

## Policy Recommendations from The Gambia on Improving the Maternal Health System in Sub-Saharan Africa

Joy Michael<sup>1\*</sup>, Abiodun Olaiya Paul<sup>2</sup>

<sup>1</sup>United Nation population Fund, Banjul, The Gambia

<sup>2</sup>Texila America University, Guyana, South America

### Abstract

*The Gambia is ranked as one of the countries with the highest maternal death rate and the country has made great strides in improving maternal health through community-based interventions during the last ten years. The aim of this study is to assess policy recommendations from The Gambia on improving the maternal health system in sub-Saharan Africa. The specific objectives of this study were to; (i) determine the socio-demographic information of the respondents in the study area; (ii) determine policy and government interventions on maternal health; (iii) assess donor programs and interventions targeting on maternal health; (iv) determine external donor programs and interventions on maternal health; (v) determine representative of the community on maternal health. A retrospective quasi-experimental design with a well-structured questionnaire was used to obtain information from 217 participants across the major administrative regions of The Gambia, and the data were analysed using descriptive statistics. The results showed that the majority (64.8%) of respondents confirmed the existence of government policies to improve maternal health service quality, 52.9% were aware of interventions for maternal health in the study area, and UNICEF was the highest external donor (58.8%). Representatives of the community showed that 41.7% of the group of community representatives were community mobilizers/facilitators, the majority utilised services at hospitals (79.5%), and hospital-based service utilisation was primarily guided by the availability of good services and supplies (61.0%). Given that high maternal mortality rates persist in Sub-Saharan Africa, The Gambia's approach highlights the significance of inclusive, creative, and context-specific solutions.*

**Keywords:** Africa, Demographic, Gambia, Health, Maternal, Policy.

### Introduction

In sub-Saharan Africa, 4.7 million women, babies, and children die prematurely each year, with over 65% of maternal deaths occurring in the first 42 days after giving birth and the same percentage of neonatal deaths occurring in the first seven days [1]. Around 300,000 maternal deaths and 2.5 million neonatal deaths occurred in 2018, with over 94% of these deaths taking place in areas with poor resources, according to Konje [2]. More than a million newborns pass away on their first day of life every year [3],

with sub-Saharan Africa accounting for the majority of these deaths [4]. Problems during pregnancy and delivery also result in the deaths of 800 women and 7700 babies every day, while 7300 women report stillbirths during the postnatal period [5].

With a population of about 2.4 million [6], The Gambia is a small West African country that poses particular difficulties for the provision of maternity healthcare [7]. The nation is roughly 400 km inland and lies on the West African coast between latitudes 130 and 140 north of the equator [8]. Its land area is

10,689 square kilometres, and its width ranges from 24 to 28 km [9]. The Republic of Senegal borders it on the north, south, and east, while the Atlantic Ocean borders it on the west [10]. With women of reproductive age (15–49 years) making up roughly 23% of the population, the demographic profile of the nation reveals a youthful population with high fertility rates. Maternal health care is under significant strain due to this demographic structure [11]. Developing countries like The Gambia can improve their Maternal Mortality Rate (MMR) by investing in supportive environments, enacting laws and policies that facilitate it, expanding the delivery of trained personnel in rural and neglected areas, and removing or reducing financial constraints [12]. The Gambia is ranked 13th with the highest maternal death rate, 597/100,000 as of 2017 [13]. According to estimates from the World Health Organisation (WHO), there were around 430 maternal fatalities for every 100,000 live births in 2017, which is a high rate in the past [14]. This figure highlights the pressing need for effective measures.

