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Letter to the Editor

Immunisation Status of Children with Measles: Experience with the Oyo State Expanded Programme of Immunisation

Dear Sir,

Permit me to comment on the paper, 'Immunisation Status of Children with Measles: Experience with the Oyo State Expanded Programme of Immunisation' by Drs Asuzu and Onadeko.[1] The paper contains a few errors which individually, are minor but collectively, they become significant.

1. In their discussion, the authors asserted that the finding of apparent vaccination failure in their study was most likely to be the same throughout the (Oyo) State and in other parts of the country. There was no evidence given for this generalisation.
2. It is true that the potency of the vaccines recovered from the study centres could only be tested with certainty in a laboratory. However, it is possible to infer possible loss of potency if the apparent vaccination failure occurred uniformly throughout the different ages. Unfortunately, the authors did not give a break-down of the vaccine failures by age.
3. It is incorrect to say that there had been no previous study of the incidence of measles in previously vaccinated children in that part of the country. Fabiyi and his colleagues[2] studied 29 children with measles who had been vaccinated previously. Only two of these children showed significant increase in antibody titer. In 21 samples, there was no antibody in either the acute or convalescent sera.
4. It is not proper to extrapolate that the percentage of immunisation in the children with measles was a reflection of immunisation rates in the two communities. It is possible, for example, that in one community there was a low immunisation rate but a high vaccination failure rate.
5. It is worth pointing out that:
   (*a*) seroconversion can be obtained in the presence of low titer of maternally acquired antibody[3].
   (*b*) giving a booster dose does not necessarily result in a higher antibody level.
   (*c*) delaying immunisation age till nine months will result in an unacceptably high percentage of children suffering from measles before they become 'ripe' for measles vaccine.

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References

1. Asuzu MC and Onadeko MO. Immunization status of children with measles: Experience with the Oyo State Expanded Programme on Immunisation. *Nig J Paediat* 1984; **11**: 13–7.
2. Fabiyi A, Tomori O, Thwaites M and McGucken RB. Outbreak of measles disease in vaccinated children. In: The use and abuse of drugs and chemicals in tropical Africa—Proceedings of the 1973 Annual Scientific Conference of the East Africa Medical Research Council, Nairobi. Bagshawe AF, Maina G and Mngola EN, eds. Nairobi: East African Literature Bureau, 1974: 423–6.
3. Ministry of Health of Kenya, World Health Organization. Measles immunity in the first year after birth and the optimum age for vaccination in Kenyan children. *Bull WHO* 1977; **55**: 21–31.

Drs Asuzu and Onadeko reply as follows:

Dear Sir,

Thank you for sending us the comments of Dr Abdurrahman for which we are also grateful. Our responses to the comments are numbered as per the questions themselves.

1. Our assertion that the apparent vaccination failure shown in this study is likely to be the same in other areas of Oyo state etc, refers to places where measles vaccine is given at six months of age. This is based on the fact that in Oyo state, there are basically 2 levels of vaccine storage–the State central depot at Ibadan from which most of the vaccine for immunisation in Ibadan is obtained and any other peripheral storage centre represented by Igbo-Ora. Thus, there was vaccine failure at all the levels of the cold chain within the state. The level of the cold chain involved in other parts of Nigeria is not higher than any of these, nor are the methods of immunisation different; hence the generalisation.

2. Vaccination for measles under the Oyo state 2-contact EPI programme takes place uniformly at 6 months of age. It was therefore, not possible to study vaccination (and so failure) at different ages of vaccination in a general service evaluation of the programme.

3. We did not have access to this quoted paper but it does not seem to be an evaluation of the EPI in the state as we stated in our paper, but an assessment of the seroconversion status of previously vaccinated children who subsequently had measles. It does not tell us the proportion of children with measles in the community who had previously been immunised, i.e. some index of the failure rate. If the age at vaccination of the 29 children quoted in the study was less than $7\frac{1}{2}$ months, it would be supporting one of the mechanisms of failure we suggested in our article, namely, early age at immunisation.

4. We did not imply that the percentage of immunisation in the children with measles was a reflection of immunisation rates in the two communities. On the contrary, we referred to two studies which showed these to be 85% and 10% in Igbo-Ora and indigenous Ibadan, respectively.

5. Observations (*a*) and (*b*) are valid. Observation (*c*) is however, not entirely so and cannot be accepted without more evidence. None of the studies we reviewed showed seroconversion to be reasonable earlier than $7\frac{1}{2}$ months, nor the fall of maternally acquired antibodies to have fallen to inconsequential levels earlier than that. The study referred to in (5*a*) in fact, recommended immunisation "at $7\frac{1}{2}$ months or later but not before". The trade-off lies between vaccine wastage through non-seroconversion at an early vaccination age (with the attendant loss of faith from patients thus "immunised" who subsequently get measles) and the occurrence of the disease in persons who might perhaps, have been protected even with such early vaccination. More data is required for this trade-off. Before then however, we still think that an efficient and economic programme of immunisation for measles should aim at discarding ineffective vaccine at least, at the last central storage facility, and not give the vaccine below $7\frac{1}{2}$ months of age.

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