

## Oppositions to Vaccination Activities against Poliomyelitis in the province of Tshopo R.D. Congo

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### ABSTRACT:

The incidence of vaccine-preventable diseases is increasing in Tshopo province in Democratic Republic of the Congo. The opposition to vaccination is becoming a major problem for poliomyelitis eradication in this country. This study aims to determine explanations of parents' refusal of poliomyelitis vaccination in the province of Tshopo. Our investigation is a qualitative research, it is carried out in the territory of Basoko, province of Tshopo (DR Congo), on resistance to vaccination against polio in the first quarter of 2018. The criterion of inclusion (parent-leader of the sect of children under five years) and the criteria of non-inclusion (parent-faithful of the sect). The qualitative approach was used to establish the community diagnosis of the situation. Its results indicate that all oppositions to vaccination find their justification in the Bible: "only God gives protection to life, that patients seek the doctor and not the opposite, the free vaccination of children cannot be explained since all the medical care is paying off and the unilateral decisions of the Congolese government with its partners on our children who are not sick, hide a plot". The Congolese State must put in place an effective communication policy capable of breaking all opposition to the vaccination of children with a view to eradicating all diseases preventable by vaccination.

**Keyword:** *Vaccination, poliomyelitis vaccine, children, paralysis, Kisangani, DR Congo.*

### INTRODUCTION:

Currently, medicine does not recognize any cure for poliomyelitis. Palliative treatment, which includes analgesics to fight pain, antibiotics to treat bacterial infections, moderate physical exercise and an adapted diet [1], often requires prolonged convalescence accompanied by physical rehabilitation, use of prostheses, orthopedic shoes and, in some cases, orthopedic interventions [2].

Primary prevention remains the only strategy to fight poliomyelitis. It is essentially based on the respect of the rules of food hygiene and the cleanliness of the hands. Vaccination is the only means of specific prevention.

Then two poliomyelitis vaccines are available: one inactivated is administered by subcutaneous or intramuscular injection, the other live attenuated is administered orally. Both confer effective immunity against poliovirus infection and prevent its person-to-person transmission. They thus allow individual protection and collective immunity [3].

The efficacy of oral live polio vaccine (OPV) is greater than that of inactivated vaccine (IPV). This live vaccine has more theoretical advantages because it multiplies in the digestive tract in the same way as wild poliovirus and spreads like natural infection. Thus, through mass vaccinations, it was possible to stop an outbreak by spreading the attenuated virus within the community to replace the wild virus. In addition, with an oral vaccine, the administration is inexpensive and easy. A single dose is needed to quickly develop the immunity that quickly develops throughout life. With VPI, the circulation of strains derived from the vaccine is impossible because the virus is inactivated or killed: it cannot reproduce.

Poliomyelitis is a highly contagious disease that is easily spread through interhuman contact [4]. It is caused by polioviruses, *Enterovirus* RNA viruses and the *Picornaviridae* family; they look like the hepatitis A virus by size and are from the same family. They all lodge in the intestine and their contamination passes through the mouth [5].

In endemic areas, wild poliovirus strains are able to infect the entire human population. Transmission is usually seasonal and is less important in tropical climates [6]. The incubation period, which separates the first exposure of the first symptoms, is usually between six and twenty days, with extreme values ranging from three to thirty-five days [7]. However, viral particles are excreted in the feces for several weeks after the initial infection.

"Poliovirus" viruses are excreted particularly in faces after several weeks following initial infection. The transmission of the disease is essentially digestive by the fecal-oral route, through the ingestion of contaminated food or water. Occasionally, the disease can be transmitted orally via oral saliva [8]. This route seems to be predominant in areas with a high level of hygiene. The transmission can be done by respiratory secretions (postilions emitted during coughing or sneezing) of a contaminated person because it eliminates the virus in the rhino-pharyngeal secretions during the first days of infection [9].

Man is the main reservoir of the virus. Polioviruses have a preferential tropism for the digestive tract. Their structure is very simple, composed of a ribonucleic genome of positive sense surrounded by a capsid [10]. The capsid protects the genetic material and makes possible the infection of certain types of cells by the virus. Three serotypes of poliovirus were identified: poliovirus type 1 (PV1), type 2 (PV2) and type 3 (PV3), each slightly different from the others by the proteins of its capsid. All three are extremely virulent and produce the same symptoms. PV1 is the most regularly encountered form, and the most frequently associated with paralysis [8].

