded by donors, such as UN agencies and NGOs (National health strategy). Vaccination and reproductive health are spearheaded by UNICEF and UNFPA respectively. Without these stakeholders, the system is underfunded and vulnerable to frequent funding cuts. This raises issues of sustainability as donors are increasingly focused more on crisis countries like the Central African Republic, Sudan, Chad, Niger, Yemen and Syria to name a few.

Availability and access to emergency obstetric and newborn care services at all times is critical to the reduction of infant mortality. The MICS revealed a case fatality rate of more than 4 percent, which has recently sparked a lot of attention on social media. At present, there are five main public hospitals in The Gambia complemented by privately run clinics which are profit-driven, mostly based in urban centres and are unaffordable for many. The two LGAs – Basse and Mansakonko – which register alarming rates of infant and under 5 mortality and malnutrition rely on public hospitals, health centres and mobile community clinics which are available on specified days. As a result, 43 percent of women have reported difficulty in seeking healthcare for themselves when they needed medical attention (GBOS, ICF International, 2014). On the other hand, 57 percent of births in the past five years were assisted by a skilled provider (GBOS, ICF International, 2014). The DHS also highlights challenges in the referral systems especially at community level, lack of functioning equipment and widespread lack of electricity, all of which pose risks for delivery and newborn services.

Access to timely information, especially during antenatal care in most community health centres is poor. A study on antenatal care in the country found that only 35 percent of pregnant women acknowledged receipt of education on appropriate diet and nutrition, 30.4 percent on infant care, 23.6 percent on contraceptive use and only 19.3 percent were educated on what to do in case of an emergency (Anya et al, 2008). General knowledge on maternal and child health is low and rarely sought. The study found that women who understood red flags such as anaemia were as low as 28.9 percent (Anya et al, 2008). Pregnant women and most Gambian women in general do not have access to information they need to make appropriate and informed choices especially when they are in danger. This contributes to the persistence of infant and under 5 mortality.

Registered Progress

Despite the persistent challenges of the health care system, the cultural and traditional practices that women and girls face and underlying issues such as poverty and food insecurity, The Gambia has made some progress. The government adopted a Primary Health Care strategy in 1979 and has established 5 main hospitals since then. In communities without a hospital, health centres and mobile clinics serve households' needs. This is complemented with the training of village health workers and traditional birth attendants across the country (Gambia Government, 2014).

Most babies in the country are breastfed with the urban and peri-urban areas registering above 95 percent. However, this percentage drops to as low as 45 percent among rural poor households with uneducated mothers (GBOS, ICF International, 2014). This progress is significant because the survey found that not only are mothers increasing breastfeeding, they also follow best practices such as early initiation within the first hour after birth and exclusive breastfeeding for up to 6 months as prescribed by the WHO and UNICEF guidance.

Within a decade and a half prior to the 2013 DHS, the IMR declined by 32 percent, while under-5 mortality declined by 39 percent. In 2019, the government introduced the first ever postgraduate training of medical doctors in gynecology and obstetrics and surgery (Gambia Government Budget, 2018). This effort seeks to improve the skill set in tackling the high rates of child and maternal mortality in the country. Within the same year, vaccination of girls 9 years and above against the HPV, or human papillomavirus virus, was introduced to minimize the prevalence of cervical cancer.

Immunization is free and available countrywide. According to the DHS, a majority of children under 5, that is, 87 percent, have been fully immunized against major childhood diseases, although just about 38 percent received them before their first birthday. Less than 1 percent of children under 5 have never been vaccinated (GBOS, ICF International, 2014).

On tackling the negative impact of culture and tradition, the government in 2016 banned all harmful practices against the girl child. Specifically, the ban on FGM and child marriage will address adolescent motherhood and minimize the challenges of childbirth which result from these practices. UN agencies and the NGO community have raised concerns over the enforcement of the laws since their enactment by the former President. This is because the current government remains silent on the issues leaving many girls at risk of these harmful traditional practices.