The Gambia has made great strides in improving maternal health through community-based interventions during the last ten years, as evidenced by its Demographic Health Surveys [15]. In the areas of nutrition, health, and population, the nationally representative Demographic and Health Surveys (DHS) are household surveys that provide data on a range of monitoring and evaluation indicators. Geographical differences, cultural beliefs, and funding limitations are potential obstacles to maternal healthcare [16]. With a GDP per capital of about \$772 USD, The Gambia is still among the least developed nations in the world [17]. The allocation of resources for maternal health services and healthcare infrastructure are greatly impacted by this financial limitation. Approximately 94% of the economically active population in the nation is employed, while the total age-dependency ratio is 0.85:1 and the percentage of economically engaged people

without a formal education is somewhat greater for men (51.1%) than for women (48.9%), with over half (56.1%) lacking any formal education [18]. In The Gambia, traditional beliefs also have a big impact on how mothers seek medical attention. Strong cultural customs around delivery are still practised in many communities, such as the desire for home births and traditional birth attendants [19]. Religious and cultural views that consider delivery to be a natural process requiring little medical intervention are frequently the basis of these practices. Aglobitse [20] discovered that male/female enrolment in Ghana's public health insurance is influenced by intra-household dynamics.

Many interventions have been implemented to improve maternal health outcomes in sub-Saharan Africa (SSA). Currently, however, systematic information on the effectiveness of these interventions remains scarce. This study aims to analyze the trends in key maternal health indicators in The Gambia, compare changes between the 2013 and 2019/2020 survey periods to assess the association between community-based intervention coverage metrics and maternal health outcomes in various Gambia regions, assess maternal health policies in Gambia, evaluate policy effectiveness and analyse the relationship between particular KPIs and rates of maternal health service use in The Gambia's various administrative regions.

The aim of this study is to assess policy recommendations from The Gambia on improving maternal health system in sub-Saharan Africa. The specific objectives of this study were to; (i) determine the socio-demographic information of the respondents in the study area; (ii) determine policy and government interventions on maternal health in the study area; (iii) determine donor programs and interventions targeting on maternal health in the study area; (iv) determine external donor programs and interventions on maternal health;

(v) determine representative of the community on maternal health in the study area.

## Methods

### Research Design and Site Description:

This study evaluated community-based health interventions for maternal health in The Gambia using a retrospective quasi-experimental design and secondary data analysis. Structured and detailed questionnaires and hospital interviews were used to give qualitative insights. The 7 administrative regions in The Gambia which include Brikama, Kerewan, Mansakonko, Banjul, Janjanbureh, Kuntaur and Basse, were used for this study.

**Sample Size:** The population size for this study was 217 participants.

**Distribution Strategy:** Stratifying the participants, approximately 31 participants per each region were considered for the study.

**Data Collection:** Data were extracted from well-structured questionnaires to provide quantitative insights into the effectiveness of community-based maternal healthcare interventions, using three KPIs based on the opinions of maternal healthcare service workers, and a comparison was drawn. The data was then categorised and manually recorded into a standardised Excel spreadsheet, with separate sheets for each administrative region.

**Data Analysis:** Data on the effectiveness of the community-based maternal healthcare interventions were analysed using descriptive statistics. Values obtained were then compared for the reports. Appropriate statistical tools such as SPSS and Excel were used to filter the data.

### Inclusion and Exclusion Criteria

**Inclusion:** Only maternal healthcare workers who were present within this period of study were considered. All questionnaires submitted contained information on effectiveness of the community-based maternal

healthcare interventions using the three KPIs from the opinion of maternal healthcare service workers across all administrative regions of The Gambia.

**Exclusion:** Maternal healthcare workers who were not present within this period of study were not considered.

## Results

### Socio-Demographic Information of the Study Respondents

Socio-demographic information of the respondents in the study area is presented in Table 1. There were 206 responders in the survey, and the majority were men (57.8%) as opposed to women (42.2%). Ages 25–29 accounted for 38.6% of the total, followed by 30–34 (25.2%) and 20–24 (12.9%). Of the respondents, 87.9% had a tertiary education, 10.6% had a secondary education, and 1.4% had a vocational training. Of those who were married, 48.5% were single, 40.7% were monogamous, 8.3% were polygamous, 1.5% were split or divorced, and 1.0% were widowed. At 62.0%, nurses and midwives were the most common professional group. Public health officials came in second at 19.5%, followed by other categories at 9.3%, heads of facilities at 4.9%, and physicians at 4.4%. At 32.2%, the Western Coast Region (WCR) was the most geographically represented, followed by the Kanifing Municipal Council (KMC) at 18.3%, the Lower River Region (LRR) at 16.3%, Banjul at 11.1%, the North Bank Region (NBR) at 8.7%, and at 6.7% each, the Central River Region (CRR) and Upper River Region (URR). The Ministry of Health accounted for 92.1% of the total respondents, with 5.0% working for other organizations, 1.5% with CSOs, 1.0% with development partners, and 0.5% with the Ministry of Gender.

