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THE NEED FOR INCREASING THE TRAINING IN
EPIDEMIOLOGY FOR EXISTING PROFESSIONAL
STAFF AS THE MALARIA ERADICATION PROGRAMME
ADVANCES TOWARDS THE CONSOLIDATION PHASE

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In Malaria Eradication Programmes, operational techniques for interrupting transmission and epidemiological studies to elicit progress towards interruption are intimately linked. Their close association becomes clearer as the programme advances. It will be experienced soon in any programme that interruption of transmission and decline in cases is not uniform in all parts of the area under protection as also from one year to the next. Problems of persistent transmission can only be understood from the underlying epidemiological features. The crucial task of interpreting correctly the basic nature of the remanent cases in the advanced phase of a programme needs specialized training in epidemiology.

Traditional epidemiological studies as practised in earlier control programmes were comparatively easily made and interpreted. Adoption of the eradication concept necessitated widening the field of epidemiological investigations; more sensitive studies to detect interruption of transmission or otherwise were felt necessary to be carefully practised. This involved more specialized training. Epidemiological surveillance, designed to understand the malaria problem in its dynamic phase, is a comparatively new study and its thorough execution and analysis needs a spirit of research and an analytical frame of mind which results from a process of specialized training.

The continuous process of case detection and epidemiological and entomological investigation on every individual case as is needed in the advanced phase of eradication programmes involves different levels of workers. At the base is the surveillance agent who by house-to-house visits screens fever cases for full study; the intermediate level sub-professional staff then makes epidemiological investigation on the detected cases

according to prescribed forms. Finally the diagnosis of epidemiological nature of the different cases is made by senior professional staff.

The whole team needs to be adequately linked together by effective training of respective duties. It is only when sensitiveness of this task is fully appreciated and its implication on the rational execution of the programme is fully realized that the importance of training will be understood and implemented. When explanation of the scattered odd cases baffles the malarialogist, new lines of epidemiological investigation are conceived.

Persistent transmission in the late stage of the attack phase may result from various causes:

- Incomplete spraying
- Scorption of insecticide
- Habits of population favouring outdoor transmission

- Change in behaviour of vector
- Resistance to insecticide
- Resistance of parasites to drugs
- Human resistance

All these will delay the attack phase or cause renewed transmission in the consolidation phase; epidemiological surveillance data have to be intelligently interpreted to guide suitable action.

Both for thorough execution of epidemiological surveillance as also for correct understanding of the underlying factor for continued transmission, continuous training will be felt necessary. As the programme advances, new problem may arise, needing epidemiological analysis of complex factors.

The implication of asymptomatic parasitaemia, knowledge about duration of infection of the different species, infecting capacity of a low grade infection, etc., may have to be taken into consideration in the advanced phase of the programme to achieve and consolidate the interruption of transmission; analysis of these factors need specialized knowledge.

Relative value of the different case detection methods may vary under different conditions. Special training will be necessary to determine the most suitable case detection mechanism under local conditions.

In the earlier period of the attack phase, the Malaria Service needs more thorough training in the technique of applying residual insecticides; progressively, the shift will be for correct epidemiological evaluation as the phase of the programme advances; training in epidemiology will have to keep pace with the new problems of persistent transmission that may come to light.