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The Phenomenon of Vaccine Resistance, Refusals, and Boycott in Cameroon: A Perspective Analysis

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Abstract

For several decades Cameroon has been experiencing massive challenges with regards to infection prevention and control, as well as the fight against vaccine-preventable diseases and epidemics. The resistance, refusal, and boycott of vaccines by some populations has marred the efficiency and efficacy of vaccination campaigns against diseases of epidemic potential such as Measles, Yellow Fever, Tetanus, Poliomyelitis, and Cholera. This phenomenon has been observed in many regions of Cameroon, particularly the North West, Littoral, Centre, East and West Regions of the country. Recently there have been massive anti-campaigns leading to the boycott of the Ebola Trial Vaccine in Bamenda and Yaoundé. Effective vaccination and immunization coverage in Cameroon, therefore, needs to be reviewed and the root issues addressed.

Keywords: *Vaccine, Refusal, Boycott, Resistance.*

Introduction

Throughout the world, childhood immunization is a major public health intervention for preventing disease and mortality. Although the vaccination coverage in most high-income countries is significantly high, variations in coverage rates at the national level among different ethnic backgrounds are reported. [1].

This phenomenon is more common in low-income settings such as Cameroon where infection prevention, control, and the fight against infectious diseases and epidemics is quasi difficult to handle. Efficient and effective vaccination campaigns constitute an essential and sustainable strategy of overcoming this phenomenon in order to curb the rising morbidity and mortality rates among local populations.

Methodology

We used a cross sectional retrospective and analytic design to analyze the existing secondary data from the Information and Statistics Department of the North West Regional Delegation of Public Health, Bamenda. This enabled us come up with the present literature and report.

In the Netherlands, for example, the overall vaccination coverage among newborns is 95 %. The vaccination coverage among young adolescent girls against cervical cancer caused by the Human Papilloma Virus (HPV) is 59 %. The National Institute coordinates the National Immunization Programme (NIP) for Public Health and the Environment. The National Immunization Programme targets 12 diseases (polio, diphtheria, tetanus, pertussis, rubella, measles, mumps, disease caused by *Haemophilus Influenzae* type b, meningococcal C disease, hepatitis B, pneumococcal disease and cervical cancer caused by HPV). It is non-mandatory, and free of charge. [2] This example from the Netherlands is a sound and commendable effort in tackling the phenomenon.

Meanwhile, majority of health districts in several regions of Cameroon have a huge challenge to grapple with a similar phenomenon, reason why vaccination and immunization in

Cameroon is generally quite difficult to grapple with.

For more than two decades Cameroon has been experiencing serious challenges with regards to infection prevention and the fight against epidemics. The resistance, refusal, and boycott of vaccines by the populations have marred the efficiency and efficacy of vaccination campaigns against diseases of epidemic potential. This has been a common phenomenon in some regions of Cameroon, particularly in the North West, Litoral and West Regions. This is aggravated by the recent stock outs of some vaccines such as BCG in the Northern and Centre Regions of the country, and further compounded by the socio-political climate including a war in the Far North Region against Boko Haram and the raging war for independence by the Ambozonia separatist movement with unimaginable ramifications.

Results

Figure.1 illustrates the various reasons advanced by respondents in a recent survey carried out by Ndipowa J.A. and Kamga H.L.

