

Review Article

Current Situation of Polio in Pakistan

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ABSTRACT

This study was based on *Poliomyelitis* commonly known as "Polio" disease. Polio is also known as a third world disease as it has been eradicated early from the developed and developing nations with the help of vaccine available against it. It only remained in underdeveloped countries later on. But by now only Pakistan and Afghanistan have still cases of Polio. The objectiveness of this research was to find out the current situation of dealing with Polio control in Pakistan. The only possible way to not get this virus is through immunization against the virus which is called the Polio vaccine. Since the launch of the Global Polio Eradication Initiative (GPEI) in 1988, the global incidence of polio has dropped by about Ninety-Nine Percent. The expanded Program on Immunization is working on eradicating Polio from Pakistan. This system includes health visitors and lady health workers going from home to home providing for Polio vaccine to every child below the age of 5 years. But concerning all these efforts Pakistan is still fighting this dreadful virus. Pakistan is failing in controlling the virus because of various causes like parents being unaware of the consequences for not providing the vaccine to children, a Messy health care system, and lack of vaccine. This study concluded that Pakistan has reported Eighty-three new cases in the year 2020 which leads to the fact that Pakistan has failed still in controlling the Poliovirus.

1. Introduction

Poliomyelitis (family Picornaviridae), regularly abbreviate form "Polio" was the most fearful virus of the 20th century. Since the launch of the GPEI in 1988, the global incidence of poliomyelitis has fallen by nearly 99%. With the poliovirus in 125 countries on five continents, its spread is now limited to only three countries: Pakistan, Afghanistan, and Nigeria. Poliomyelitis is a highly contagious disease and contains 1, 2, and 3 neuropeptides. Vertical contact occurs in areas related to oral and oral hygiene, especially oral hygiene and anemia (2, 3). The virus can spread from person to person, infect a person's spine and cause paralysis (the inability to move parts of the body). After an infection, replication occurs in GIT (gastrointestinal tract). We should appreciate the efforts of the world

Elimination of serotypes in type II and type III scars Since 1999, there have been two incidents of any kind Level 1 in 2012 is still wide [1].

Mostly noted Global Polio eradication initiative incited in reach World Health Organization 27 years sooner has increased astounding ground in diminishing the measure endemically nations Sporadically One hundred and Twenty Five over the globe fish to just three including Pakistan, Afghanistan, moreover, Nigeria, whereas Wild polio Virus transmitted has not also been blocked at this point mathematical figure of case hot has dropped some spot near-ninety Nine% alternately with three lac fifty thousand new cases yearly by at that point (1988) [2–3]. Destruction program has faced much more operational issues in these nations curiously with the remainder of the worldly [5–6]. World Health accumulation has verbalized mind-boggling polio syndrome as a Global Public Health Emergency of International Concern in May 2014 [4].

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2. Clinical Features

Polio word is used to describe a disease caused by the three types of poliovirus. There are two main kinds of polio: a common disease that does not involve the Central Nervous System sometimes called uterine polio, and a major disease of the central nervous system whichever may be paralyzed or nonparalytic [7]. In general, in people with high immunity, poliomyelitis infection is not dangerous. Viruses rarely cause tacky symptoms. These can include able upper respiratory tract infections, gastrointestinal upset (aversion, regurgitation, belly ache, ulcers, or diarrhoeal in rare cases), and contagion [8].

Table 1. The reaction of Poliovirus Infection

Outcomes	Proportion of Cases
No Identification	72%
Minor illness	24%
Nonparalytic aseptic meningitis	1–5%
Paralytic poliomyelitis	0.1–0.5%
Spinal polio	79% of paralytic cases
Bulbospinal polio	19% of paralytic cases
Bulbar polio	2% of paralytic cases

The virus enters the CNS in about 1% of the disorder. Most patients with CNS involvement develop non-paralytic meningococcal with symptoms such as migraine, cervix, behind, stomach, limbs, hyperthermia, vomiting, sluggishness, and peevishness [8-9]. About one in five cases of paralysis is paralysis, in which the muscularity becoming feeble, flexible, and badly monitored, leading to paralysis. This condition is called severe paralysis [10]. Depending on the location of the stroke, paralyzed polymorphism can be classified as vertebral, spinal, or spherical. Encephalitis is a contagious disease of the brain tissue, which is rare and is usually found only in newborns. It is characterized by dizziness, nausea, headache, fever, frequent seizures, and paralysis [15].