Study Limitations

Data availability is a major difficulty for researchers and policy makers in The Gambia. The national policies and other working documents which support decision making are not frequently updated and surveys, especially those produced during President Jammeh's dictatorial era took almost a year or more to be published due to scrutiny by his government. Access to timely and current information is critical for effective policies that reflect the needs of Gambians.

As mentioned, the 2013 DHS is the first of its kind in The Gambia. Prior to this, the 2010 MICS was the only national research document that addressed infant and under 5 mortality in detail. Today, 2013 DHS is still used as the primary measure of infant and under 5 mortality. This leaves a gap of approximately six years of knowledge and understanding of the current state of infant and child mortality. It also makes it difficult to measure progress, lessons learned and persistent challenges overtime. As a result of this extended period of time between surveys, data demonstrating trends is difficult to find. This explains the difference between the World Bank 2017 data on infant mortality at 41 deaths per 1000 live births as opposed to the 2013 DHS data at 34 deaths per 1000 live births. In addition, the DHS of the different countries compared are not within the same period. Senegal, for instance, had the survey done since 1986 and as frequent as annually from 2010. Guinea, on the other hand, had their latest DHS done in 2012. Comparison of the trends among countries in Sub-Saharan Africa, therefore, might not be a true representation of the realities and might even be unfair to countries like Guinea. This is part of the reason why the study also looked at their HDI to have a better understanding of the relationship between poverty and infant mortality.

The government in partnership with UNICEF is currently working on the next MICS and has shared its preliminary findings pending its publication later in 2019. This will provide fresh information on the state of infant and under 5 mortality. NGOs and international organisations that conduct studies on a frequent basis, do so to gather evidence in support of donor-driven projects which might not necessarily address critical issues. These include the food security and vulnerability analysis, the joint UN pre and post harvest assessments, access to clean drinking water and household economy surveys.

Policy Relevance and Recommendations

This study demonstrates that the socioeconomic and demographic status of a mother or household affects the survival chances of babies and children under 5 in The Gambia. As demonstrated by the DHS, both measures show wide gaps between the rich and the poor, urban versus rural centres, and disparities among rural communities. These challenges are multidimensional, ranging from traditional and cultural practices to health care access and reach. Addressing the complexity of the issue requires inter-sectoral collaboration and coordination between the health, social, educational and agricultural ministries in order to improve standards of living and dramatically reduce the rates of mortality. For instance, while education is a social issue, it impacts the health outcomes of an individual. Data from the 2013 DHS showed wide gaps between mothers with secondary education and mother with no education at all. In addition to the low rate of secondary education in Gambia, the standard of living is low. Improving the standard of living will produce a multitude of effects that can directly and indirectly impact child mortality.

Wealth plays a critical role. Both infant and under 5 mortality rates decrease by more than half as the ranking progresses from the lowest quintile to the highest. Many Gambian babies who live in poor households might have a chance to celebrate their second birthdays thanks to social transfers such as the UNICEF BREST Initiative. It is a monthly cash transfer programme of US$12 per child (UNICEF, 2017) that addresses acute malnutrition among new mothers and children under the age of 2. It is a unique opportunity for mothers to improve the nutritional status of their infants. It is hoped that this will contribute to reducing infant deaths, especially those associated with malnutrition. Given the multidimensional nature of poverty, the government must consider implementation of a social safety net that includes social transfers to families in need. This will bridge the gap between the different wealth groups and give poor babies an equal opportunity to thrive.

Although a mother's level of education is positively correlated to a healthy infanthood, evidence shows that conventional education is only relevant at secondary and higher education. While the government invests in girls' education by making it free at primary level, a desirable outcome would be to extend this policy to keep adolescent girls in school and to increase their chances for higher attainment. This a is long-term solution that can potentially lay a solid foundation for a generation of success. As an immediate and perhaps more feasible policy, however, the government and stakeholders could integrate reproductive health education, as well as, nutrition education to raise awareness among girls who might lose an opportunity to better understand the issues that affect their health and that of their future families.