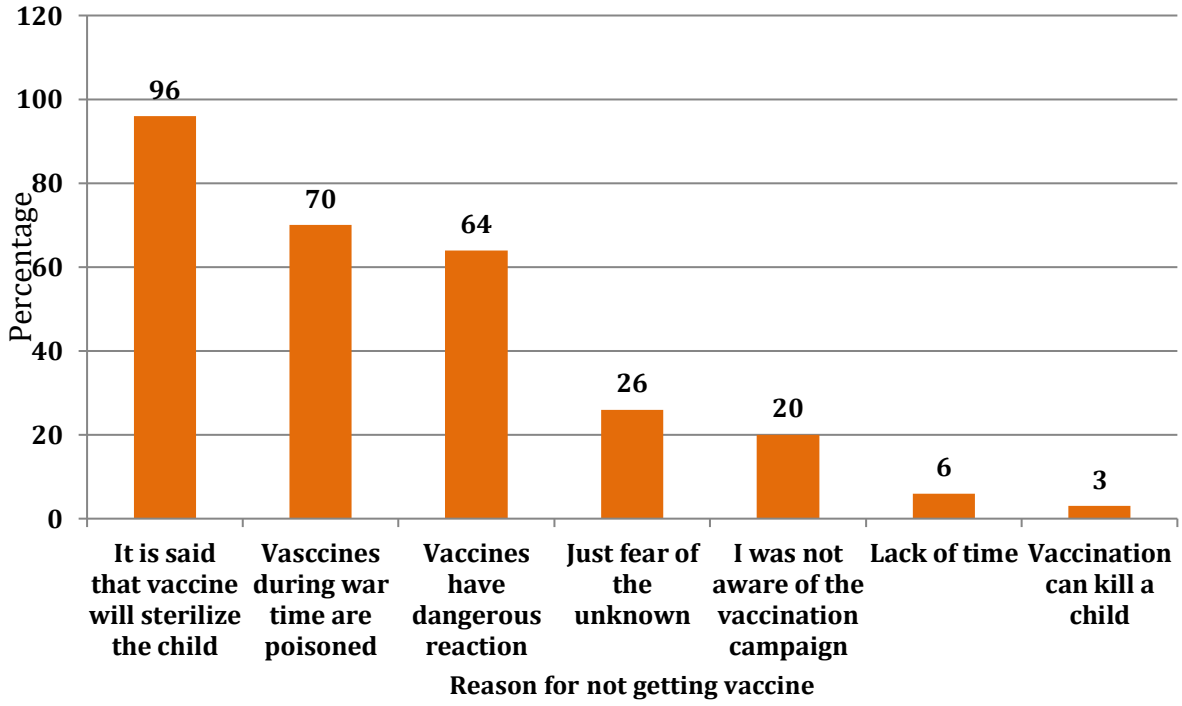

Figure. 1. Reasons for not getting their children vaccinated: (n = 414)

Discussion

Amidst confusion, insecurity, and the fear of the unknown, many families have been chased into the bushes and refugee camps, the adverse consequences notwithstanding. These displaced populations are at very high risk of contamination, infection and epidemics given that they are staying in forests, slumps and overcrowded refugee camps. With such massive displacements, disease exposure, incidence and prevalence tend to increase significantly. Consequently, effective vaccination and immunization as well as follow up by way of surveillance, and monitoring become even less efficient. Access to vaccination for newborns in such circumstances is either absent or inadequate.

If one takes a look at the following pictures, one would wonder the consequences of poor vaccination or the non-vaccination of the populations against vaccine-preventable diseases, with Poliomyelitis as an example. It is really annihilating and stressful.

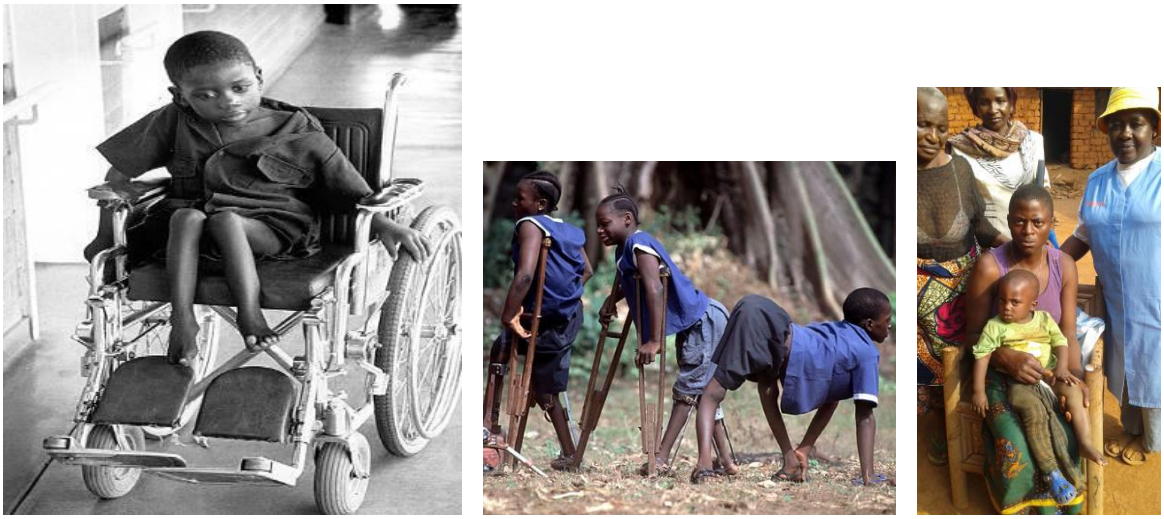

Figure. 2. A look at Poliomyelitis

NB: Pictures 1 and 2: The devastating effects of polio still noticed in some remote and very poorly accessed villages. Some of these orthopaedic anomalies are being provided supportive physiotherapy by the use of wooden crutches in a Catholic Health Centre at Mambu-Bafut in the North West Region of Cameroon. Picture 3: Recent suspected case of AFP in an Under-Five staying with the grand mother in Sob, Kumbo East, still under confirmative investigation (2014/2015 pictures).