In some circumstances, poliomyelitis may occur as a result of infections caused by enteroviruses other than polioviruses. If it can "survive" in water, mud, etc., the poliovirus, like any virus, is only able to multiply within living cells: in the external environment, without being able to multiply, it is therefore doomed to disappear after a few months [11].

Historically, poliomyelitis has been known since ancient Egypt through some engravings of ancient Egypt that exhibit characters with motor disabilities with certain characteristics of polio (adults with limb atrophy, children walking with canes) [12] and, in the 1960s, English Egyptologists recognized traces of poliomyelitis on a skeleton dating back to 3,400 BC. J-C [5].

Polio outbreaks usually affect the most vulnerable populations, but historically, the history of polio had two distinct periods: before and after 1921. In August 1921, Franklin Delano Roosevelt, future President of the United States of America had contracted polio on an island near the US-Canadian border. However, Roosevelt is neither child nor poor; he was 39 years old, rich and healthy. His two legs were paralyzed and held the office of President of the United States from March 1933 to April 1945 [13].

WHO recommends that all children in the world be fully immunized before their first birthday. And in endemic countries, she recommends the oral vaccine because the risk of circulation (transmission or importation) of this virus is high. The regimen containing only the injectable vaccine is selected in countries with low risk of importation and transmission [14]. The Democratic Republic of Congo (DRC) has chosen the sequential injectable vaccine - oral vaccine scheme in order to make national immunization coverage effective. And each vaccine has its frequency of administration.

DRC has already endorsed the global initiative for the eradication of poliomyelitis and the following strategies have been adopted to achieve this end:

- The reinforcement of routine EPI
- Mass vaccination targets children under five: Supplemental Vaccination Activities (SIAs) including National or Local Vaccination Days (NIDs) or (JLV).
- Epidemiological surveillance of PFAs

But the global analysis done on the EPI activities in June 2016 shows that the province of Tshopo presents a high risk of polio [15] because of: low vaccination coverage with OPV3, persistence of the large number of unvaccinated children, low quality of immunization data and epidemiological surveillance indicators, inadequate supervision of the provincial division in health and health areas, unequal access to immunization services geographically, socioculturally and economically; transport of vaccines at all levels.

DR Congo is known as a polio free circulation country because of circulating vaccine-derived poliovirus (cVDPV). The latter is a rare strain of poliovirus, genetically modified from its original strain in the oral polio vaccine (OPV) and which can cause acute facial paralysis. Wild polioviruses exported from the last endemic areas as well as circulating vaccine-derived polioviruses remain a constant threat to the populations and the achievement of the goal of a polio-free world [16]. Vaccination is an essential component of right to enjoy the best possible state of health of a child. Parents have an obligation to vaccinate their children.

Factors that delay DRC's certification of polio eradication include: the low proportion of children recovered from routine EPI (non-compliance with the immunization schedule, parents' refusal to introduce children during campaigns) Mass vaccination and routine PEV [15].

It is in this context that this study is done and its objective is to determine the arguments of refusal and resistance to poliomyelitis vaccination activities in the province of Tshopo.

## FIELDS OF STUDY AND METHODS

### Fields of study

This investigation was done in the district of Basoko, which consists of three health zones with high resistance to vaccination in the province of Tshopo (DRC). These health

zones are: Yalimbongo, Basoko and Basali (Fig.1). Qualitative approach was used to gather essential information from the study. This approach served to communicate effectively with cult leaders and to identify the main arguments of these refusals and resistances.

The survey was conducted from 07 January to 29 March 2018.

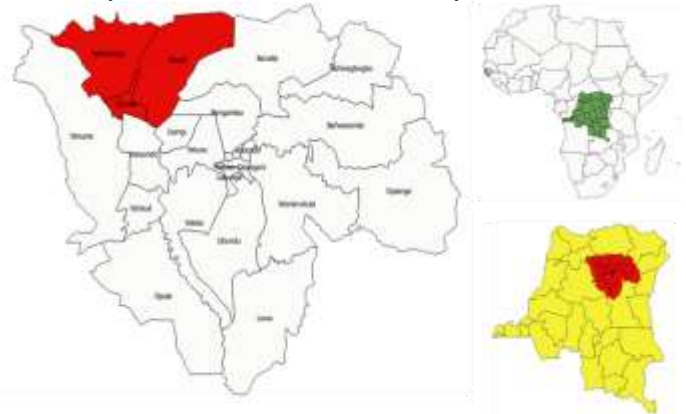


Figure 1: Location of Yalimbongo, Basoko and Basali health zones in Basoko district, Tshopo province, DR Congo.

