Yaws eradication: past efforts and future perspectives

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Yaws, a disease primarily affecting skin, bones and cartilage, is caused by *Treponema pallidum* subspecies *pertenue*. Together with bejel (endemic syphilis) and pinta, these diseases constitute the group of the endemic treponematoses.[1] If left untreated, yaws leads to crippling and disfiguring consequences.[2]

Between 1952 and 1964, WHO and the United Nations Children's Fund (UNICEF) led a worldwide campaign to control and eventually eradicate yaws and other endemic treponematoses.[3] This was a major disease control effort undertaken by WHO just after its establishment in 1948.[4] Control programmes were established in 46 countries and, by the end of 1964, the number of cases had been reduced from 50 million to 2.5 million (a 95% reduction).[5] The yaws control efforts paved the way for the development of the primary health care system in affected areas.[6] In the late 1960s, there was a shift in strategy from the vertical programme to integration of yaws surveillance and control into primary health care to tackle the remaining 5% of cases. However, this approach did not succeed.

By the end of the 1970s, re-emergence of yaws in many countries prompted a World Health Assembly Resolution requesting the implementation of integrated treponematoses control programmes.[7] Renewed control efforts were implemented in several countries, e.g. Benin, Burkina Faso, Côte d'Ivoire, Ghana, Mali, the Niger and Togo, but these efforts were not sustained. In 1984, a global meeting was organized in Washington, DC,[8] followed by regional meetings with the aim of reviving eradication activities. These attempts were half-hearted and the goal of eradication remained elusive.[9] At this time, most of the yaws programmes had been integrated into primary health care which were generally too weak to implement the activities of a vertical programme.[10]

In 1995, WHO estimated the number of infectious cases to be 460 000 worldwide of which, 400 000 were in west and central Africa, 50 000 in South-East Asia and the rest in other tropical regions.[11] The South-East Asia Region of WHO kept yaws high on its agenda and set the goal of regional eradication by 2012 in its two remaining endemic countries – Indonesia and Timor-Leste. Since 2004, India has reported no new cases.[12] In the Western Pacific Region, three countries remain endemic – Papua New Guinea, the Solomon Islands and Vanuatu.

The main lessons learned from the past are that yaws can be eliminated with sustained efforts as shown in many countries and recently in India; however, success can also lead to complacency and neglect. Once the goal and timeframe are set, political will and donor commitment need to be sustained until transmission is interrupted. Health services with adequate outreach activities to remote communities are pivotal for effective disease control efforts. The elimination of a disease from one geographical area is not a guarantee against its re-introduction.

But all is not lost: benzathine penicillin is still very effective, safe, cheap and readily available. It offers a remarkable cure in a single injection which reinforces high community confidence and participation in yaws activities. Today, the favourable environment for neglected tropical diseases may help with visibility and mobilization of resources to tackle yaws, and it provides the possibility to integrate yaws activities into other programmes. Additional opportunities and resources for health system strengthening, global health initiatives and renewed interest in primary health care may further facilitate elimination efforts.

However, challenges in reviving yaws control remain. The disease is no longer perceived as a priority by national health policy-makers. Furthermore, knowledge and skills of health workers to diagnose and manage yaws have waned. Accessibility to affected populations in remote areas is a challenge. Finally, the risk of penicillin resistance remains,[13] hence alternative antibiotics should be explored.

In retrospect, the world should have dealt a final blow to yaws in the late 1960s and the 1970s. Today's favourable environment in health and development provides an opportunity to revive elimination efforts. Presently, the problem of yaws is relatively small; justification for action should not only be based on number of cases but also on humanitarian grounds as the disease affects poor and underserved populations. The International Task Force on Disease Eradication strongly recommended that WHO and UNICEF take the lead in addressing this highly curable and preventable neglected tropical disease.[14]

The 60th anniversary of WHO is an opportunity for governments of the remaining endemic countries and the international community to reflect on the continued existence of yaws and to encourage and support renewed efforts to eliminate the disease. ■

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