In the early 1990s the populations of the North West Region boycotted the Tetanus Toxoid vaccination campaigns meant for women of childbearing age, which were intended to fight against maternal and neonatal tetanus. This was motivated by negative political rumors that "the Tetanus Toxoid was meant to render the women of childbearing age infertile as a means of reducing the population of the opposition political parties". This inevitably had a very devastating effect on government efforts in the prevention of maternal and neonatal tetanus.

Rumours and negative campaigns can be terribly devastating to vaccination and immunization programmes. Some rumours can be founded, though.

In a current study carried out by Ndipowa J.A. and Kamga H.L., Figure. 2 illustrates the existence and persistence of these negative rumours.

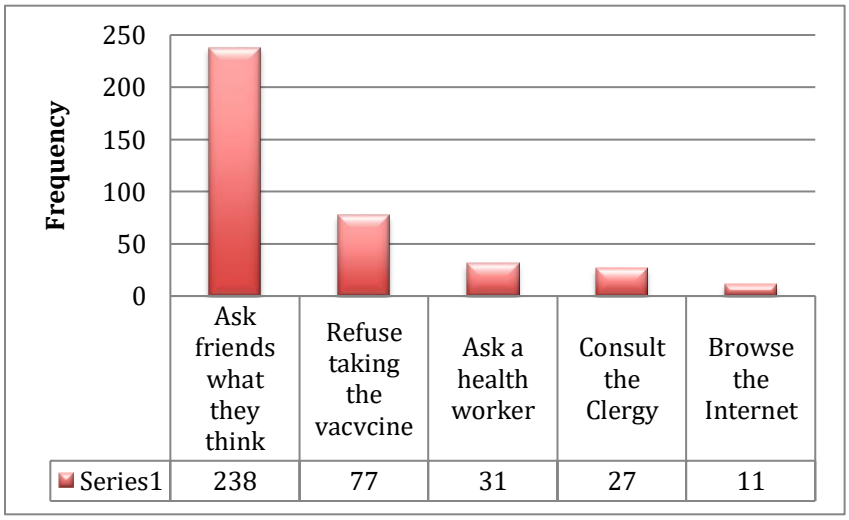

Figure 3. Actions Respondents would take on hearing a negative rumor related to vaccine(s) ***(n = 384)***

Tetanus, also known as lockjaw, is an infection characterized by muscle spasms. In the most common type, the spasms begin in the jaw and then progress to the rest of the body. These spasms usually last a few minutes each time and occur frequently for three to four weeks. [3] Spasms may be so severe that bone fractures may occur. [4] Other symptoms may include fever, sweating, headache, trouble swallowing, high blood pressure, and a fast heart rate. [3,4] Onset of symptoms is typically 3 - 21 days following infection. It may take months to recover. About 10% of those infected die. [3].

Infection can be prevented by proper immunization with the tetanus vaccine. In those who are infected tetanus immune globulin or if not available intravenous immunoglobulin (IVIG) is used. Tetanus occurs in all parts of the world but is most frequent in hot and wet climates where the soil contains a lot of organic matter. [3]. In 2013 it caused about 59,000 deaths – down from 356,000 in 1990. [5].

There is neonatal tetanus which is a form of generalized tetanus that occurs in newborns, usually those born to mothers who themselves have not been vaccinated. If the mother has been vaccinated against tetanus, the infant acquires passive immunity and is thus protected for some time. [6]. It usually occurs through infection of the unhealed umbilical stump, particularly when the stump is cut with a non-sterile instrument. As of 1998 neonatal tetanus was common in many developing countries and was responsible for about 14% (215,000) of all neonatal deaths. [7] In 2010 the worldwide death toll was 58,000 newborns. As the result of a public health campaign, the death toll from neonatal tetanus was reduced by 90% between 1990 and 2010, and by 2013 the disease had been largely eliminated from all but 25 countries in the world. [8] Neonatal tetanus is rare in developed countries.

