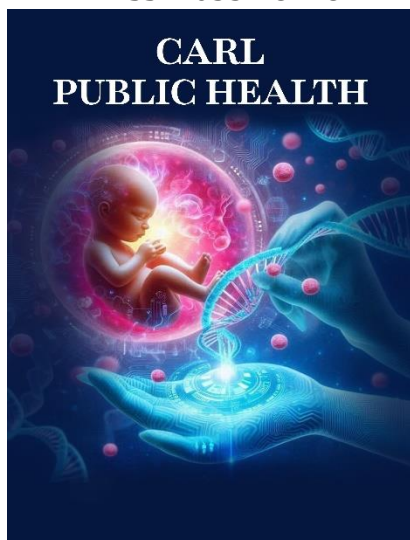




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PUBLIC HEALTH**Authors**^aOgbuehi, N. C.^aPublic Health, University of South
Wales Prifysgol De Cymru**Correspondent**

Ogbuehi, N. C.

(ogbuehichimaobi78@gmail.com)

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Advancing Family Healthy Lives and Wellbeing through Immunization: A Review

Abstract

Based on various health indicators, Lesotho is highly challenged by its terrain affecting its accessibility, health service delivery and lack of financial power. Despite enjoying series of investment in the health sectors and humanitarian activities, the country still remains the world third highest prevalence of HIV/AIDS at 23.4% in 2018 and it was considered a drawdown to the present life expectancy of 54years. Family is known to form the basis for health development of a community and the nation as a whole. With family health consideration, the review examined how Lesotho can archive some of its Sustainable Development Goals (SDG) targets and explore the issue related to family health and its incorporation into the SDG.

Keywords: Lesotho, Family Health, Sustainable Development Goals (SDG), Immunization

Introduction

Lesotho is a land-enclosed country surrounded by the Republic of South Africa with a surface area of 30,335Km² and a population just about 2million people. Although, there have report of reduced population grown which is currently in 0.08%. The terrain of the nation is highly mountainous which affects accessibility as well as service delivery. Majority of the citizens of Lesotho (>70%) actually live in the rural side of the country. Considering the various health indicators for the country, shows the infant mortality rate (IMR) is 59/1000 livebirths, maternal mortality rate (MMR) is 1,020/100000 and life expectancy of 54years (World Health Organization [WHO], 2018). This is considered highly poor, even though it was a great performance when compared to 2009 indicators of IMR: 106/1000 livebirths, MM: 700/100000 and life expectancy of 42years (UNICEF/WBH, 2017). One would have expected more from the country considering the level investment in the health sectors and humanitarian activities going into the country. Despite many efforts, the country remains the world third highest prevalence of HIV/AIDS at 23.4% in 2018 and it was considered a drawdown to the present life expectancy of 54years.

The country had an unsuccessful outing with the Millennium Development Goal (MDG 2000-2016) specifically as related to health targets (EU/UNDP,



2016). Therefore, the 2030 Agenda for Sustainable Development presented another opportunity for the country to reaffirm her commitment to better living of her citizens. The 2020 Agenda commonly called “Sustainable Development Goal-SDG” is made up of 17-goals, 169-targets, and 232 indicators (WHO, 2016), which presented a more exclusive-inclusive pathways from the 8-targets and 60-targets of the MDGs (EU/UNDP, 2016). According to Richardson et al. (2020), SDGs consist of world’s ambition for long-term social advancement that must be met by 2030 based on the goals, targets and their indicators.

From the report on Lesotho health sector expenditure in 2017, it was noted that several interventions and initiatives have improved the country healthcare system as regards to maternal and neonatal care; however, a substantial vacuum still exist (UNICEF/WBH, 2017). The report noted a significant improvement in the healthcare delivery from 42% in 2009 to 77% in 2014 (UNICEF/WBH, 2017). In addition, an Expanded Program for Immunization (EPI) in 2015 estimated an overall improvement in the management of vaccines from 48% in 2014 to 71% in 2018 (UNICEF-Lesotho, 2019). However, it was observed that 30% of the secondary health facilities in the country provides “Comprehensive Emergency Obstetrics and Newborn Care (CEmONC)” that ensure safe delivery and 89% of the MM take place in facilities without the CEmONC certification (UNICEF-Lesotho, 2019). Also, the health sector reported a reduction in under-1 children that received measles vaccines from 90% recorded in 2014 to 80% in 2018 (UNICEF-Lesotho, 2019). These and many more showed the need for improvement in the health quality services related to infants and maternal healthcare including safety delivery, immunization and postnatal care as they are exclusively important to family health. Family health, according to WHO, is an indication of the interrelations between and among family members, which ensures that, every members of the

family obtain the needed physical, mental, social and spiritual wellbeing (Shrestha, 2022).