**Table 1. Socio-Demographic Profile of Respondents**

<b>Demographic Information</b>	<b>Frequency (n)</b>	<b>Percent (%)</b>
<b>Sex</b>		
Male	119	57.8
Female	87	42.2
<b>Age</b>		
15-19 years	1	0.5
20-24 years	27	12.9
25-29 years	81	38.6
30-34 years	53	25.2
35-39 years	23	11.0
40-44 years	7	3.3
45-49 years	9	4.3
50+	9	4.3
<b>Highest level of education</b>		
Secondary Education	22	10.6
Tertiary education (college/university)	182	87.9
Vocational Training	3	1.4
<b>Marital Status</b>		
Divorced/ Separated	3	1.5
Married (monogamous)	83	40.7
Married (polygamous)	17	8.3
Single	99	48.5
Widowed	2	1.0
<b>Current level in the Health Facility</b>		
Doctor	9	4.4
Head of the facility	10	4.9
Nurse/ Midwives	127	62.0
Other	19	9.3
Public Health Officer	40	19.5
<b>Region of Assignment</b>		
Banjul	23	11.1
CRR	14	6.7
KMC	38	18.3
LRR	34	16.3
NBR	18	8.7

URR	14	6.7
WCR	67	32.2
<b>Institution of Assignment</b>		
CSO	3	1.5
Development Partners	2	1.0
Ministry of Gender	1	0.5
Ministry of Health	186	92.1
Other	10	5.0

### Policy and Government Interventions

Table 2 shows the government policies on improving maternal health service quality and 64.8% of respondents reported such policies, while 29.6% were unsure and 5.6% reported no such policies. Awareness of programs targeting midwives' deployment in rural health facilities was reported by 44.3%, while 29.5% were unsure and 26.1% were unaware. The most monitored KPI was family planning uptake at 64.3%, followed by ANC coverage at 62.5%, skilled birth attendance at 58.9%, and postnatal care coverage at 57.7%. Programs targeting

increased Human Resources for Health were known to 42.9% of respondents, while 40.0% were unsure and 17.1% reported no such programs. Government programs promoting facility-based delivery were reported by 62.0%, while 25.7% were unsure and 12.3% reported no such programs. On supply availability, 63.4% reported that supplies, commodities, and medicines were never available, 12.6% each reported always available or didn't know, 5.1% each reported usually available or rarely available, and 1.1% reported sometimes available.

**Table 2.** Policy and Government Interventions

Questions	Frequency (n)	Percent (%)
<b>Is there any government policy on improving the quality of service for maternal health in your area?</b>		
Yes	116	64.8
No	10	5.6
I don't know	53	29.6
<b>Are you aware of any programs that target midwives' deployment to health facilities in rural communities?</b>		
Yes	78	44.3
No	46	26.1
I don't know	52	29.5
<b>Which KPI were monitored in your program?</b>		
ANC Coverage	110	62.5
Skilled Birth Attendance	103	58.9
Postnatal Care Coverage	102	57.7
Family Planning uptake	118	64.3
<b>Is there any program targeting the increase in Human Resources for Health in your region?</b>		
Yes	75	42.9

No	30	17.1
I don't know	70	40.0
<b>Is there any government program, policy, intervention or incentive promoting facility-based delivery in your community?</b>		
Yes	106	62.0
No	21	12.3
I don't know	44	25.7
<b>Is there consistent availability of supplies, commodities and medicines for maternal health services and delivery at your local health facility?</b>		
Always available	22	12.6
Usually available	9	5.1
Sometimes available	2	1.1
Rarely available	9	5.1
Never available	111	63.4
I don't know	22	12.6