In neonatal tetanus, symptoms usually appear from 4 to 14 days after birth, averaging about 7 days. The fatality rate for infants has been estimated as 70% to 100%; death usually occurs by the age of 2 weeks. [4] The time from exposure to symptoms may be up to several months.

The spores which cause tetanus are present everywhere, so the only prevention is immunization. Three properly spaced doses of tetanus toxoid vaccine are recommended for women of childbearing age, either before or during pregnancy; this will protect their future babies from neonatal tetanus after delivery. [4] Adequate immunization by routine boosters in non-pregnant women of childbearing age can obviate the need to vaccinate women during pregnancy.

Soon after Tetanus Toxoid misconception, the Human Papilloma Vaccine (HPV) meant for the prevention of cancer suffered the same fate in parts of the North West and Centre Regions of the Cameroon.

It is worth understanding that the Human Papilloma Vaccine (HPV) is named for the warts (papilloma) some HPV types can cause. Some other HPV types can lead to cancer, especially cervical cancer. There are more than 40 HPV types that can infect the genital areas of males and females. But there are vaccines that can prevent infection with the most common types of HPV. HPV is transmitted through intimate skin-to-skin contact. You can get HPV by having vaginal, anal, or oral sex with someone who has the virus. It is most commonly spread during vaginal or anal sex. HPV is the most common sexually transmitted infection (STI). Anyone who is sexually active can get HPV, even if you have had sex with only one person. HPV can be passed even when an infected person has no signs or symptoms. You can develop symptoms years after you have sex with someone who is infected, making it hard to know when you first became infected. Every year, over 27,000 women and men are affected by a cancer caused by HPV— that's a new case every 20 minutes. Persistent HPV infection can cause cervical and other cancers including:

- Cervical cancer: The most common HPV cancer. Almost all cervical cancers are caused by HPV.
- Vulvar cancer: About 69% are linked to HPV.
- Vaginal cancer: About 75% are linked to HPV.
- Penile cancer: About 63% are linked to HPV.
- Anal cancer: About 91% are linked to HPV.

- Cancer of the back of the throat: About 72% are linked to HPV. [Note: Many of these cancers may also be related to tobacco and alcohol use].

Most of these cancers could be prevented by HPV vaccination at ages 11-12.

The human papillomavirus (HPV) vaccines are safe, effective, and offer long-lasting protection against cancers caused by HPV.

NB: Each HPV vaccine—Gardasil® 9, Gardasil®, and Cervarix®—went through years of extensive safety testing before they were licensed by the U.S. Food and Drug Administration (FDA). Gardasil® 9 was studied in clinical trials with more than 15,000 females and males; Gardasil® was studied in clinical trials with more than 29,000 females and males, and Cervarix® was studied in trials with more than 30,000 females.

Research from before and after the vaccines were licensed show that HPV vaccines are safe. As with all approved vaccines, CDC and the FDA closely monitor the safety of HPV vaccines after they are licensed. Any problems detected with these vaccines will be reported to health officials, health care providers, and the public.

Like any vaccine or medicine, HPV vaccines can cause side effects. The most common side effects are pain, redness, or swelling in the arm where the shot was given; dizziness, fainting, nausea, and headache. HPV vaccination is typically not associated with any serious side effects. The benefits of HPV vaccination far outweigh any potential risk of side effects.

Despite the availability of information and literature published on this very important subject, in November 2015, a boycott was staged in Bamenda and Yaoundé against the testing of the Ebola Trial Vaccine virtually for the same type of rumors and misconceptions. Meanwhile in the Bamenda Regional Hospital some 171 clients had already been scrupulously screened and counseled before being given the trial vaccine, while in Yaoundé about 8 clients had gone through the same process before the boycott was staged. Despite the boycott the Ministry of Public Health kept its word and was scrupulously following up all the volunteers who had gone in for the trial vaccine. Up till now Cameroon has not experienced any outbreak of Ebola Viral disease yet, but her closest neighbor, Nigeria, has. Nevertheless, Cameroon is strategically located in Africa with a geographical setting, disease determinants and behavioral patterns that are very similar to those of all the other Ebola infected countries.

