



Child Survival Strategy: A Review

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Abstract

This paper examines child survival strategies, focusing on interventions designed to reduce morbidity and mortality among children under five years of age. It highlights UNICEF's framework and the GOBIFFETH approach, which includes growth monitoring, oral rehydration therapy, breastfeeding, immunization, female education, family planning, food fortification, environmental protection, essential drug provision, treatment of common ailments, and health education. The paper discusses national and global policies such as the Integrated Management of Childhood Illness (IMCI) and Integrated Community Case Management (ICCM), as well as the role of health systems, government, and community-based interventions in improving child survival outcomes. Challenges such as inadequate funding, limited healthcare access, socio-economic barriers, and political instability are also analyzed. The conclusion emphasizes that investing in child survival is a moral and developmental imperative, requiring collaboration across governments, health systems, and communities to secure sustainable progress in reducing under-five mortality.

Keywords: *Child survival, Under-five mortality, UNICEF strategies, Integrated Management of Childhood Illness (IMCI), Integrated Community Case Management (ICCM), Public health interventions, Nutrition*

INTRODUCTION

Child survival strategies are the various steps taken on behalf of children aged 0-5 by individuals and communities to reduce the risks and severity of adverse health outcomes that these children are prone to (USAID,2002). They are strategies that have been put in place by the United Nations Children's Education Fund (UNICEF) to help combat the issue of child morbidity and mortality among under-5 children (UNICEF, 2006).

They are simple, practicable, culturally acceptable, and low-cost methods of improving child survival.

Child survival is a major public health concern in most countries in Africa. The past 20 years have witnessed improvements in child survival due to the effective public health interventions and better economic and social performance worldwide. Nevertheless, about 10.6 million children die yearly, 4.6 million of these in the African Region. About one quarter of these deaths occur in the first month of life, over two-thirds in the first seven days. The majority of under-five deaths are due to a small number of common, preventable, and treatable conditions.

The objective of the strategy is to accelerate the reduction of neonatal and child mortality in line with the Millennium Development Goals by achieving high coverage of a defined set of effective interventions. They aim to prevent childhood killer diseases, save children from death due to rapid dehydration as a result of diarrhoea, assess the nutritional status of children and give prompt attention to those having or developing malnutrition, monitor the growth pattern of children, especially those under five, and encourage breastfeeding.

Multiple constraints in health systems hamper the effective scaling up of interventions. Insufficient human, financial, and material resources coupled with limited managerial capability, out-of-pocket payments, and inadequate mechanisms for families to access health care are just some of the factors that lead to poor service delivery and low coverage of interventions. Insufficient availability of essential drugs and supplies, and inadequate supervision of health-care providers are among the persistent problems of the health

system in many countries.

The strategies are eleven in number and are represented with the acronym, “**GOBIFFETH**”; meaning:

- Growth monitoring
 - Oral rehydration therapy
 - Breastfeeding
 - Immunization
 - Female education
 - Family planning
 - Food fortification and supplementation
 - Environmental protection and sanitation
 - Essential drugs program
 - Treatment of common ailments
 - Health education
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- **Growth monitoring:** Growth monitoring has been defined as the regular measurement, recording, and interpretation of a child’s growth change to counsel, act, and follow up results (Vee and Zerfas, 1987). This involves the routine measurements (weight, height, mid-upper arm circumference, head and chest circumference) of a child to help detect abnormal growth. It is the process of following the growth rate of a child in comparison to the standard, to detect faltering early on and address it accordingly (Griffiths and Rosso, 2007). It is also used as a screening tool to diagnose nutritional, chronic systemic, and endocrine disease at an early stage (Khadilkar et al., 2007).
 - **Oral rehydration therapy:** Diarrhoea has been observed to be the second leading cause of death and malnutrition in children under age 5, as it accounts for more than 500,000 deaths globally (GBD, 2017), and most also result from dehydration. Nigeria had the highest number of deaths due to diarrhoea in 2016. Oral rehydration involves administering oral rehydration solution (ORS) to replace lost ions and electrolytes in the body, thereby preventing dehydration (WHO, 2009). Before administering an oral rehydration solution, it is important to assess the level of dehydration. This involves:
 - Asking the mother or caregiver about the number of stools passed, frequency of vomiting, level of thirst, and urine flow and appearance.
 - Observing the mental condition of the child, the appearance of the eyes, the state of the mouth and mucous membranes, and the rate of breathing.
 - Feeling the condition of the skin, the rate and volume of pulse, and for infants, observing and feeling the anterior fontanelle.

