



REVIEW

Polio in Pakistan: Social constraints and travel implications



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Summary The Global Polio Eradication Initiative (GPEI) in Pakistan has faced failure despite being implemented successfully. Polio cases were successfully reduced by 99% until 2005. However, thereafter, new polio cases were registered, which continue to rise annually. This repeat polio outbreak has placed the country on watch by the World Health Organization (WHO) due to travelers, and Hajj and Umrah pilgrims. The present report reviews the published literature for determining the social constraints to the polio eradication initiative in Pakistan. Religion, politics, awareness, insecurity, inequity, governance, and social responsibility have been identified as key social factors in the failure of any vaccination campaign. Possible interventions have been proposed, which include effectively using modern mass media and educating vaccinators on the social and cultural background of the target community.

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1. Introduction

Since 1988, significant strides have been made in the eradication of polio worldwide under the World Health Organization (WHO) Global Polio Eradication Initiative (GPEI). A significant reduction (>99%) in polio cases from 350,000 in 1988 to 784 in 2003 were reported. More than 75% of these cases belong to countries such as Pakistan, Afghanistan, India, and Nigeria [1]. Historically, this is the largest public health campaign involving about 200 countries, 20 million volunteers, and an international investment of US\$3 billion to meet its objective of a polio-free world [1].

Of these polio-endemic countries, India has achieved great success, with no polio case being registered since January 2011. Similar reports were noted in Nigeria and Afghanistan as well. Contrary to these three polio-suspected countries, Pakistan showed a relative increase in polio cases in September 2011 (198 cases) to the same period in 2010 (144 cases) [2]. With its initial extraordinary efforts to control polio among children, Pakistan achieved a reduction in polio cases from 20,000 in 1990 to 28 in 2005 under the National Polio Eradication Program. However, about 100 cases have been reported annually thereafter. Despite these achievements, new polio reports from Pakistan have raised many questions about the governance of its polio eradication initiative. In immediate response to the severity of the situation, The Government of Pakistan initiated a National Emergency Action Plan (NEAP) for Polio Eradication, which was launched in early 2011 [3].

The recent rise in polio cases is a major concern in the local context as well as in the neighboring countries. For instance, China has raised serious concerns after a polio case of Pakistani origin was reported [4]. The transmission of wild poliovirus 1 and III (WPV1 and WPV3) has increased the risk of international spread from Pakistan. In a recent warning issued by WHO, Pakistan has been advised to take necessary actions to eradicate polio, failing which the country would be listed among those on “watch.” Consequently, international travelers to and from Pakistan have to inform some organizations in the host country [5]. Thus, under the WHO international travel guidelines, travelers to and from Pakistan must be vaccinated for protection. Further, some polio-free countries may issue a visa only on polio vaccination. These regulations will significantly affect the trade and in turn the overall economy of the country. Moreover, the Saudi government has already mandated vaccination for Pakistani travelers on Hajj and Umrah pilgrimage [2].

Since 9/11, Pakistan has been facing continuous challenges. This incident induced many temporary and permanent changes in the socioeconomic setup of the country. Some of the factors that possibly challenge the polio eradication campaign in the country are as follows: the US-led war in Afghanistan; the grave security situation particularly in the Pak-Afghan border areas; countrywide terrorism activities; inland migration; Afghan refugees; poverty elevation; illiteracy; and cultural, political, and religious factors [6]. Thus, the country’s mortality rate among children under the age of 5 years is still alarming. In addition, the reported refusal rate in the country is less than 6% nationwide, although it cannot be attributed to

accessibility alone. The success of any polio vaccination program depends on the underlying socioeconomic factors, which need to be addressed properly. Social factors were found to negatively affect vaccination campaigns even in areas with moderate refusal rates [7]. This paper aims to identify social factors that influence polio eradication from Pakistan through a literature review. Identifying and understanding these factors may provide a baseline for a future strategy to successfully eradicate polio from Pakistan.

2. Review search strategy

Different search keywords were used for this review, including “polio in Pakistan,” “polio-endemic countries,” “obstacles in polio eradication,” “social factors for polio prevalence,” “travel-associated cases of polio from Pakistan,” “polio cases in Pakistan,” and “literacy rate of Pakistan.” As a result, different references were retrieved. An auxiliary search was conducted with similar keywords in well-reputed journals. The data from polio reports from Pakistan, GPEI sites, and local print media were also included.

3. Pakistan polio status

Worldwide, Pakistan presents the most complex case of polio eradication. Of the polio cases detected in 2014, 87% were from Federally Administered Tribal Areas (FATA) and Khyber Pakhtunkhwa (KPK). Moreover, 34% of the cases belonged to the North and South Waziristan agencies, where no polio campaigns were conducted and an estimated 290,000 children below the age of five had not been vaccinated for the last 24 months [8]. Pakistan is declared a poliovirus type p3-free country because the last p3 case was reported on 14 April 2012. The WHO declared that the type 2 strain of poliovirus (p2) was completely eradicated worldwide in 1999 [9]. According to Dr. Elias Durry, the WHO chief for the Pakistan polio eradication campaign, 80,000 out of 3,500,000 children are unimmunized in Pakistan. False Taliban propaganda against polio vaccination in the FATA and KPK regions influenced many parents to refuse the administration of this vaccine. Moreover, an immunization officer in FATA stated that the present polio status will not improve until the Taliban advocates polio vaccination [10]. The confirmed polio cases during 2009–2015 are listed in Table 1 [11].

Compared with the previous year, new polio cases reduced by 70% in 2015. This reduction was due to the increased vaccination in parts of northwest Pakistan secured by the Pakistan Army in Zrab-e-Azab from militants who had opposed vaccination [12]. Statistics shows that the number of polio cases decreased in 2012 from the previous year, but this increased again from 2013 onwards. This situation became more critical in 2014, as Pakistan is the only country in the world with such a high number of polio cases. The distribution of polio cases is shown in Fig. 1.

This was caused by several factors including internal displacement of people due to various government operations, difficulty of running a vaccination campaign in these

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