Family is known to form the basis for health development of a community and the nation as a whole. Several studies have established the interaction between family functioning and health-related outcome (Dunbar et al., 2013; Trief et al., 2016). Vedanthan et al. (2016) noted that extent of family life such as the parent-child interaction has a significant impact on the healthy and illness progression. To inquire into how Lesotho can archive some of its SDG targets, the review explore the issue related to family health and its incorporation into the SDG.

Family Health and SDG

Family health is a constituent of community health (Gebremariam, 2004). Family health is defined as an health-related issues beyond an individual needs (including the father) but rather a whole system that is considered on the basis of interaction and inter-relation between and among family and family member as regards their health across all stages of life among the family (Gebremariam, 2004). Aside the prevention and cure of diseases, family health ensure activities towards the recovery and improve healthy living among its member (Manciaux and Belsey, 2004). The extent covers by family health include; reproduction health (eg. Family planning, antenatal care); child health (nutrition, immunization), gender related issue (Girl-child trafficking), ageing, mental health and social challenges (drug abuse) (Shrestha, 2022). Considering the scope, it is obvious that issues related to family health cut-across SD Goal 1 (end poverty), Goal 2 (zero hunger), Goal 3 (good health and well-being), Goal 4 (inclusive and equitable education), and Goal 5 (gender equality); however, this Essay intends to focuses on the SDG 3 and it’s relevant to family health.

SDG 3 aims at “**ensure healthy lives and promote well-being for all at all ages. The goal covers 9-targets,**

which includes maternal mortality, neonatal and child mortality, infectious diseases, non-communicable diseases, sexual and reproductive health, universal health coverage and environmental health” (Richardson et al. 2020; WHO, 2016). SDG 3 was selected because it obvious inter- and intra-connection with family health with great potential of enhancing and improving family wellbeing if extensively executed. The Essay concentrate mainly on Target 3.8 (universal health coverage) while the indicator of focus is 3.8.1: coverage of essential health coverage (immunization coverage hereafter). The selected target and indicator provides basis for health promotion among family and contribute majorly to prevention of health-related issue such as communicable disease among family maternal, infant and young child mortality and mobility.

From Lesotho perspective, the target 3.8 and its indicator 3.8.1, plays a vital role in the country ability to achieve her SDG targets (3.1, 3.2 and 3.3) and the overall health development of the country. Immunization coverage is an essential health services that prevent mortality and morbidity from communicable disease among under-5years children and improve their survival and health development.

Immunization Coverage and Lesotho Perspective

Immunization is one of the core public-health intervention and cost-effective program towards prevention of communicable diseases such as tuberculosis, diphtheria, pertussis, tetanus, polio, and measles (Meleko et al. 2017). Such program has prevented and minify childhood deaths and disabilities globally to the tune of over 3million lives safe annually according to the United Nations data (Meleko et al. 2017; Mentel & Cherlan, 2020). Immunization significant ensure minimal risk of disability from infectious disease such as Poliomyelitis (Meleko et al. 2017).

Globally, a significant achievement have been made over the years in lessening child mortality and morbidity with immunization playing an important role in minifying the under-5years mortality rate from 12.5million in 1990 to 5.3million in 2018 (UN-IGME, 2019; Bobo et al., 2022). Despite the progress, many region and nations still show high level of childhood mortality difference and Sub-Saharan Africa (SSA) region has the highest under-5year mortality worldwide (UN-IGME, 2019; Bobo et al., 2022).

In 218, SSA has a mean childhood death (under-5years) of 78/1000 livebirths which simply means 1 in 13 childhood mortality rate before their fifth birthday. In addition, it implies a 16 times mortality rate increase as compared to 1 in 199 childhood mortality in developed countries. The importance of immunization on the wellbeing of children as well as adult across the globe cannot be over-emphasized. Excluding the “safe” drinkable water, there are no other health-related programs or interventions that have an impact on mortality reduction and population growth like immunization (Plotkin & Mortimer, 1988; Rodrigues & Plotkin, 2020). Successful development and effectiveness of vaccines in forestalling significant amount of death and disabilities has been one of the major highlight of scientific advancement in the 21st century. Immunization is a vital childhood survival mechanism (Bangura et al. 2020) and it is reckoned to have forestalled millions of childhood mortality annually (Malande et al., 2019; Wolfson et al., 2008; Ehreth, 2003). In addition, a combination of immunization along with good sanitation, safe drinkable water, and sufficient nutrition can ensure improvement in family health and prevention of infectious diseases (Bangura et al. 2020). Immunization coverage (as an indicator 3.8.1) plays a vital role and direct influence towards the achievement of the SDG 3 and indirect impacts on 14 other SDGs from the 17 SDGs (WHO, 2017).

