NEWS AND NOTES FROM AROUND THE WORLD

# Neonatal tetanus in Nigeria: does it still pose a major threat to neonatal survival?

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Of the 130 million babies born annually globally, 4 million (3.1%) die within the first 4 weeks of life.[1] In Nigeria, of the 5 million babies born annually, 240 000 (4.8%) die within the first 4 weeks of life.[2] Globally, tetanus accounts for 7% of these neonatal deaths, but accounts for up to 20% in Nigeria, one of 27 countries that account for 90% of the global burden of the disease.[1 3 4–8] At the University of Port Harcourt Teaching Hospital, Port Harcourt, Nigeria, a tertiary hospital located in the capital of Rivers State, one of the oil-producing states of Nigeria, 30–50 patients with neonatal tetanus (NNT) are admitted annually; most of them are full-term normal-sized babies.[9–11]

This review highlights some of the reasons for the persistently high incidence of NNT in Nigeria and examines options for reduction within the context of Millennium Development Goal 4—that is, reduction in child mortality by two thirds from 1990 to 2015.

## THE DISEASE

The clinical picture of NNT is too well known to be discussed here. Briefly, the affected baby usually establishes sucking after birth, but stops sucking 2 days later, and about the same time develops a fixed expression on the face resembling a smile, sometimes referred to as the smile of the wicked (risus sardonicus). This is later followed by stiffness or spasms. Usually death occurs by the end of the first week.

## POSSIBLE CONTRIBUTORS TO THE PERSISTENTLY HIGH INCIDENCE OF NNT IN NIGERIA

NNT is a disease of poverty, the uneducated and adverse social and environmental circumstances. It has been described as a social scourge. A detailed analysis of the epidemiology of the disease has shown that the mothers are usually very young (aged <20 years), single, with either no formal education or primary level education, and resident in rural communities. They are therefore likely to have a low tetanus toxoid coverage rate, unlikely to attend antenatal care during pregnancy, likely to deliver outside a medical establishment and therefore attended to by unskilled personnel. Care of the cord after delivery may be unhygienic, with attendant complications.[12]

## THE SOLUTION

The means of eliminating NNT in any society are well known, and involve active immunisation of the future mother with at least two doses of tetanus toxoid vaccine during pregnancy and ensuring presence of skilled attendants at delivery. Available figures indicate that currently about 51% of newborns in Nigeria are protected against tetanus because the mothers received two doses of tetanus toxoid during pregnancy.[13] However, the same source showed that only 35% of pregnant women in the country are attended to by skilled personnel at delivery; for comparison, the figure for Cuba over the same period is 100%.[14] These are some of the issues that should be properly considered in relation to neonatal tetanus elimination. The question is, why do some nations fail whereas others succeed? One of the greatest challenges posed to the healthcare delivery system in Nigeria is urban/rural dichotomy in distribution of amenities. As has been shown most NNT cases occurred among babies born in homes of traditional birth attendants.[8] This situation occurs most often in rural communities with limited healthcare facilities. Bearing this in mind, one reasonable approach would be the outreach service delivery intervention mode. The Nigerian administrative structure runs from the federal government, through the state governments to local government councils, which comprise several wards as the smallest functional units. Hence, one rational approach would be to begin interventions at these levels through static health facilities and also periodically through visits within the community. NNT and some of the other direct causes of neonatal deaths in Nigeria are compounded by ignorance of a large section of the population. Therefore, intervention packages will need to include behaviour change communications, with emphasis on promoting health-seeking behaviour. The author advocates using both health workers and primary school teachers as extension health workers through the School Health Programme in carrying out this exercise.

### Traditional birth attendants or other care givers and their place in the proposed scheme

The patronage of homes of traditional birth attendants (TBAs) in some communities in Nigeria is strongly linked to traditional and cultural experiences. Although controversies over retraining of TBAs go on, it is necessary to point out that at the moment it would be unwise to ignore a group of people who attend to >50% of deliveries in Nigeria. The author, therefore, strongly advocate the retraining of TBAs. Development of any such training programme

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**Abbreviations:** NNT, neonatal tetanus; TBA, traditional birth attendant

**Box 1 Contents of delivery kit to be provided to a traditional birth attendant**

- Gloves
- Cord clamps (plastic and disposable)
- Green/blue cotton material to receive the baby
- Mackintosh
- Cotton wool
- Methylated spirit
- Disinfectant—such as Dettol or Izal (Dettol is preferred because it is milder)
- Bleach (because of HIV/AIDS)
- Kidney dishes (three sizes—large, medium and small)
- Forceps for clamping the cord
- A pair of scissors

should be very simple. Emphasis here should be on observing simple cleanliness at child birth, the need to observe the rules of hand washing before managing deliveries and hygienic cord care. After a training workshop, each TBA should be provided with a delivery kit with contents as listed in box 1.

It must be reiterated that no matter how much training TBAs receive, they are not considered as skilled care givers. The idea is to ensure that they refer difficult cases for further care. TBAs can also be trained to screen for tetanus toxoid immunisation status so that they can refer the women for immunisation. An innovation in the immunisation programme is teaching other care providers such as TBAs to immunise mothers.[15] This practice may become applicable when a vaccine that can withstand temperature variations and safer injection techniques is fully developed. Care providers at religious and other settings should also be identified and trained so as to improve the quality of their services.

### Monitoring and evaluation

One identifiable problem, in the author's view, has been inadequate monitoring and evaluation in the past. It would therefore be reasonable to carry out periodic checks of the programme using properly selected process and effect indicators.

## CONCLUSION

NNT still contributes considerably to neonatal mortality in Nigeria. In this review, the author has examined some of the possible causes of the persistently high incidence of the disease over the years, and has suggested that attempts to eliminate the disease be carried out in a wider context of meeting Millennium Development Goal 4. This approach is suggested on the grounds that reduction in mortality of children aged <5 years is linked to reduction in neonatal mortality, and in countries with high NNT mortality, its reduction equally becomes an imperative. The focus here is on improving healthcare delivery at the grassroots level. However, Nigeria is a large country with 744 local government councils. Therefore, it would be wise to start implementation of these suggestions in carefully selected local government councils as pilot centres, and gradually expand to other communities over time.

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