### Donor Programs and CSOs Intervention

Table 3 reveals donor programs and CSOs' interventions. Awareness of donor programs targeting maternal health improvement was reported by 52.9% of respondents, with an equal proportion (52.9%) unsure and 16.7% reporting no such programs. Capacity building for midwives or health professionals was reported by 65.3%, while 21.8% were unsure and 12.9% reported no such programs. Benefits

from donor-funded maternal health projects between 2010 and 2020 were uncertain for 48.5% of respondents, while 29.9% reported benefits and 21.6% reported no benefits. On the effectiveness of donor and CSO interventions, 50.9% rated them as somewhat effective, 22.8% were unsure, 18.1% considered them very effective, 4.1% rated them as neither effective nor ineffective, 2.3% found them somewhat ineffective, and 1.8% considered them very ineffective.

**Table 3.** Donor Programs and CSOs Intervention

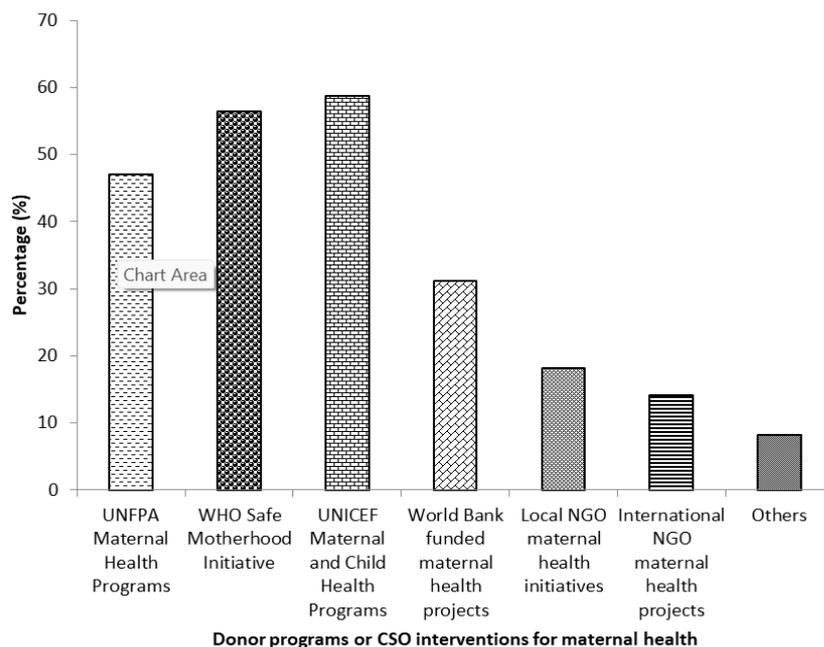
Questions	Frequency (n)	Percent (%)
<b>Are there specific donor programs or interventions targeting improving maternal health outcomes in your community?</b>		
Yes	92	52.9
No	29	16.7
I don't know	92	52.9
<b>Is there any specific capacity building for midwives or health professionals in improving skilled-based attendance in your area?</b>		
Yes	111	65.3
No	22	12.9
I don't know	37	21.8
<b>Have you or anyone in your community benefited from any donor-funded maternal health projects between 2010-2020?</b>		
Yes	81	29.9
No	36	21.6
I don't know	50	48.5

<b>In your opinion, how effective have donor and CSO interventions been in improving maternal health services in your community between 2010-2020?</b>		
Very Effective	31	18.1
Somewhat Effective	87	50.9
Neither Effective nor Ineffective	7	4.1
Somewhat ineffective	4	2.3
Very Ineffective	3	1.8
I don't know	39	22.8

### External Donor Programs or CSO Interventions for Maternal Health

Figure 1 provided answers regarding external donor programs or CSO interventions for maternal health available in the respondents' community. As shown in the figure, awareness of external funding and civil society interventions varied significantly across organizations. UNICEF maternal and child health programs achieved the highest recognition at 58.8%, followed by WHO Safe

Motherhood Initiative at 56.5%. UNFPA maternal health programs showed moderate awareness at 47.1%, while World Bank-funded projects were recognized by 31.2% of respondents. Local NGO initiatives demonstrated limited community visibility at 18.2%, with international NGO projects even lower at 14.1%. The minimal "other" category (8.2%) suggests that major international organizations dominated the perceived landscape of external maternal health support.