Despite the success recorded with immunization program across the globe, many African countries still

account for about 40% of the total mortality among the age group 1-5 due to infectious disease preventable by immunization (Wiysonge et al., 2012). Nonetheless, some level of progress has been achieved on the African continent. For example, vaccination for Diphtheria-Tetanus-Pertussis (DTP3) showed an increase in immunization coverage from 57% in 2000 to 76% coverage in 2015 (Mihigo et al., 2017). Similarly, mortality due to measles-related causes have reduced by 86% between 2000 and 2014 (Mihigo et al., 2017). However, lack of extensive coverage implies that about 23% of children in Africa countries was not immunized with 3rd DTP vaccine while most countries immunization coverage has been on standstill of 70% leading to disproportionality and uneven immunization coverage among, between and within nations of Africa (LaFond et al., 2015).

In the case of Lesotho, despite the huge investment in the health sector of the country, more effort is still required of the country in order to attain its target of the under-5years mortality as low as 25/1000 livebirths by 2030 which is currently at 59/1000 livebirth. Although, the country have made progress in the immunization coverage as well as the vaccines management system of the country. According UNICEF-Lesotho (2019), the under-5years MR of the country reduced from 117/1000 livebirths in 2009 to 94/1000 livebirths in 2015. Also, through various health services program, the MMR of the country remain 1,024/100,000 livebirths which indicated a reduction from 1155/100,000 livebirths estimated in 2009; however, the MMR is still high and unacceptable for a country that is expected to achieve a less than 70/100000 livebirth by 2030 (UNICEF-GGG).

As previously stated, immunization coverage as a major role to play in achieving the SDG 3 especially in the area of IMR reduction (Bangura et al. 2020). However, the country has not effectively put in place modality that will ensure the country ability to meet the target. For instance, the country health system information

management, stated that the proportion of under-1year children receiving measles vaccines is 80% in 2018 which was a reduction to the 90% recorded in 2014 (UNICEF-Lesotho, 2019). However, most of the stagnation or reduction in vaccination coverage witnessed in the country is related to issue surrounding their centralized health system, inaccessibility to deepest and mountainous rural areas of the country. For instance, Mokhotlong is a major district in Lesotho at the mountainous northeastern part of the country. Most of the inhabitants of the district engaged in agricultural practices and regarded as largely poor population with highly impacted by HIV/AIDS and low immunization coverage(3).

Despite the achievement made various immunization programs, low coverage still persist among many of the country's districts leading to unvaccinated and inequalities among under-5years immunization. This has also reflected in the country fight against HIV infection among children where 13,000 new cases of infection was reported because of top-bottom approach in vaccination (Ndayizigiye, 2022). Among the SSA, only Zimbabwe was designated to have achieved the Global Vaccine Action Plan threshold of 80% or higher coverage for a DTP3 vaccine, which act as the basic for the assessment of performance in routine vaccine delivery system (Bangura et al. 2020). For Lesotho, EU/UNDP (2016) reported all basic vaccines threshold of 68% despite various international supports and programs. Mantel and Cherian (2020) asserted a minimal coverage with needed doses of vaccines as well as booster doses while immunization for under-5years at their second year is largely insufficient. Immunization/universal health coverage in Lesotho is faze with those highlighted by Mantel and Cherian (2020) couple with peculiar issues such as centralized immunization system, and poor public health institutions and services (UNICEF/WBH, 2017). This issue and many others was further discuss in the next section of the Essay.

Challenges and Ways of Improving Immunization Coverage of Lesotho

At the end of MDG 2015, the IMR and MM of Lesotho was relentlessly high while the country was also unable to attain the GVAP targets due to some peculiar challenges associated with various immunization programs. Although, the country has made some level of progress during the agenda 2030 of SD; however, there is room for improvement especially in the area of facilities, accessibility, and stock/storage (Nshimirimana et al., 2013). The challenge facing the immunization coverage of Lesotho cut across the whole health system from infrastructure, data availability, limited human and other resources. These issues were made complicated by centralised health system practices of the country leading to shortage and inconsistent supply of vaccines among the distance district (Kiptoo et al., 2015, Ismail et al., 2014). Many of the districts are located at the mountainous side of the country such as Mokhotlong and they are faced with issues related with inaccessibility by healthcare workers, unavailability of cold chain system while they are located in places farther from available healthcare facilities. Limited vaccines at the healthcare facility is commonly associated with unavailability or non-functioning of cold chain system while difficulties in transporting vaccines to tough terrain contributed to low coverage in many of the Lesotho (Pertet et al., 2018).

