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Polio vaccination: Paper highlights final steps to polio eradication

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April 12th 2015 marks the 60th anniversary of the publication of Jonas Salk's landmark polio vaccine trial results, which confirmed that the first vaccine against polio was safe and effective. A new review, which was published online ahead of print in *Future Microbiology*, provides a comprehensive overview of current polio vaccines, and highlights new and future research initiatives, such as new vaccine formulations, that could help ensure that polio is eradicated and eradication is maintained.

Polio is a highly infectious viral disease, which mainly affects children under 5 years of age, and can cause total paralysis in a matter of hours. Among those paralyzed, 5 to 10% die when their breathing muscles become immobilized. Although there is no cure, polio can be prevented through vaccination. Currently, only Pakistan, Nigeria and Afghanistan are considered endemic for polio.

"Polio, a crippling disease, is on the verge of global eradication. Over past several decades, a series of landmark scientific innovations towards vaccine development and programmatic interventions directed at delivery of those vaccines to the remotest corners of the world have made the battle to eradicate polio one of the most visible, synchronized and impactful global public health initiatives ever," said Ananda Bandyopadhyay, from the Bill & Melinda Gates Foundation, and corresponding author of the paper.

If enough people in a community are immunized, the virus will be deprived of susceptible hosts and will die out. Live attenuated oral polio

vaccine and inactivated polio vaccine are currently being used to achieve eradication of wild polio virus.

Ananda Bandyopadhyay continued, explaining the timeliness of the review: "This article reviews the existing clinical evidence base on polio vaccines, evaluates the best use of currently available polio vaccines in the context of the polio endgame and summarizes on-going and future research endeavors that may further strengthen the possibilities of achieving and sustaining eradication in the near future."

"We have seen global polio case numbers decrease by more than 99%; however, significant effort is required to rid the world of the last reservoirs of polio. This timely and interesting review highlights new vaccine technologies that will help secure eradication of poliovirus for generations to come," said Natasha Leeson, Commissioning Editor of *Future Microbiology*.

The article is available at: www.futuremedicine.com/toc/fmb/0/0

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