Composition of Polio Virus

The poliomyelitis virus is a member of the *Picornaviridae* virus family. Virions are round with a diameter of about 27nm. These particles are simple because they consist of a protein shell around the bare Ribonucleic acid genome. The single-layer genome, linear ssRNA (+) is 7.2-8.5 KB, is polyadenylated, where the same ORF contains more than one protein. The capsid consists of four structural proteins: Viral Protein 1, Viral Protein 2, Viral Protein 3, and Viral Protein 4. The main building block is the picornavirus capsid supporter, which contains all copies of VP1, VP2, VP3, and VP4. The jacket consists of VP1 to VP3, and VP4 is on its inner coat. Virus particles have no lipid coating, and their pathogenesis is not sensitive to organic solvents.

History

Firstly, the poliovirus was explained by Michel Underwood in 1789. According to him, it has come from the Greek word “polio” meaning “gray” and “myeloid” meaning “spinal cord” [3]. Although the country's polio eradication campaign began in 1974, efforts to eradicate polio officially began. In 1994, 100 rounder after the polio vaccination, the infection was still circulating.

Responsibility of Expanded Program on Immunization in Pakistan

The EPI program in Pakistan is coordinated by the National Institutes of

Health Administration and Management Coordination (NHSR & C). The Federal EPI team is led by the National Program Director and is supported by a team of technical and administrative staff from the government and development partners. (WHO, UNICEF). The EPI at Provinces (Balochistan, Khyber Pakhtunkhwa, Punjab, Sindh) and region (Azad Jammu & Kashmir, Gilgit-Baltistan, Federally Administered Tribal Areas, CDA and ICT), state health service in each EPI program Inside is a regional/local EPI unit. At the district level, EPI is managed and supported by staff at district level and at the Union Council Level, EPI services are maximized through large mobile patient centers and vaccination points. Vaccination services are primarily available in the country through EPI. The private sector provides only 3 percent. These immunization centers provide more than 19,000 immunization workers and doses through 14,570 Lady Visitor through regular appointments (6,000 centers) and mobile immunizations.

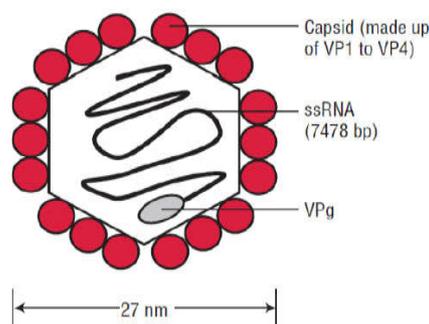


Figure 1

Vaccine

OPV similarly known as Sabin's vaccination and Inactivated Polio Vaccine 2 unique methods of immunizations have saved countless children [11]. Salk immune response (IPV) has inactivated polio contamination. The direct association additionally, long-standing vaccination capacity make Sabin neutralizer ideal. Trivalent polio orally inoculation holds the three well-known virological serotypes (debilitated) that are being utilized in Pakistan [12]. Oral Polio Vaccine is the most picked decision for Supplementary Immunization Activities and Routine Immunization Activities [13]. Pakistan is so far important to switch over from trivalent Oral Polio Vaccine to bivalent OPV as indicated by the proposition of game strategical 2013–2018 by WHO [14].

IPV

Countries will inaugurate a minimum of one dose of IPV in their immunization routines Switch from tOPV to bOPV before switching. It will protect against type 2 poliovirus after IPV The Type 2 component of OPV has been removed. This will also promote immunity from categories 1 and 3. IPV protects children from types 1, 2, and 3 of the polioviruses using tOPV to bOPV and IPV will help maintain immunity against poliovirus type 2. IPV does not cause either VAPP or cVDPV.

3. Why is the polio elimination ambition unsuccessful in Pakistan? The actual scene rearward the scenes

There are different causes of polio Originally in Pakistan. Do more later the screen provide a complete solution to the real problem.