Health and nutrition education remain a solution that has proven effective in almost all sub-Saharan Africa countries where significant progress was registered. For instance, in Malawi, a country that has significantly reduced infant mortality, nutrition education was utilized as a main strategy among many others solutions including bicycle ambulances, vegetable gardening, training of traditional birth attendants and the distribution of treated bed nets for malaria prevention (Rosato, et al, 2012). Health and nutrition education can help tackle cultural misconceptions about malnutrition and food taboos affecting women and children.

An integrated approach to tackling malnutrition and its adverse consequences leading to infant and under 5 mortality is critical to families in Basse, Kuntaur, Mansakonko and other parts of rural Gambia. Men must be encouraged and engaged if the root causes of malnutrition are to be effectively addressed. They are the household heads and the primary decision-makers who dictate the financial affairs of the family and even make decisions around contraceptive usage and birth intervals.

Children who are born malnourished or reach critical levels of malnutrition during their first 1000 days and beyond face tremendous stigmatization and discrimination in their communities. In addition to infant care and nutrition education, communities must be educated on the signs of malnutrition and harmful effects. Health care facilities must institute respectful and sensitive care practices that ensure that parents and care givers are comfortable to seek help.

One child death is one too many. To lower the rate of infant mortality in The Gambia and improve the health outcomes of babies and by extension, mothers, the government must consider sustainable funding mechanisms that are not reliant on donor support. However, the limited fiscal capacity of the government and its indebtedness create an atmosphere of national poverty that has rippling effects on the lives of citizens. The government must employ innovative partnerships such as engaging the private sector and investing in youth development in order to attain long-term health and social policy solutions. This public private partnership should focus on spreading development to rural areas by providing basic necessities such as access to clean drinking water and electricity. This can encourage investors to diversify their reach into the rural areas and thus spark an interest in these areas.

Conclusion

Infant and under 5 mortality are affected directly and indirectly by multiple challenges that children and their families continue to face in The Gambia. These range from socioeconomic factors to health care access and cultural issues. This study concludes that improving the quality of life in The Gambia potentially has a positive impact on the incidence of infant and child mortality. Specifically, the integration of poverty reduction programmes, improving women's access to higher education, integrating nutrition and reproductive health education at primary school level, addressing early marriage, as well as ensuring access to health care countrywide especially in rural areas can increase the chances of child survival in The Gambia.

Bibliography

Centre for Disease Control and Prevention. (2019). 2014-2016 Ebola Outbreak in West Africa. Retrieved from https://www.cdc.gov/vhf/ebola/history/2014-2016-outbreak/index.html

United Nations Chronicle. (2007). Education is key to reducing child mortality: The link between maternal health and education. XLIV (4). Retrieved from https://unchronicle.un.org/article/education-key-reducing-child-mortality-link-between-maternal-health-and-education

Canadian Public Health Association. (2017). Government of Canada Consultation on the Canadian Poverty Reduction Strategy Response. Retrieved from https://www.cpha.ca/poverty-reduction-strategy-consultation-response

Li Z, Hsiao Y, Godwin J, Martin BD, Wakefield J, Clark SJ, et al. (2019). Changes in the spatial distribution of the under-five mortality rate: Small-area analysis of 122 DHS surveys in 262 subregions of 35 countries in Africa. 14(1). Retrieved from https://doi.org/10.1371/journal.pone.0210645

Reidpath, D.D. and Allotey, P. (2003). Infant mortality rate as an indicator of population health 57(5) 344. Retrieved from http://jech.bmj.com/

World Health Organization. (2019). Global Health Observatory (GHO) data: *Infant mortality situation and trends.* Retrieved from https://www.who.int/gho/child_health/mortality/neonatal_infant_text/en/

UNICEF. (2017). First 1000 Days: the critical window to ensure that children survive and thrive. Retrieved from: https://www.unicef.org/southafrica/SAF_brief_1000days.pdf

World Population Review. (2019). Gambia Population 2019 Retrieved from http://worldpopulationreview.com/countries/gambia-population/

Gambia Government. (2017). The Gambia national development plan (2018-2021). Retrieved from https://www.thegambiatimes.com/gambia-national-development-plan-2018-2021-abridged-version/