In overcoming some of these challenges, de Savigny (2009) and Decouttere et al. (2021) proposed an health system building blocks as a means of navigating various challenges related to immunization coverage. Decouttere et al. (2021) noted that strategically combined activities of (a) availability of immunization services for individuals that demands, (b) under the condition that ensure supply of the vaccine as required and (c) availability of healthcare professional that perform at the highest possible, will ensure successful immunization coverage. Conversely, low vaccine acceptance with lead to low demand; hence, low immunization coverage.

Therefore, there must be an intensive community involvement for orientation and mobilization for immunization activities (Decouttere et al., 2021). In driving up immunization coverage, there is need to overturn the issue related to inequality (SDG10) which is attributed to other SDGs (1-6) in ensuring accessibility to immunization for all (Srivastava et al., 2020; Arsenault et al., 2017). Challenge related to supply of vaccines and limited healthcare professional requires an increase in financial allocation towards health system as well as funding from international organisation, this would support the country in overcoming the cost of providing cold chain system to various district, improve healthcare infrastructure and attractive pay to healthcare professionals (Bangura et al. 2020). Mihigo et al. (2017) noted that immunization intervention in many African countries suffers setback due to low or lack of financial commitment from their government. According to data released on the health sector expenditure of Lesotho, the financial commitment of the Lesotho's Government increases annually by 12.63% and the increased percentage have been spread into activities related to laboratories, planning, pharmaceuticals and procurement of cold chain system under the Clinton Health Access Initiative (CHAI) (UNICEF/WBH, 2017). Overall, the country stand a better position in term of financial coverage than many other SSA countries and there is an increase in the level of investment in the health sector by the administrator and donors (UNICEF/WBH, 2017).

Recommendation and Action Plan

Considering the importance of the indicator 3.81 in the world agenda for health under the SDG3, its expected that the indicator will continue to drive various other 2030 Agenda for SD along with it as well as funding priorities. The primary focus of the indicator is ensuring equal opportunities to quality health-related services for all irrespective of the ethnicity, income level and other socio-economic attributes. In ensuring equal

opportunities towards health services, the target and its indicator will reduce disabilities and disproportionality in health issues. Through the Essay, it was established that immunization and its effective coverage provides the foundation towards achievement of the SDG3. As health related program, it has achieve higher accomplishment than any other intervention and it is useful as a pointer for many other SDGs, therefore, there must be continuous funding into the program for better outing on the SDG# and good chance on other SDGs. By continuously improving on the immunization activities of Lesotho, the country stand a better chance of meeting their target for health issue while the immunization of women and children also improve the family health as well as the community health. This in return enhance the national health development of the country.

The immediate future of immunization coverage can benefit immensely from the introduction technology in the activities related to vaccination formulation and production. Developing a new and enhanced vaccine that considered various factors limiting its present coverage will go a long way in creating a new dimension in health-related issue. Such vaccine will be built on better storage and transportation conditions, which can improve the supply chain and administration.

Development of heat-balanced vaccines will lessen the difficulties faced with tough terrain and long distance districts especially those that are located farther away from the cold chain facilities. There is need for better information management system across various social and geographical features of the districts in Lesotho. Such information system will facilitate and provide required information on birth and demand for immunization. Over time, information gathering at high level system will improve the immunization coverage of the country as well as the accuracy in identifying the under-vaccinated group.

Finally, irrespective of the success attain so far by the country the challenge of shortage in healthcare professional and difficulty in accessing some of the district still call for serious concern. Therefore, immunization partnership program must be continuously encourage by the health sector of the country. The program itself has enjoyed different level of support and partnership in financial and human resources over the years and with much of the success recorded among many of the partnership, it's expected that such program and cooperation will continue to exist across the board. The country will benefit from new global partnership, cooperation and funding especially towards the difficult districts that requires more resources. Such partnership will improve the immunization coverage, and stock availability and technical support in developing data-driven immunization activities. Without a doubt, Lesotho stand a great chance of achieving the SDG 3 among many others with continuous support from various international and national partnership.

Declaration of Competing Interest

The author declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

Credit Authorship Contribution Statement

None

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