**Figure 1.** Which of the Following Donor Programs or CSO Interventions for Maternal Health are you Aware of in your community?

### Representative of the Community

Respondents' opinions on representatives of the community are shown in Table 4. The largest group of community representatives

were categorized as "other" at 41.7%, followed by community mobilizers/facilitators at 39.3%, community leaders at 9.2%, beneficiaries (mothers) at 8.6%, and religious leaders at 1.2%. Distance from the nearest maternal

healthcare facility was 1-5 km for 43.5%, less than 1 km for 32.1%, 6-10 km for 16.1%, more than 20 km for 4.8%, and 11-20 km for 3.6%. Utilisation of maternal health services was reported by 81.7%, while 9.5% were unsure, and 8.9% reported no utilisation. The majority utilised services at hospitals (79.5%), followed by community-based services (15.2%), at home (1.2%), and 4.1% were not sure. Hospital-based

service utilization was primarily guided by availability of good services and supplies (61.0%), followed by community awareness programs on benefits (31.7%), complications from home delivery (28.7%), previous bad experience at home (21.3%), and non-availability of community-based services (14.0%).

**Table 4.** Representative of the Community

Questions	Frequency (n)	Percent (%)
<b>What is your role in the Community?</b>		
Beneficiaries (Mothers)	14	8.6
Community leaders	15	9.2
Community mobilizer/facilitator	64	39.3
Other	68	41.7
Religious Leaders	2	1.2
<b>How far is your residence from the nearest health facility that provides maternal healthcare services?</b>		
1 - 5 km	73	43.5
11 - 20 km	6	3.6
6 - 10 km	27	16.1
Less than 1 km	54	32.1
More than 20 km	8	4.8
<b>Have you or someone in your community or household utilized maternal Health services before?</b>		
Yes	138	81.7
No	15	8.9
I don't know	16	9.5
<b>Where did you utilize Maternal Health services?</b>		
At home	2	1.2
Hospital	136	79.5
In the Community	26	15.2
Not Sure	7	4.1
<b>What guided the use of the Hospital Based services?</b>		
Non-availability for community-based services	23	14.0
Availability of good services and supplies.	100	61.0
Previous bad experience at home	35	21.3
Complication from home delivery	47	28.7
Community awareness programme on benefit	52	31.7

## Discussion

The respondent profile, which was primarily composed of highly educated males aged 25 to 34, is a good representation of the professional cohort in the Gambian health sector. Public health officers and nurses/midwives should be heavily represented, as they are leading the charge to put community-based maternal health programs into action. Their geographic distribution, which includes a substantial percentage of the Western Coast Region (WCR) and Kanifing Municipal Council (KMC), supports the idea that these are urbanized, heavily inhabited places with a concentration of health services and infrastructure. It is noteworthy that this data provides useful insight into how competent health cadres view systemic difficulties and achievements [21, 22].

Respondents demonstrated moderate awareness of government policies aimed at improving the quality of maternal health services and promoting facility-based delivery. Awareness of programs targeting Human Resources for Health (HRH) increases and midwife deployment in rural areas indicates ongoing efforts to strengthen the health workforce, a critical determinant of service access and quality [23]. The consistency in government-monitored KPIs (family planning uptake, ANC coverage, skilled birth attendance, postnatal care coverage) with those reported at the community level suggests a coherent national strategy for maternal health surveillance.

Also, the majority of respondents reported that supplies, commodities, and medicines were never available. These supply shortages represent a fundamental systemic failure that can negatively affect well-intentioned policies and trained personnel. According to Morrison [24], lack of essential supplies directly impacts service quality, reduces trust in the health system, and can force individuals to seek care elsewhere or delay it, directly affecting service utilization and outcomes.

