

## AN UPDATE ON RESURGENCE OF POLIOMYELITIS CASES IN PAKISTAN

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### OVERVIEW

The world has seen countless outbreaks of polioviruses around the world over the past few centuries.<sup>[1,2]</sup> Europe and North America were the prime targets of poliomyelitis eruption in late nineteenth century.<sup>[1]</sup>

However, Asia and Africa are the two regions currently facing the eruption of poliomyelitis.<sup>[2]</sup> Paralytic poliomyelitis has completely eradicated from America, Europe and from many other Asian and African countries. This was possible due to the continuous and collective efforts of World Health Organization (WHO), governments and non-government organizations.<sup>[3,4]</sup> The expanded immunization program was started in 1976 to prevent polio and to avoid

contamination related to polioviruses in Pakistan.<sup>[5-7]</sup> this program also provided awareness and spread valuable information regarding immunization against polioviruses. Within a short period of two years, this program was expanded throughout the country. The program achieved significant success and progressed to meet millennium development goals.<sup>[5-7]</sup> However, the program failed to maintain its momentum due to limited access to immunization services and poorly administered management system. Moreover, lack of awareness and knowledge among parents also created difficulty to attain the global target of wiping out polio from every country and region of the world.

Under the immunization program, approximately 5.8 million children protected every year through polio vaccines campaign.<sup>[5]</sup> In addition, around 30 million children inoculated in each round of subsidiary vaccination activities.<sup>[5]</sup> In Pakistan, expanded program on immunization is the most exclusive supplier of inoculation whereas private sector contributed

approximately three percent of inoculation.<sup>[6]</sup> More than one million mobile inoculation sessions and over six thousand permanent centres every year provides inoculation services to the people living out of reach or in abandoned areas.<sup>[5-7]</sup> In addition, approximately one hundred thousand women health workers also assigned to provide their assistance and aid in routine and subsidiary inoculation activities.<sup>[5-7]</sup> Over the past nine years, 88 rounds of supplementary immunization activities have been conducted countrywide with the financial support from global polio eradication initiative (WHO), The United Nations Children's Fund, The Centres for Disease Control and Prevention, Rotary International and some other supporters for the cause.<sup>[5-7]</sup>

### Poliomyelitis cases in Pakistan

The outcome of the extended polio eradication program at the initial stage was extraordinary. As a part of this extended program, a viable and sensitive reporting system has also been developed to record all the possible and residual acute flaccid paralysis cases in children under 15 years of age.<sup>[7]</sup> The close examination of the nation-wide data confirmed that the cases of acute flaccid paralysis (caused due to poliomyelitis) declined from 1155 cases in 1997 to 28 cases in 2005 and these were the least number of cases recorded in one year.<sup>[8]</sup> In Punjab, the biggest province of Pakistan, eight cases were reported in 2008 compared to zero case in 2007.<sup>[8]</sup>

About 297 cases were reported in 2014, highest number of cases as compared to any other country or region in the world. Besides Pakistan, Afghanistan and Nigeria are the two countries where numbers of polio cases were reported, however much lower compared to Pakistan. Majority of the cases reported are wild polio virus type 1, as shown in **Table 1**.

**Table 1: Recent cases of poliomyelitis**

Countries	Year 2014			Year 2013			Date of most recent case included
	WPV1	Other Types	Total	WPV1	Other Types	Total	
Pakistan	297	-	297	91	-	93	15 Dec 2014
Afghanistan	28	-	28	13	-	14	4 Dec 2014
Nigeria	6	-	6	53	-	53	24 Jul 2014

Source: WHO data.<sup>[8]</sup>

WPV1 = Wild Polio Virus Type 1.

**Reasons of resurgence of poliomyelitis in Pakistan**

Despite many grave concerns surrounding Pakistan, immunization process and activities are continually going on to provide protection to the children below five years of age. The possible reasons behind the failure of eradication of polio highlighted the significance of non-health related issues like accessibility in war and conflict regions, hesitation or refusal of parents to immunize their children and cross-border movement of large number of people from high-risk areas in Afghanistan to tribal regions of Pakistan. Northern tribal regions are badly affected and are currently under war like situation where armed forces are fighting against extremist elements. As a result, polio campaign becomes almost impossible in those war-ridden tribal areas.

Additionally, parents particularly belonging to the tribal regions that are refusing to immunize their children against polioviruses on the mistaken religious grounds, making situation worse instead of better. This indoctrination belief mostly among the illiterate people is unfortunate and is now spreading across the country with the wave of extremism. Karachi is one of the biggest metropolitan cities in the world, experiencing the worst situation of law and order in the region. The influx of migrants from the war-ridden, high-risk tribal areas to Karachi has exposed the large population of the city to polio virus. The polio workers who once used to work in a secure environment are now working under continuous threat. These threats are factual, not concocted and they are beyond workers' control. For example, workers were attacked by the extremist groups to halt polio eradication campaign over recent years in Pakistan.

Government is responsible for the failure to control the resurgence of polio in Pakistan. All previous governments failed to provide proper sanitation system and clean drinking water particularly in slum areas. They also failed to provide uninterrupted supply of electricity, needed to keep polio vaccines in eight hours per day cold chain.

**Prevention of poliomyelitis resurgence**

The failure to gain expected results from the explicit and uncomplicated goals along with the presence of reasonably adequate funded initiatives depicts seriously eroded capability to deliver the basic services by the government and non-government organizations. Emergency measures to bring broad-based reforms are needed to overcome the systematic weaknesses and flaws present within the system.

It is the responsibility of the federal government to take necessary steps in providing smooth delivery of vaccination services to the problematic areas. Recommended steps may include providing: maximum resources to supply vaccines, access to the areas on horseback and security to polio workers during the immunization campaign. It is equally important to educate people that could help in negotiating access to the regions where rejection is an issue. For people migrating from war-ridden areas, Government should set-up vaccination checkpoints at every exit and entry points to prevent spreading of polio virus to other areas.

The resurgence of poliomyelitis is a more serious and multifaceted issue in Pakistan compared to other countries in the world. There could be many reasons behind the resurgence and outbreak of this disease; some of them were highlighted in this paper. The government has to make sure that the expanded immunization campaign continuously run within the country without any interruption and also take necessary steps in providing resources and security to the people associated with polio eradication campaign.

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