The oral rehydration solution is prepared by dissolving one sachet in 1 litre of clean water. It should be administered using a cup and a spoon. If an Oral rehydration solution is not available, a salt-sugar solution (SSS) can be administered. Mothers must be taught how to prepare for maximum cooperation and effectiveness. It involves the use of 5 cubes of sugar or 10 teaspoons of granulated sugar, 1 level teaspoon of salt, and 600mls of clean water. It should also be noted that hands must be washed thoroughly with soap and water before preparation. The mother or caregiver should also be educated on danger signs and the importance of taking prompt action. These danger signs include: persistent, frequent, and large amounts of watery stool, persistent vomiting, persistent feeling of thirst, dark urine, sunken eyes, unusual weakness, irritability or drowsiness, and a depressed anterior fontanelle.

- **Breastfeeding:** Undernutrition in under-5 children causes an estimated 2.7 million child deaths annually, which is about 45% of all child deaths. Exclusive breastfeeding, which is feeding an infant with only breast milk without adding any other fluid, including water, from 0-6 months of life, has been observed to save the lives of over 820,000 under-5 children yearly (WHO, 2018). After 6 months of life, complementary feeding with locally available foods should be combined with breastfeeding until 2 years of life to boost the nutrition of the child and further save lives. Breastfeeding is recognized as the gold standard of infant feeding. Breastfeeding is fundamental to the growth, development, and health of children. Breastfeeding should be given during the day and night, allowing a long time, at least 15 minutes, on each breast. The baby should always be put to the breast on demand and allowed to suck until satisfied.

Steps to successful breastfeeding for maternity services (WHO/UNICEF)

Every facility providing maternity services and care for newborn infants should:

- Have a written breastfeeding policy that is routinely communicated to all healthcare staff.

- Train all healthcare staff in the skills necessary to implement this policy.
 - Inform all pregnant women about the benefits and management of breastfeeding.
 - Help mothers initiate breastfeeding within 30 minutes of birth.
 - Show mothers how to breastfeed and how to maintain lactation even if they are separated from their infants.
 - Don't give newborn food or drink other than breast milk unless medically indicated.
 - Practice rooming i.e., allow mother and infant to remain together 24 hours a day.
 - Encourage feeding on demand.
 - Give no artificial teats or pacifiers.
 - Foster the establishment of breastfeeding support groups.
- **Immunization:** This is the method of administering protective measures against infectious diseases in children (Tadesse et al., 2009). It is a core child survival strategy that is targeted at averting about 1.2 million child deaths every year (Malande et al., 2019). It is also a key strategy toward achieving Sustainable Development Goal (SDG) 3 (WHO, 2010). Almost one-third of deaths among children under 5 are preventable by vaccines. The vaccine-preventable diseases include pertussis, childhood tuberculosis, tetanus, polio, measles, diphtheria, influenza, mumps, rubella, Haemophilus influenzae type b, hepatitis B, rotavirus, varicella, pneumococcal pneumonia, and meningococcal meningitis.
- **Female education:** Female education can be described as a gateway towards diversified aspects of modern life that significantly affect child survival in the following ways:
 - It makes a woman conscious about the well-being of herself and her family.
 - It gives the basic ideas about the path to well-being and also equips and encourages them to increase their knowledge of healthy living.
 - It helps to form the attitudes that promote a healthy life.
 - It facilitates health-seeking behaviors and makes mothers willing to use healthcare services when necessary, as well as prepares them for overcoming the barriers in doing so.
 - Education allows greater exposure to the mass media, which can keep mothers better informed about health issues.
 - It teaches and encourages mothers to practice good hygiene.
 - It equally empowers mothers to make and implement proper and timely decisions regarding their children's health.

A proverb says, "If you educate a man, you educate an individual, but if you educate a woman, you educate a nation".