Ebola viral disease, hitherto known as Ebola hemorrhagic fever, is a very severe, highly infectious (contagious) and fatal zoonotic illness in humans with a case fatality rate of about 90%. There is a lot of literature about this disease in various related domains but the most important component is how to handle and cope with it practically. Infected patients require strategic and intensive nursing and supportive care since, as at now, there is neither a licensed specific treatment nor a vaccine for use on both humans and animals.

According to current literature and statistics, Ebola vaccine trial proves 100% successful in Guinea. The rVSV-ZEBOV candidate vaccine uses a vesicular stomatitis virus carrying a non-infectious Ebola virus gene. The vaccine cannot cause Ebola virus disease but can potentially stimulate an immune response to protect against the disease. The vaccine was developed by the Public Health Agency of Canada's National Microbiology Laboratory and licensed to New Link Genetics. In 2014, New Link Genetics entered into a licensing and collaboration agreement with Merck to research, develop, manufacture, and distribute the rVSV-ZEBOV candidate vaccine. The vaccine has, and continues to be, studied in hundreds of people (as of March 26, 2015, more than 800 people) in Africa, Canada, Europe, and the United States. Results from early studies to date of the vaccine show an acceptable safety profile and indicate that the rVSV-ZEBOV candidate vaccine produces an immune response. The Biomedical Advanced Research and Development Authority is supporting the advanced development and manufacturing of the vaccine and is assisting CDC in conducting the clinical trial in Sierra Leone.

The first trial of an Ebola vaccine in Africa started with the vaccination of three health care workers in Mali.

According to Sarah Boseley Health editor, Friday 31 July 2015 16.44 BST Last modified on Saturday 1 August 2015 00.02 BST, "A vaccine

against Ebola has been shown to be 100% successful in trials conducted during the outbreak in Guinea and is likely to bring the west African epidemic to an end, experts say. The results of the trials involving 4,000 people are remarkable because of the unprecedented speed with which the development of the vaccine and the testing were carried out. Scientists, doctors, donors and drug companies collaborated to race the vaccine through a process that usually takes more than a decade in just 12 months".

"Having seen the devastating effects of Ebola on communities and even whole countries with my own eyes, I am very encouraged by today's news," said Børge Brende, the foreign minister of Norway, which helped fund the trial.

This trial vaccine ought to be embraced and welcomed by everybody in Cameroon. After all, the other existing vaccines passed through the same trial process and necessary modifications before being used universally today.

Conclusion

The populations of the North West Region in particular and Cameroon in general therefore need a lot of Information and Education for Behavioral Change, counseling, informed consent, and responsible decision making in order to come out of this impasse. Surveillance of diseases of epidemic potential should be ameliorated and uplifted considering the massive presence of fruit bats and wild animals straying in the communities.

Recommendations

1. To neutralize negative rumors, the stakeholders must build public trust among the citizens. Very strongly recommend are the following:

- Governments and relevant authorities must articulate and disseminate appropriate counter messages that provide answers to the fears that led to the rumours through the same channels used by those spreading the rumours.
- Government must also promptly and appropriately respond to the concerns of high profile individuals such as politicians, and of the populations they represent.
- Health interventions must be provided by the publicly recognized health agencies rather than agencies that could be questioned.

2. Immunization programme coordinators should step up sensitization and awareness of the populations by tackling practical problems concerning vaccination.
3. Negative rumors should be dispelled and managed adequately by all stakeholders involved in vaccination and immunization programmes.
4. More complete information about targeted diseases and comprehensive information regarding benefits and drawbacks of the National Immunization Programmes (NIP) should be provided by the vaccination authorities well in advance to the populations in general and parents in particular. To fulfill parents' information needs, NIP information meetings can be organized at Child Welfare Clinics and other settings in different languages including local languages while at the same time ensuring the use of effective communication methods and strategies. Providing NIP information material in local languages such as Mungaka, Lamso, Fulani, Pinyin, Douala, Ewondo, Ngemba, Wimbum, Arabic, Pidgin etc. and not only in French and English, with easy accessibility is highly recommended.
5. It is of utmost importance to provide information tailored to these parents' needs so as to sustain high vaccination participation, and to ensure complete acceptance of future vaccination campaigns.
6. A focus on strengthening health communication activities to raise immunization awareness and address concerns of vaccine side effects at community level is essential.
7. The socio-political and security situation must be improved otherwise it will be pretty difficult to obtain effective vaccination performance given that many health facilities are closing down due to insecurity. Hostilities should be stopped by the powers that be. In fact, the security situation should be alleviated for vaccination programs to be improved.

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