

PULSE POLIO-SHOULD WE BE GIVING IT?

Pulse polio (PP) has recently been introduced into the Indian population, with the dates for PP being 2nd October and 4th December 1994. On these days, it has been recommended that all children below the age of 3 years should receive a dose of OPV, irrespective of their status of immunization. Also the original vaccination of the child should continue in the same manner. The theoretical basis of PP is to increase the circulation of the vaccine virus to such an extent that the circulation of the wild polio virus drops immediately. Hence the incidence of poliomyelitis also drops.

However, there are major problems with PP. Consider a child undergoing routine vaccination for whom the dose of PP falls between two doses of OPV. Immediately the interval between two doses of OPV will fall below 1 month. This will cause a marked drop in the rate of seroconversion to OPV, because it is known that both wild virus and vaccine virus persist in the gut for 6 weeks and could interfere with vaccine uptake(1). We are already vaccinating our pediatric population at 1 month intervals (the minimum possible interval). Use of PP would further reduce the gap to less than 1 month with a marked re-

duction in the efficacy of the PP dose and the subsequent OPV dose. In fact, the American Academy of Pediatrics recommends an interval of 8 weeks between two doses of OPV and the interval between two PP doses is also 2 months(2).

Personally, I think that PP is especially useful in areas where polio vaccine coverage is low because in such a population, since children are not being brought for vaccination at all, any single dose, too, would be useful. However, with Indian vaccination coverage for OPV being 89% for the last year(3), PP would interfere with routine vaccination rather than helping it. Alternatively, clearcut guidelines should be issued as to which children should not be given PP. Otherwise, patients who have been regularly following up for vaccination would end up with a disadvantage.

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REFERENCES

1. Mortimer EA. Primary prevention. *In: Nelson Textbook of Pediatrics*, 14th edn. Eds. Behrman RE, Kliegman RM. Philadelphia W.B. Saunders Co, 1992, pp 151-152.
2. American Academy of Pediatrics. Redbook: Report of the Committee on Infectious Diseases. 23rd edn. Ed Peter G. Elk Grove Village, American Academy of Pediatrics, 1994.
3. United Nations Childrens Fund. *The State of the Worlds Children*. Oxford, Oxford University Press, 1991, pp 12-13, 68-69.

Response**Pulse Immunization Using Oral Polio Vaccine: What is the Objective?**

The letter from Dr. Sanldecha, attempts to articulate some questions regarding the advantages and disadvantages of pulse immunization, but stops short of being explicit. To set records right, the term pulse polio is unsuitable as an abbreviation for pulse immunization against poliomyelitis(1). Secondly, there is no evidence to show that vaccine viruses circulate among children either after routine schedule-based immunization or after pulse immunization, using oral polio vaccine (OPV). Thirdly, additional doses of OPV, given at any interval, including less than one month, cannot cause a drop in the rate of seroconversion; at worst, the additional doses may not enhance the seroconversion rate.

These flaws notwithstanding, the letter raises some important questions. The title itself asks the question: "should we be giving it?" Paraphrased in my words, the real question is: "What is the purpose of the pulse immunization?" Once the purpose is clearly stated, we can ask the next relevant question: "is the design of pulse immunization suitable to achieve the objective?" As the author rightly pointed out, the annual pulse immunization strategy was designed in 1981 for the purpose of rapidly increasing immunization coverage levels(2). In the 1990's our immunization coverage levels are high and the purpose of pulse immunization using OPV should be to interrupt the transmission of polioviruses(1,3). Has this objectives been enunciated, stated and understood by all concerned? Have

methodologies for evaluating the achievement of this objective been put in place? If the answer to these questions are in the negative, the pulse immunization efforts are premature.

The second question raised by the letter is regarding the lack of guidelines to deal with infants who are due for one or more doses during the months set for pulse immunization. When pulse immunization is super-imposed on the routine schedule-based immunization, adjustments must be made to accommodate both. This process must be included in the local area planning of the pulse immunization programme.

I would personally recommend a wider dialogue between the Ministry of Health and all interested parties involved in poliomyelitis eradication, for designing suitable strategy and appropriate tactics for their implementation and evaluation. Time is running out, since the target date is the year 2000.

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REFERENCES

1. John TJ, Pandian R, Gadomski A, Steinhoff MC, John M, Ray M. Control of poliomyelitis by pulse immunization in Vellore, India. *Br Med J* 1983, 286: 31-32.
2. John TJ, Steinhoff MC. Appropriate strategy for immunization of children in India. 3. Community-based annual pulse immunization. *Indian J Pediatr* 1981, 48: 677-683.
3. John TJ. Immunization against polioviruses in developing countries. *Rev Med Virol* 1993, 3:149-160.