- **Family planning:** This is a deliberate action that entails controlling the timing and number of pregnancies in women (UNICEF, 1998). It has been observed that several morbidities and mortalities are associated with inadequate spacing in childbirth. Child survival is influenced by three aspects of fertility behaviors: the mother's age at the time of birth, the number of births, and the time interval between births. Infants face less competition for resources such as food and medical care when the birth interval is long. Where two babies are not spaced, the older one is likely to suffer a sudden reduction in care and premature withdrawal from breastfeeding, which may adversely affect the immunologic defense system, thus predisposing the child to childhood infections, malnutrition, or death.
- **Food fortification and supplementation:** Food fortification involves enriching commonly eaten staple foods with micronutrients. Food supplementation is taking foodstuffs or capsules that are specifically made to increase the micronutrient status of the person taking them. It is cost-effective and improves nutritional outcomes. Vitamin A and zinc supplementation have benefits in reducing death due to diarrhoea in children. Iodine fortification by salt iodization has caused moderate reductions in the incidence of goitre, cretinism, and low cognitive function. It has improved mental development and physical growth in young children under 3. Iron supplementation and fortification have improved haemoglobin levels and have reduced iron deficiency anaemia in children. Vitamin A fortification in sugar and oil has reduced the risk of blindness in children. Folic acid supplementation prevents neural tube defects. Mothers are advised to take folic acid during the antenatal period.
- **Environmental protection and sanitation:** Many of the diseases that lead to increased morbidity and mortality in children are largely related to the unavailability of safe water, poor hygiene behaviour, and poor sanitary facilities. Inadequate drainage and accumulated wastewater encourage the breeding of mosquitoes, with high malaria attacks being a significant cause of death in children. Improved household water, sanitation, and promotion of hygiene are essential for child survival.
- **Essential drugs program:** Essential medicines, as defined by the World Health Organization, are medicines that satisfy the

- priority healthcare needs of the population. These are medications to which people should have access at all times in sufficient amounts, and their prices should be generally affordable.
- **Health education:** Health education plays a crucial role in childhood survival by promoting awareness about proper nutrition, hygiene, and preventive healthcare measures. It empowers parents and caregivers to make informed decisions, reducing the risk of diseases and improving overall child well-being. (WHO)
- **Social determinants of child health:** Socioeconomic factors like lack of health insurance, low minimum wages of parents and caregivers, and expensive health care services adversely affect child survival. Poor access to healthcare services and not receiving timely care upon arrival increases childhood morbidity and mortality. Highly unstable politics, internal crises like banditry and terrorism, and natural disasters like flooding negatively influence health outcomes in children.

POLICY AND GOVERNMENTAL ROLE

The government plays a pivotal role in child survival. Governments and their partners should work together to foster strong primary health care systems so that all children have access to essential health, nutrition, and social services.

Specifically, governments and partners can jointly:

- Prioritize child health by including it as a top agenda item and allocating sufficient resources to support comprehensive child health and nutrition programs.
- Develop and implement policies and costed plans for child health and nutrition that support nurturing care and include targeted activities to reach the most vulnerable children.
- Coordinate and harmonize implementation strategies across projects and initiatives so that child health and nutrition services are delivered as a holistic package. This includes greater support for the uptake of IMNCI/ICCM, treatment programs for acute malnutrition, and follow-up services for children at elevated risk.
- Strengthen community delivery strategies and community health care worker programs to increase service availability where children live and to improve caregiver knowledge and support.
- Invest in referral networks so that care is available for emergencies and for children with complex conditions.
- Build effective partnerships for multi-sectoral action across government sectors and local actors to tackle determinants of child health such as water and sanitation, air pollution, food security, and gender equity. (Requejo, 2024)

NATIONAL CHILD HEALTH POLICIES

Integrated Management of Childhood Illness (IMCI) and **Integrated Community Case Management (ICCM)** are the key child survival thrusts being used by the Nigerian Government to address the unacceptably high under-5 morbidity and mortality indices.

The Federal Ministry of Health, in 1997, adopted the implementation of the Integrated Management of Childhood Illness (IMCI) strategy as the main thrust of its child survival effort. Implementation has, however, remained at a lower scale.

Integrated Management of Childhood Illness (IMCI)

It is an integrated approach that focuses on the health and well-being of the child. IMCI aims to reduce preventable mortality, minimize illness and disability, and promote healthy growth and development of children under five years of age. IMCI includes both preventive and curative elements that can be implemented by families, in communities, and in health facilities. **The strategy includes three main components:**

- Improving case management skills of healthcare providers;
- Improving health systems to provide quality care;
- Improving family and community health practices for health, growth, and development.

