

VACCINE INDUCED PARALYSIS CALLS FOR ACTION, SAYS STUDY

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Leading doctors in two reputed hospitals here report that over 490,000 persons in India developed paralysis between 2000 to 2017 because of oral polio vaccine (OPV).

Jacob Puliyeel, a pediatrician at St Stephens Hospital and co-workers say their study has shown that *"the frequency of pulse polio administration is directly or indirectly related to the incidence of non-polio acute flaccid paralysis (NPAFP)."*

Their study which calls for judicious use of OPV schedule to prevent vaccine induced paralysis is published in the International Journal of Environmental Research and Public Health.

To monitor progress in polio eradication, the World Health Organization (WHO) recommends that countries conduct surveillance for cases of acute flaccid paralysis (AFP) which is defined as a sudden onset of paralysis or weakness in any part of the body of a child less than 15 years of age.

The surveillance allows nations to detect paralytic poliomyelitis due to wild poliovirus transmission in the population. There are many causes of AFP, so each case needs to be evaluated to find out if the paralysis is due to polio or not. This investigation includes testing stool specimens of all AFP cases for polio virus detection.

More than 50,000 AFP cases are investigated in India every year as part of this surveillance system that has been in place since 1997.

In 2009, 741 of these AFP cases in India tested positive for polio. In 2010 only 42 cases tested positive while in 2011 only a single AFP case tested positive for polio. Not a single AFP case tested positive for polio in 2012, 2013 and 2014. All AFP cases during the last three years have been due to non-polio causes.

The last case of polio from India was reported in 2011 but India even after it was certified polio-free maintains its surveillance system in order to pick up any imported cases of polio.

In the absence of wild polio transmission, it was expected that the AFP cases in India would reduce to acceptable rate of around 2 per 100,000. "Although surveillance in India has been exemplary, this has not yet materialized", the report says. The AFP rate in some states is as high as 30 per 100,000.

The present study using surveillance data obtained from all 36 states and Union Territories was done to see if the incidence of NPAFP declined with reduction in pulse polio immunization rounds.

The results however showed that the number of pulse polio rounds conducted in a state had a "high correlation" with the NPAFP rate in the state.

The NPAFP rates in the states of Uttar Pradesh and Bihar were the highest in the country. *"Our study found that NPAFP rate in these states was high in those years when the number of pulse polio rounds conducted was high,"* the authors say.

For instance, in 2011, there were an additional 47,500 children with paralysis which was over and above the assumed NPAFP rate of 2 per 100,000 and the NPAFP rate started to decrease from 2012 when the number of pulse polio rounds had decreased.

"From the results, the NPAFP rate has been shown to decline with a reduction in the pulse polio doses suggesting that OPV vaccinations are responsible for the paralysis," the authors say.

"A total of 640,000 children developed NPAFP in the years 2000–2017, suggesting that there were an additional 491,000 paralyzed children above the numbers expected to develop NPAFP," the authors say.

According to their report, "repeated doses of the live vaccine virus delivered to the intestine may colonize the gut and alter the viral microbiome of the intestine."

Also studies from Finland and Turkey suggest that Guillain Barre Syndrome (GBS) is causatively associated with OPV vaccination campaigns.

"While the mechanism involved is speculative, our findings supports the hypothesis that the frequency of pulse polio administration is directly or indirectly related to the incidence of NPAFP", the report says. "Now that India has been polio-free for over six years, we may be able to reduce NPAFP by further reducing pulse polio rounds."

While commending the government for its enormous effort at polio eradication, the authors hope their observation *"will help at optimizing the dose schedule of OPV administration"* to prevent paralysis in vaccinated children.

Puliyel's team included Rachana Dhiman and Sandeep Prakash at St. Stephens Hospital and V. Sreenivas of the All India Institute of Medical Sciences' [END]

[This press release has been written with help from an experienced science reporter]

The full text of the paper can be accessed here
<http://www.mdpi.com/1660-4601/15/8/1755/pdf>
doi: 10.3390/ijerph15081755

This paper is the last of 3 papers looking at vaccine safety.

The first paper also using data from the Government of India showed Pentavalent vaccine(PV) doubled the deaths of children soon after vaccination compared to DPT (Diphtheria-Pertussis- Tetanus) vaccine. The authors suggest that 7020 to 8190 deaths from PV each year in India is likely due to the switch from DPT

<http://www.mjdrdypv.org/article.asp?issn=2589-8302;year=2018;volume=11;issue=2;spage=99;epage=105;aulast=Puliyel>

The second paper published in F1000 Research implores World Health Organization (WHO) to urgently revise its manual on classification of "Adverse Events Following Immunization (AEFI)," warning that the revised guidelines put children's life at risk.

Under WHO's revised manual on AEFI, only those adverse reactions observed during clinical trials of a vaccine, should be classified as vaccine related. All new serious adverse reactions including deaths seen during post-marketing of the vaccine should be considered as 'coincidental' or 'unclassifiable', and the vaccine should not be blamed. This paper is available here.

<https://f1000research.com/articles/7-243/v2>

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