### Size of the sampling

The respondents are the parents of religious sect *Bongola Motema*. This sect is chosen according to refusal and resistance to vaccination. The inclusion criterion is defined by parent-leader of the sect with at least one child under five and the non-inclusion criterion: parent-leader of the sect of a child over the age of five or parent-faithful of the sect. The sample of 23 parent-leaders was obtained by the so-called "snowball" technique. And the interview took place in the language of choice of the participant.

### Type of study

Our study is a qualitative investigation

### Study parameters

This study exploited in particular:

- Religious beliefs and vaccination,
- Prohibition of preventive medicine,
- Political dimension,
- Free vaccination.

### Analysis

Our method of collecting qualitative data has allowed us to understand the difficulties of acceptability of vaccination that members of these sects encounter in relation to the socio-technological evolution of the sciences, and these difficulties present a totally utopian apprehension of vaccination and other health activities (curative and promotional).

## RESULTS

### Characteristics of respondents

Figure 2 give repartition of the sample by heath zone

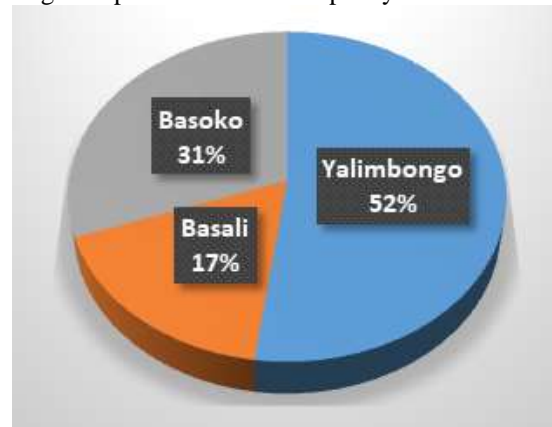


Figure 2: Repartition of parents-leaders of the religious sect interviewed by heath zone

It can be noticed that only 23 parents-leaders of the religious sect accepted to be interviewed. Yalimbongo represents the heath zone the has more parents-leaders of the religious sect (12 upon 23) that accepted to be interviewed when Basali has the less percentage of people that accepted to be interviewed. This size of the sample can be explained by the refusal of many parents-leaders to talk about vaccination, an act that they consider us violation of the will of God. According to them, any discussion of vaccination is considered to be caught.

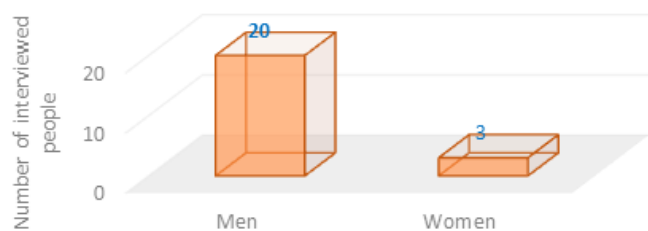


Figure 3: Repartition of the sample by sex

Figure 3 shows that 20 upon 23 (87%) of interviewed people are man and only 13% of the sample are women. It can be noticed that 74 % of people that accepted to be interviewed were young ( under 40 years old). The majority of our interviews were conducted in the local language through an interpreter.

#### **Causes of refusal and resistance to vaccination**

##### **Religious beliefs and vaccination**

A main explanation for the refusal of vaccination by the Bongola Motema sect lies in the association between vaccination and witchcraft. Indeed, incisions and scarifications practiced by the healers correspond, in the popular imagination, to ritual practices supposed to protect evil spells and the attack of wizards. However, the will to get rid of and protect oneself from witchcraft with more powerful or more "modern" means than ancestral methods is a fundamental prohibition of adherence to this religious sect, which finds its foundation and inspirations in the Bible.

Deuteronomy 14: 1-3 14: 1 You are the children of the LORD your God. You will not make any incisions and you will not make a bald place between the eyes for a dead person. 14: 2 For you are a holy people to the LORD your God; and Jehovah your God hath chosen you, that thou mayest be a people unto him that belongeth to him among all the peoples that are on the face of the earth. 14: 3 you will not eat anything abominable.

Leviticus 19:28 19:28 Thou shalt not make an incision in thy flesh for a dead man, neither shalt thou carve any figures upon you. I am the Lord.

##### **Prohibition of preventive medicine**

Again based on biblical verses, the followers of Bongola Motema refuse any form of preventive medicine. They consider that it is the patient who must go to the doctor and not the other way around. They therefore only accept medical care if they are ill and only go to the health center if they perceive signs of physical problems (fever, vomiting, diarrhea, etc.).