In health facilities, the IMCI strategy promotes the accurate identification of childhood illnesses in outpatient settings, ensures appropriate combined treatment of all major conditions that affect a young child, strengthens the counseling of caretakers, and speeds up the referral of severely ill newborns and children. In the home setting, it promotes appropriate care-seeking behaviors, improved nutrition, and support for early childhood development, prevention of illness, and correct implementation and adherence to treatment.

Integrated Management of Childhood Illness, 2024

In addition, Integrated Community Case Management (ICCM) was introduced in Nigeria in 2013 to address the three major childhood illnesses (Pneumonia, diarrhea, and malaria) in rural communities to improve access to curative care at the community level

Objectives

- To provide optimum nutrition for infants and young children
- To increase the exclusive breastfeeding rate from 17% to 50% by 2030
- To reduce by half the 2013 prevalence rate of 29% of underweight by 2030.
- To significantly reduce morbidity and mortality from ARI (Pneumonia), diarrhea, malaria, and vaccine-preventable diseases.
- To reduce morbidity and mortality attributable to HIV/AIDS in children.
- To reduce the disease burden arising from vaccine-preventable diseases in all communities in Nigeria, while using immunization as an entry point to strengthen the overall Primary Health Care delivery system.

Policy Thrusts:

- The government shall implement global strategies for child survival through sustained advocacy to ensure optimal growth and development of all newborns and children.
- Supporting and enhancing an enabling environment without any form of discrimination for working mothers through the provision of crèches in workplaces.
- Ensure that health workers and other care providers have the skills and information to support optimal infant and young child feeding.
- Prevention of mother-to-child transmission of HIV and ensuring optimal infant and young child feeding in the context of HIV.
- Revitalize the Baby Friendly Initiative in the community and health facilities.
- The government shall work with relevant agencies towards the implementation of the current International Labour Organization (ILO) on Maternity Protection at Work.
- Provide Vitamin A and other micronutrients (iron, folic acid, iodine, zinc), including supplementation for post-partum mothers and children aged 6-59 months.
- Provide the delivery of evidence-based, cost-effective, and integrated interventions (IMCI, ICCM, Immunization, etc.).
- Increase access and promote the use of long-lasting insecticidal nets for pregnant women and children through health facilities and community outlets.
- To ensure optimal care, support, and treatment of HIV-infected and affected children.
- To provide access to early diagnostic services and prophylaxis (antiretroviral and Cotrimoxazole) to exposed infants
- To ensure availability and access to diagnostic tools such as Rapid Diagnostic Test kits and essential childhood medicines like Artemisinin-based combination therapy, Amoxicillin, Oral Rehydration Solution, Zinc, etc.

Other policies include:

- School and adolescent health promotion
- Pre-adolescent health
- Injury prevention and protection of children
- Care for children living under special circumstances (Federal Ministry of Health, 2018)

IMPORTANCE OF FUNDING AND RESOURCES

The importance of adequate funding in the implementation of comprehensive child survival strategies cannot be overemphasized. Investing in children improves health outcomes, incomes, and economies. Inadequate costing can lead to a shortage of critical medicines, vaccines, and other essential supplies. Unavailability of health insurance to the average family restricts health-seeking ability, preventing early diagnosis and management of conditions.

COMMUNITY-BASED APPROACH

The promotion of household and community health practices through community health workers (CHWs) is among the key strategies to improve child health.

The Role Of Health Care Workers

Community health care workers are the frontline workers who support healthcare programmes and, as such, have a role to play in ensuring child survival strategies in the community and world at large. Their roles include the following:

- Identifying pregnant women and diagnosing existing and pregnancy-related conditions, promoting health through education, hence giving antenatal care (NPHCDA, 2011);
- Teaching women on health promotion through healthy lifestyles in pregnancy and also during the postnatal period, and distributing commodities such as mosquito nets (NPHCDA, 2013).
- Facilitating birth and emergency preparedness for unexpected adverse events/complications that may occur in pregnancy or post-natal (FMoH, 2014);
- Ensuring they are well equipped for vaccination, dispensing micronutrient supplements, and oral medications during postnatal periods (NPHCDA, 2011);
- Carrying out growth monitoring in children to observe their growth matrix and to detect anomalies as soon as possible (NPHCDA, 2013);
- Promoting breastfeeding and family planning programs amongst mothers by informing them of the importance and the benefits attached (CHPN, 2006). (Child Survival Strategies: addressing under-5 mortality in Nigeria, 2021)