World Food Programmes (WFP). (2016). Comprehensive food security and vulnerability analysis (CFSVA): The Gambia Retrieved from https://documents.wfp.org/stellent/groups/public/documents/ena/wfp290335.pdf

UNDP. (2018). Human development indices and indicators: 2018 statistical update. Retrieved from http://hdr.undp.org/sites/all/themes/hdr_theme/country-notes/GMB.pdf

The Gambia Bureau of Statistics (GBOS) and ICF International. (2014). The Gambia demographic and health survey 2013. Retrieved from https://dhsprogram.com/pubs/pdf/FR289/FR289.pdf

Gambia Government. (2014). The Gambia national health strategic plan 2014 – 2020. Retrieved from https://www.mindbank.info/item/5970

Hunt, L. New Gambia, new migration? The New Humanitarian (formerly IRIN news). Retrieved from https://www.thenewhumanitarian.org/feature/2017/03/28/new-gambia-new-migration

National Nutrition Agency (NaNA)-Gambia, UNICEF, Gambia Bureau of Statistics (GBOS), GroundWork. (2019). The Gambia National Micronutrient Survey, 2018. Retrieved from http://groundworkhealth.org/wp-content/uploads/2019/03/GNMS2018-Final-Report_190325.pdf

The Gambia Bureau of Statistics (GBOS). (2011). The Gambia multiple indicator cluster survey 2010: Final Report.

UNICEF. (2018). Levels and trends in child mortality: Estimates developed by the UN Inter-agency Group for Child Mortality Estimation. Report 2018. Retrieved from file:///C:/Users/Ida/Downloads/Child-Mortality-Report-2018.pdf

The World Bank Group. (2019). The Gambia Overview. Retrieved from https://www.worldbank.org/en/country/gambia/overview

The World Bank Group. (2019). Estimates developed by the UN Inter-agency group for child mortality estimation. Mortality rate, infant (per 1,000 live births). Retrieved from https://data.worldbank.org/indicator/SP.DYN.IMRT.IN?locations=GM&view=chart

UNICEF Gambia. (2017). BReST Project Provides Monthly Cash Transfers to Vulnerable Households in The Gambia. Monthly payments mitigate food insecurity and malnutrition UNICEF Gambia. Retrieved from https://www.unicef.org/wca/stories/brest-project-provides-monthly-cash-transfers-vulnerable-households-gambia

Rosato, M., et al. (2012). Strategies developed and implemented by women's groups to improve mother and infant health and reduce mortality in rural Malawi. *International Health*, 4 (3), 176–184. Retrieved from https://doi.org/10.1016/j.inhe.2012.03.007

Zepro, N. B. (2012). Food taboos and misconceptions among pregnant women of shashemene district, Ethiopia. A Science Journal of Public Health. 3(3), 410-416. DOI: 10.11648/j.sjph.20150303.27

Neal S, Channon AA, Chintsanya J. (2018). The impact of young maternal age at birth on neonatal mortality: Evidence from 45 low and middle income countries. 13(5). DOI: https://doi.org/10.1371/journal.pone.0195731

Mwangome, M., Prentice, A., Plugge, E., Nweneka, C. J. (2010). Determinants of appropriate child health and nutrition practices among women in rural Gambia. Journal of Health Population Nutrition. 28(2), 167–172. Retrieved from https://www.ncbi.nlm.nih.gov/pmc/articles/PMC2980879/

USAID. (n.d.). The DHS program: Demographic health surveys. Retrieved from https://dhsprogram.com/data/

Neal S, Channon A.A., Chintsanya J. (2018) The impact of young maternal age at birth on neonatal mortality: Evidence from 45 low- and middle-income countries. 13(5). Retrieved from: https://doi.org/10.1371/journal.pone.0195731

Ntenda, P., et al. (2014). Factors Associated with infantmMortality in Malawi. Journal of Experimental & Clinical Medicine 6(4). Retrieved from DOI: 10.1016/j.jecm.2014.06.005