Messy Healthcare System

These are common processes and gaps in the healthcare system that focus on providing services this is becoming a problem of anxiety [15]. The poor health system is the main obstacle to covering vaccines [16-17]. The routine Immunization rate is lower [18]. Disadvantages Corruption groups in the health system are allowed both financially Consequences of stealing resources periodically responsibility, deficiency of territory operations, and even the use of vaccines This affects the delivery of services in the case of private clinics Quantity and quality. Free services (injection, EPI Card) received. The open flask policy is often used in person Infrastructure that benefits polio Removal measures have been implemented. Shah et al. (2011) reported that poor achievement of EPI, insufficient staff training, and worrying parental alertness caused about 10-20% of children to receive the initial trivalent oral vaccination through the second and third booster doses [19].

Concerns concerning OPV viability

Oral Polio Vaccine usage associates with the rate of cVDPVs and VAPPs particularly in locales inclined to enteral diseases, for example, Pakistan. Regular force blackouts and the scarcity of gear in Pakistan have made it hard to keep up the Cold chain fundamental for OPV adequacy and has added to the disturbing ascent of cVDPVs just as wild poliovirus-incited poliomyelitis amongst immunized kids [20, 21].

Reducing in Vaccinator Number

Jr. Technician Outreach and LHW helping as battlefield proletariat mainly conduce to the Progress of eradicating expedition. Abatement of organized staff for immunization in removed and security-compromised zones has made as a fundamental issue for EPI. Their quantity has fallen off to in every way that matters half of the essential number proposed by EPI (However, every trade union council needs two polio vaccinators, and the actual number on each trade union council is about 1.3) [22]. Polio laborers won't work in the fight sector of the nation because of fear everlastingly that outcomes in battles as to of vaccination social events. Budgetary help in such a manner to the laborers isn't noteworthy. Eccentric, minor pay rates, no assistance, no boosts, stress, and dissatisfaction are other essential examinations of need workforce [23-24].

Awful Parental Perception

In addition to these unavoidable conditions, Parents refused to vaccinate their children (Up to 74%) Below is one more important issue that is listed in Karachi. The last two rankings are SIA social rankings. Pashtuns as well as high incomes the group refused to vaccinate their children. For lack of it, Awareness of polio, lack of confidence in vaccine effectiveness, vaccine misinterpretation, and absence of conviction in polio Workers are low-income clergy The SIA is more hesitant to vaccinate children Compared to non-rural people in the lower-income group. A strong spiritual person is one of the other circumstances Refuses passers-by to make their own children's watch. The key to elimination lies in the advice of male members As an energetic force in decision making [25, 26]. Such Less basic information about vaccinations is found a reason and religious misunderstandings in some ethnic issues Probably a factor as to why they're doing so poorly Of the population which is unnecessary [27].

Polio Resurgence

Almost all countries were able to get rid of Poliomyelitis, except Pakistan and Afghanistan. The initiative to combat the viral disease was launched in 1998 when 125 countries were suffering from Polio. The initiative was successful in the termination of Polio cases by 99% but Pakistan is still

suffering from Polio cases. Though the number of cases has been reduced unlike other countries, the complete removal of Polio has not been achieved. The misgivings of Pakistan people about the Polio vaccine are among other reasons that are proven to be a hurdle for Pakistan's health system to eradicate this disabling and life-threatening viral disease from its root for once and all.

4. Conclusion

The current situation regarding Polio indicates that Pakistan would be needing furthermore effective ways to control this frightening virus. For the last 3 years, Pakistan has reported a total of 238 cases. This figure tells us that we need a more powerful strategy to eradicate this disease from Pakistan. Increasing cooperation with influential religious leaders and organizations can help to reduce the religious and political dimension of vaccine hesitation in Pakistan. To eradicate polio from Pakistan and achieve the GPEI objectives, it is essential to address these social and military deficits. We need to use the Power of Social networking to spread awareness among the common people of Pakistan to ensure them that the eradication of this virus is very important for the healthy and happy future of their children.

Conflict of Interest

The author(s) confirm that this article content has no conflict of interest.

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