MODELS OF SUCCESSFUL COMMUNITY INTERVENTIONS

The Community Engagement Continuum consists of a stepwise scale of engagement starting with community outreach activities and culminating in shared leadership. The five steps or categories of increasing community involvement, impact, trust, and communication in the framework include:

- Outreach
- Consult
- Involve
- Collaborate
- Shared Leadership

The Outreach category applies to programs that provide information and services within the community (e.g., a trained health worker provides information to individuals and families at the household level). The Consult category applies to programs that share information with the community and solicit feedback. The Involve category applies to programs where communities and service providers cooperate with each other (e.g., involvement consists only of some role in the selection of the local community health workers/ village health workers and/or the involvement of community members in some intervention activities. The Collaborate category applies to programs that form a partnership with the community on several aspects of the intervention including planning and management of the program. The highest step in the community engagement continuum is Shared Leadership, where final decision-making authority for the program is held by the community itself. (Commun, 2014)

MONITORING AND EVALUATION

INDICATORS OF CHILD HEALTH AND SURVIVAL

Indicators for assessing infant and young child health survival include 8 core indicators, are population-based and can be derived from household survey data.

Impact indicators on the health status of women's and children's health.

- Maternal mortality ratio (deaths per 100 000 live births);
- Under five child mortality, with the proportion of new born deaths (deaths per 1000 live births);
- Children under five who are stunted (percentage of children under five years of age whose height-for-age is below minus two standard deviations from the median of the WHO Child Growth Standards).

Coverage indicators on key interventions on women's and children's health.

- Met need for contraception (proportion of women aged 15-49 years who are married or in union and who have met their need for family planning, i.e. who do not want any more children or want to wait at least two years before having a baby, and are using contraception);
- Antenatal care coverage (percentage of women aged 15-49 with a live birth who received antenatal care by a skilled health provider at least four times during pregnancy);
- Antiretroviral prophylaxis among HIV-positive pregnant women to prevent vertical transmission of HIV, and antiretroviral therapy for women who are treatment-eligible;
- Skilled attendant at birth (percentage of live births attended by skilled health personnel);

- Postnatal care for mothers and babies (percentage of mothers and babies who received postnatal care visit within two days of childbirth);
- Exclusive breastfeeding for six months (percentage of infants aged 0–5 months who are exclusively breastfed);
- Three doses of the combined diphtheria, pertussis and tetanus vaccine (percentage of infants aged 12–23 months who received three doses of diphtheria/pertussis/tetanus vaccine);
- Antibiotic treatment for pneumonia 1. (percentage of children aged 0–59 months with suspected pneumonia receiving antibiotics). (WHO, 2014)

IMPORTANCE OF DATA COLLECTION AND ANALYSIS

Data collection and analysis can yield essential information to guide child welfare decision-making and practice improvements. Data and statistics provide a foundation for agencies to respond to Federal and State reporting requirements and requests from agency leadership, policymakers, and funders, which can support sustainability. They also may support agencies' continuous quality improvement efforts. Data can help child welfare professionals, policymakers, and others better recognize the extent of ethnic and other disproportionality and disparity in their systems and across the country. (Child Welfare Information Gateway, n.d.)

CHALLENGES AND BARRIERS

The barriers to accessing adequate healthcare include:

- Long distance to healthcare facilities
- Uneven distribution of healthcare facilities
- Dearth of healthcare personnel due to scarcity of healthcare funds
- Cultural practices such as wife seclusion in northern Nigeria
- High illiteracy rates
- Financial constraints (Adedini, 2014)

CONCLUSION

In conclusion, effective child survival strategies are essential for reducing mortality rates and ensuring the well-being of children worldwide. By focusing on key interventions such as improving maternal health, enhancing nutrition, providing access to clean water and sanitation, and ensuring timely vaccinations, we can significantly impact child survival. Collaborative efforts among governments, organizations, and communities are vital to implement these strategies effectively. Additionally, addressing socio-economic factors and promoting education can create an environment where children thrive. Ultimately, investing in the health and survival of children is not only a moral imperative but also a foundational step toward sustainable development and a brighter future for all.

Reviewer's Note:

Child survival strategies, if adequately implemented, can reduce our high morbidity and mortality rates. The need for health professionals and administrators to understand these strategies can therefore not be overemphasized.

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