Qeios

Peer Review

Review of: "Oral Polio Vaccine Is Unsafe for the World and Should Be Replaced with Inactivated Poliovirus Vaccine Globally"

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The document's concerns about OPV's safety are valid. OPV can cause VAPP in approximately three cases per million doses and lead to cVDPVs in under-immunized populations (8). In 2024, 297 cVDPV2 cases were reported globally, surpassing the 74 WPV1 cases in Pakistan (9). However, OPV's intestinal immunity is crucial for interrupting WPV transmission in endemic areas like Pakistan and Afghanistan, where sanitation challenges facilitate fecal-oral transmission (1).

The call for a global IPV switch overlooks practical challenges. IPV is over five times more expensive than OPV and requires trained healthcare workers for injection, posing barriers in low- and middle-income countries (LMICs) (3). Additionally, IPV's limited intestinal immunity allows poliovirus shedding, risking continued circulation (3). The USA's transition to IPV followed WPV elimination using OPV, a context not yet achieved globally (2).

The document notes OPV's lower efficacy in LMICs (30-65% for three doses), supported by evidence of reduced immunogenicity due to malnutrition and co-infections (5). Yet, OPV's effectiveness in mass campaigns, as seen in India's polio elimination, demonstrates its value (4). The WHO's strategy includes IPV introduction into routine immunization while continuing OPV in high-risk areas, with plans to phase out OPV post-WPV eradication (7). Innovations like novel OPV2 (nOPV2) aim to reduce cVDPV risks (6). The application of nOPV and anti-virals needs to be scoped in.

John et al. (n.d.) raise critical concerns about OPV's safety, supported by evidence of VAPP and cVDPV risks. However, immediate global IPV adoption may be premature given OPV's role in stopping WPV

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transmission and logistical challenges in LMICs. The WHO's phased approach, balancing OPV's benefits with IPV integration, is practical, though vigilance is needed to address cVDPVs.

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Declarations

Potential competing interests: No potential competing interests to declare.