One major piece of information from this study is the awareness of external funding and civil society interventions, which were dominated by major international organisations (such as UNICEF, WHO, and UNFPA, local NGO initiatives and international NGO projects, excluding the major UN agencies. This pattern suggests that while global partners are recognized for their contributions, there may be insufficient recognition or integration of smaller, perhaps more community-embedded, local organizations. Veress [25] documented that over-dependence on large, top-down initiatives without strong local ownership and visibility can limit sustainability and responsiveness to specific community needs.

## Conclusion

In conclusion, The Gambia's policy recommendations provide a convincing framework for improving maternal health systems throughout Sub-Saharan Africa. These solutions tackle systemic gaps and cultural barriers by investing in experienced birth attendants, supporting health infrastructure, and prioritising community-based care. The focus on regional cooperation, fair resource distribution, and data-driven decision-making guarantees that interventions are scalable and long-lasting. Additionally, incorporating maternal health into more general public health and development agendas like education, nutrition, and gender equity can increase impact and promote long-term resilience. Given that high maternal mortality rates persist in Sub-Saharan Africa, The Gambia's approach highlights the significance of inclusive, creative, and context-specific solutions. With political will, sufficient funding, and cross-border collaboration, these recommendations can spark revolutionary change and guarantee that all women have access to safe, respectable, and high-quality maternal care. This comprehensive review of maternal health in The Gambia shows significant achievements alongside persistent challenges that

characterize maternal health systems across sub-Saharan Africa.

## Acknowledgement

This project would like to acknowledge Texila America University for the knowledge gained, which has contributed to the creation of valuable insights that improve bodies of knowledge and enhance the lives of women and girls.

## Conflict of Interest

The authors declare no conflict of interest.

## Author Contributions

All authors contributed to the study conception and design.

**Joy Michael** is responsible for material preparation, data collection, analysis, and preparation of the first draft of the manuscript.

**Dr Abiodun Olaiya Paul** reviewed and commented on previous versions of the

manuscript. All authors read and approved the final manuscript.

## Funding

This research received no specific grant from any funding agency in the public, commercial, or not-for-profit sectors.

## Ethical Approval

Ethical approval was not required for this study as it did not involve human participants or animals.

## Data Availability

The data supporting the findings of this study are openly available in the Gambia Demographic and Health Survey 2010 and 2020. Also, a structured questionnaire was used to elicit information to corroborate the findings from the DHS. <chromeextension://efaidnbmnnnibpcajpcglclefndmkaj/https://dhsprogram.com/pubs/pdf/FR369/FR369.pdf>.

## References

- [1]. Merdad, L., & Ali, M. M., 2018, Timing of maternal death: levels, trends, and ecological correlates using sibling data from 34 sub-Saharan African countries. *PLoS one*, 13(1), e0189416.
- [2]. Konje, E., 2020, The Context of Maternal and Child Health Services in Northwest Tanzania: Missed Opportunities for Preventing Maternal and Perinatal Mortality in Rural Communities.
- [3]. Lincetto, O., & Banerjee, A., 2020, World Prematurity Day: improving survival and quality of life for millions of babies born preterm around the world. *American Journal of Physiology-Lung Cellular and Molecular Physiology*, 319(5), L871-L874.
- [4]. Lawn, J. E., Blencowe, H., Oza, S., You, D., Lee, A. C., Waiswa, P., & Cousens, S. N., 2014, Every Newborn: progress, priorities, and potential beyond survival. *The lancet*, 384(9938), 189-205.
- [5]. Onwuagbu, O. U., 2020, The Epidemiology of Stillbirths According to the Perinatal Problems Identification Program (PPIPP), at Rahima Moosa

Mother and Child Hospital, from August 2016 to July 2017 (Master's thesis, University of the Witwatersrand, Johannesburg (South Africa)).

- [6]. Stanislas, P., & Chongan, E., 2022, Communal Complexity Conflict and Security in Gambia. In Understanding and Preventing Community Violence: Global Criminological and Sociological Perspectives (pp. 205-217). Cham: Springer International Publishing.

- [7]. Cole-Ceesay, R., Cherian, M., Sonko, A., Shivute, N., Cham, M., Davis, M., ... & Southall, D., 2010, Strengthening the emergency healthcare system for mothers and children in The Gambia. *Reproductive Health*, 7(1), 21.

