WORLD HEALTH ORGANIZATION

REGIONAL OFFICE FOR THE EASTERN MEDITERRANEAN

ORGANISATION MONDIALE DE LA SANTÉ

BUREAU RÉGIONAL DE LA MÉDITERRANÉE ORIENTALE

SECOND REGIONAL CONFERENCE ON MALARIA ERADICATION

ADDIS ABABA, 16 - 21 NOVEMBER 1959

EM/ME-Tech.2/54

20 November 1959
English Only

PROBLEMS FOR RESEARCH

by

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The World Health Organization realizing the importance of research - institutional and operational - that can provide better tools for various circumstances in malaria eradication programmes, afford better evaluation methods, promote the perfection of techniques, effect savings and man labour as well as raise funds for the global programme, is fostering an extensive research programme.

The presentations in the Second Regional Conference on Malaria Eradication brought to the surface certain problems that require active research in the hope that their solutions will hasten the implementation of the global malaria eradication programme and ensure its successful issue.

These problems can be grouped as follows:-

1. Research on New Anti-malaria Drugs:

Dr. Bruce Chwatt defined the ideal anti-malaria drug in the following:

> "The ideal anti-malarial is one that combines the virtues of causal prophylaxis, suppression, rapid and complete curative action, sporonticidal effect and impossibility to create parasite resistance together with low toxicity, very slow secretion. palatability and (last but not least) low cost".

He adds that this drug is still waiting to be discovered.

There is a pressing demand at this step, however, to discover a non-toxic drug to effect a radical cure of vivax and malariae in one single dose or in two doses to be given in one day. There is also a great demand for a sporonticidal drug with a long residual effect.

2. Research on Case-finding of Malaria Cases

a. To obtain an easier and more effective method of mass reading of stained blood slides to determine whether positive for any species of malaria parasite (electronic microscopist)

b. To obtain and experiment with various staining techniques to lessen the time of staining in consistence with the efficiency of examination

(Field's and J.S.B.) stains are good, but these necessitate a semi-thick film, thus the time saved in staining is used up by prolonging microscopic examination.

c. To determine the degree of reliance on the examination of one thick blood smear to detect malaria cases with very few parasites and the best means to detest such cases.

d. To determine the proportion of actual malaria cases found positive in a singly thick blood smear.

e. To find out the best means to detect, as well as to assess the importance or otherwise of asymptomatic malaria carriers in maintaining transmission during the consolidation phase.

3. Research on Insecticides and Spraying Equipment

a. To obtain an easily applicable and relatively non-toxic insecticide having long residual effect which can substitute the DDT and Dieldrin groups.

b. To obtain an additive which when mixed with an insecticide can prevent sorption without reducing the residual effect of the insecticide.

c. To find out an effective, relatively non-toxic larvicide with long residual effect which can be used for treating wells used by man and animals - especially those lying along the routes of nomads and where efficient malaria vector breeds.

d. To ascertain the value of larviciding in malaria eradication programmes under special circumstances.

e. To obtain a tip of a nozzle that will not wear off by insecticidal formulations and thus avoid frequent change of the tips.

f. To obtain a compression sprayer that will ensure a constant pressure of its discharge all throughout the emptying period of its contents.

g. To ascertain the value of the Firestone Rubber Tanks used to carry water for purposes of diluting the wettable powders of insecticides in areas where no adequate water exists.

4. Research on Entomological Problems

a. To find out the best entomological methods applicable under field conditions for the quick evaluation of successful interruption of malaria transmission.

b. To recommend practical field method to determine the age composition of females of local vectors - at least the ratio between the nulliparous and parous before and after insecticidal application.

c. To improve the technique of bio-assay testing of local vectors, as the experience with the present technique gives very variable results even in the same sprayed rooms. Moreover, the test cannot be applied to walls made of thatch or reeds.

d. To ascertain the effect of dry hot winds, that prevail during April and May and that are laden with dust and sand particles, on the duration of the residual effect of insecticides on treated surfaces exposed to these winds.

5. Research on Human Problems

a. To promote studies on the ecology of nomads, habits, and their relation to the epidemiology of malaria in each country of the Region and their role in introducing malaria in already malaria-freed areas.

b. To find out the best [redacted]h education methods and approaches to ensure full co-operation of the various strata of the community to malaria eradication programmes.

c. To devise the best means for fund raising to ensure that WHO present assistance to eradication programmes will sustain no diminution and can also be extended further to all countries that will launch eradication programmes in the future.