Christ Himself said that whoever is sick should seek the doctor, that's where we, we use this biblical passage. If one of my family members is sick, I will see the doctor at the health center. The vaccine given to non-sick children is not understandable. If my child is sick, I will go with him to the hospital, but if he is good health, I can't bring him to vaccinate him. (Testimony collected from FKT "a relative-leader of the sect in Yalimbongo".)

Matthew 9: 10-12 9:10 As Jesus was at table in the house, behold, many publicans and bad people came to sit down with him and his disciples. 9:11 The Pharisees saw this, and said to his disciples, why is your master eating with tax collectors and bad people? 9:12 And when Jesus heard, he said, It is not those who are well, who need a doctor, but the sick.

They believe that a healthy man does not need care in the same way that a person who is not hungry does not need to feed or that a worker can't be at his place working on Sunday.

In addition, taking a medicine when you are in good health may cause difficulties. According to our doctrine based on the Bible, it is God alone who protects man against disease and not something made by the sinful hands of man himself. (Argument put forward by a woman KPL (parent-leader of Bongola Motema in Basali.)

##### **Political dimension**

Many questions are raised by the free vaccine and must be apprehended not only religiously but also politically. Indeed, the Bongola Motema sect, even if it is clearly of religious inspiration, is also, from its origin, a movement of claiming the rights of the Blacks and protesting of the colonial domination. The colonial state, and by extension all government, is still perceived as an oppressive and satanic system.

"God saved us from the hand of the devil. From the government, if I accept his dictatorial orders, I become his slave directly, instead of being a slave of the good god. The government is an emanation of the devil by his orders". (Testimony of young parent-leader of Basoko.)

##### **Free vaccination**

Free vaccination within the community creates a climate of mistrust and fear of vaccination. The faithful of the Bongola Motema sect do not understand why the medical care is paying and the vaccine is free. What does it hide? Day say:

1. You bring us the vaccines for free,
2. You force us to be vaccinated,
3. We have to pay for other drugs like paracetamol,
4. We do not understand why vaccines are free,
5. This gratuitousness hides something

Finally, we can only refuse this vaccination". (Testimony collected from great leader of the sect in Yalimbongo).

##### **DISCUSSION**

Opposition to vaccines is becoming important in some villages in Tshopo province. They range from total opposition to hesitation, neglect or forgetfulness and result in inadequate immunization coverage. These refusals are aggravated by the fears of the vaccine, the misinformation of religious leaders (certain beliefs) and the loss of confidence in the politico-administrative authorities.

Among the religious movements that refuse vaccination in the province of Tshopo are Bongola Motema (one of the most refractory sects). Its refusal or resistance is based on the interpretation of the content of its Bible and the combination with other social, historical and political factors. Poliomyelitis could have been eliminated with a very effective vaccine today. But, the refusals of the vaccine in certain parts of the world (North of Nigeria and Pakistan) allowed the occurrence of epidemics in recent years. This suggests that continued immunization is still needed for a very long time worldwide [17].

Various beliefs and philosophical movements can profoundly alter public confidence. Thus, from anthroposophic schools, a measles epidemic spread in 2008 from Switzerland to Austria and then to Germany. Immediate hard measures have been implemented at European level before the 2008 European Football Championship in Berlin [18,19,20].

Most recently, it was reported that only 65% of children of ultra-Orthodox parents in Jerusalem are properly vaccinated

despite good access to vaccines in their country. It is important to improve health education and confidence in health authorities [21].

Similarly, in northern Nigeria's Kano province, Muslim leaders refused to vaccinate children against polio because they seemed to believe the vaccine was dangerous and could cause infertility among their children [20,21].

### CONCLUSION

To vaccinate your child is to love him. Vaccination is a right, part of the right to health, but the refusal of vaccination is also a right, which obliges health actors to obtain informed consent. The opposition of the parents is at the source of the insufficiency of vaccination coverage. They represent a barrier to prevent vaccine-preventable infectious diseases and delay DRC's certification of polio eradication.

From simple hesitation to complete refusal, opposition to vaccination in Basoko district is essentially linked to belief. Our survey concluded that the lack of communication with the parents of unvaccinated or inadequately vaccinated children and training of the actors of the vaccination are at the base of all the oppositions. Communication with the parents and training of actors in the field would be a priority for the implementation of quality immunization activities in DR Congo.

And the health education of the population must take into account the standard of living and education of parents and the relationship between vaccinators and parents. Good communication of polio supplemental immunization activities and a good briefing of immunization stakeholders are essential for the acceptability of immunization activities in households in the province of Tshopo. Better parents are informed, quickly the confidence of the vaccination is restored.

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