- [8]. Johm, P. T., 2023, Understanding factors influencing maternal vaccination acceptance in The Gambia (Doctoral dissertation, London School of Hygiene & Tropical Medicine).

- [9]. Vieira, C., Portela, A., Miller, T., Coast, E., Leone, T., & Marston, C., 2012, Increasing the use of skilled health personnel where traditional birth

attendants were providers of childbirth care: a systematic review. *PLoS One*, 7(10), e47946.

[10]. Sundby, J., Ingstad, B., & Walraven, G., 2003, Maternal Mortality in the Gambia: Contributing factors and what can be done to reduce them (Doctoral dissertation, Department of General Practice and Community Medicine Faculty of Medicine, University of Oslo).

[11]. Kanteh, O., & Palamuleni, M. E., 2019, Women status and fertility in The Gambia. *Gender and Behaviour*, 17(3), 13627-13644.

[12]. Afferri, A., Dierickx, S., Bittaye, M., Marena, M., Pacey, A. A., & Balen, J., 2024, Policy action points and approaches to promote fertility care in The Gambia: Findings from a mixed-methods study. *Plos one*, 19(5), e0301700.

[13]. Kinteh, B., Barrow, A., Nget, M., Touray, E., Touray, J., Kinteh, S. L., ... & Jatta, S. P., 2022, Research Article Maternal and Child Health Services in Rural Settings of The Gambia: Contextual Determinants of Postnatal Care from Mothers' Perspectives—A Community-Based Analytical Cross-Sectional Study.

[14]. Babajide, O. O., 2021, Model-based sub-population estimates of maternal mortality rates and ratio from siblings' survivorship histories in Nigeria (2008-2018) (doctoral dissertation).

[15]. Sundby, J., 2014, A rollercoaster of policy shifts: global trends and reproductive health policy in The Gambia. *Global public health*, 9(8), 894-909.

[16]. Say, L., & Raine, R., 2007, A systematic review of inequalities in the use of maternal health care in developing countries: examining the scale of the problem and the importance of context. *Bulletin of the World Health Organization*, 85(10), 812-819.

[17]. Gautam, S., Suso, A., & Wood, E., 2024, Effect of antenatal care on birth outcomes in The Gambia: a propensity score matching analysis.

[18]. Kothari, M. T., Coile, A., Huestis, A., Pullum, T., Garrett, D., & Engmann, C., 2019, Exploring associations between water, sanitation, and anemia through 47 nationally representative demographic and health surveys. *Annals of the New York Academy of Sciences*, 1450(1), 249-267.

[19]. Lowe, M., Chen, D. R., & Huang, S. L., 2016, Social and cultural factors affecting maternal health in rural Gambia: an exploratory qualitative study. *PloS one*, 11(9), e0163653.

[20]. Aglobitse, D. M., 2012, Intra-Family Communication and Reproductive Health Decision Making in the Volta Region of Ghana (Doctoral dissertation, University of Ghana).

[21]. Gagnon, M. P., Desmartis, M., Labrecque, M., et al., 2012, Systematic Review of Factors Influencing the Adoption of Information and Communication Technologies by Healthcare Professionals. *J Med Syst*, 36, 241-277.

[22]. World Health Organization, 2022, WHO recommendations on maternal and newborn care for a positive postnatal experience. *World Health Organization*.

[23]. Lassi, Z. S., Musavi, N. B., Maliqi, B., Mansoor, N., de Francisco, A., Toure, K., & Bhutta, Z. A., 2016, Systematic review on human resources for health interventions to improve maternal health outcomes: evidence from low-and middle-income countries. *Human resources for health*, 14(1), 10.

[24]. Morrison, B., 2015, The problem with workarounds is that they work: The persistence of resource shortages. *Journal of Operations Management*, 39, 79-91.

[25]. Veress, T. A., 2024, Community-Based Organizations and the Challenges of the Anthropocene (Doctoral dissertation, Budapesti Corvinus Egyetem).