

Report

Development of the Regional Malaria Training Centre in Bandar-e Abbas, Islamic Republic of Iran

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SUMMARY The resurgence of malaria has highlighted the need for training health professionals in malaria control planning. The course described here was organized jointly by the World Health Organization, the Ministry of Health and Medical Education and the School of Public Health in Iran. The first course was held in 1997 and the fifth WHO-approved course is now in progress. The course focuses on dynamic, interactive, practical and problem-solving learning methods. It provides the participants with the knowledge, skills, competence and confidence to be able to analyse the malaria problem. The course fulfils the requirements of the Roll Back Malaria campaign. In the 8-week training period subjects such as basic bio-statistics and epidemiology, microcomputing, malaria parasitology, malaria entomology, vector control, case management, epidemiological approach to malaria control, field work and planning for malaria control are taught. Each participant is evaluated in each subject. A total of 71 participants from 17 countries in the WHO African and Eastern Mediterranean Regions, mainly those with a malaria problem, have graduated.

Introduction

The WHO Regional Malaria Training Centre in Bandar-e Abbas, southern Iran, was inaugurated in 1996 and held its first international training course in 1997. Since that time there have been courses annually, the fourth of which is presently in progress. The development of the centre, and of the international course, is a collaboration between the Ministry of Health and Medical Education, the School of Public Health of the Tehran University of Medical Sciences, the WHO Regional Office for the Eastern Mediterranean and WHO Headquarters.

The purpose of this report is to put into perspective and on record, the develop-

ment of the Regional Malaria Training Centre and the series of 4 international training courses that have been held there and our vision for the future.

The Regional Malaria Training Centre

Historical evolution

In February 1992, the first Iranian Congress of Malaria was held in Zahedan, Sistan and Baluchistan province. This coincided with a revamping of the national malaria control programme to accelerate control of this disease in the 3 most affected provinces in the country, Hormozgan,

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Kerman and Sistan and Baluchistan. Advantage was taken of the presence of WHO to organize rapidly and conduct a short workshop on planning and management of malaria control programmes for senior staff of the Ministry of Health and Medical Education. The value of this for the realization of the accelerated control programme was very soon recognized and discussions were held between the Ministry of Health and Medical Education, the dean of the School of Public Health and WHO on the possibility of developing a training programme in the Islamic Republic of Iran for national staff at the district level.

A technical review of global malaria control efforts was carried out during the 1980s by WHO through the expert committee meetings on malaria (18th and 19th) and the scientific working groups. This culminated in the endorsement of the Global Malaria Control Strategy by the Ministers of Health of more than 90 countries at the WHO Ministerial Conference on Malaria held in Amsterdam in October 1992. The strategy was also endorsed in subsequent years by the Economic and Social Development Committee of the United Nations. This political endorsement of the way forward opened up opportunities for a wider global recognition of the malaria problem and its impact on the global economy. It also raised awareness among the peoples of the world of the plight of the millions of persons affected, especially children, in malaria-endemic parts of the globe.

In 1997 and 1998, WHO provided US\$ 10 million each year for accelerated malaria control in Africa, much of it spent on programme planning and human resources development. Building on the momentum created, WHO established the Roll Back Malaria campaign in 1998, directed principally, though not exclusively, to the problem in Africa.

Spurred on by these events, the Islamic Republic of Iran began developing a national training programme for district health centre managers to plan and manage malaria control activities. The need for this was recognized following the revamping of the malaria control programme in the 3 southern provinces of the country and implementation through the primary health care system.

In 1996, the WHO Regional Committee for the Eastern Mediterranean Region discussed the malaria problem in the Region and the approach to control. A resolution was passed fully supporting the establishment of a regional malaria training centre in the Islamic Republic of Iran.

This fitted in well with the development of the training programme in Iran. The Centre for Health Education and Research in the Tehran School of Public Health, situated in Bandar-e Abbas, Hormozgan province, was considered ideal for the purpose. It was, therefore, designated as the WHO Regional Malaria Training Centre in 1996.

Relevance to the local health care structure

In Iran, each province has a University of Medical Sciences as part of the structure of the Ministry of Health and Medical Education. The vice-chancellor for health affairs of each of these universities is the person responsible for the delivery of health services to the population. During 1996, discussions were intensified between WHO Headquarters, the Regional Office for the Eastern Mediterranean, the Ministry of Health and Medical Education and the Dean of the School of Public Health regarding the development of the Regional Training Centre. A decision was made to hold the first international course at the centre in 1997 as a means of precipitating its further development. A 12-week course was designed on

malaria and other tropical diseases and the planning and control of these diseases.

The curriculum was developed during 1996 and 1997, and faculty members of the School of Public Health were identified as tutors and facilitators to cover as many subjects as possible. The close collaboration between the provincial universities, the training centre in Bandar-e Abbas and the Tehran School of Public Health was crucial for the success of this activity and was, therefore, cultivated from the very beginning to facilitate the smooth running of the course and especially for the development of the field training sites and the field exercises.

Principal objectives of the training centre

From the very outset, the authorities in Iran identified the need for training in planning and management for malaria control. The academic structure of the Tehran University of Medical Sciences School of Public Health, with satellite research stations distributed in 10 of the 30 provinces in the country, is such that basic subjects such as parasitology, medical entomology, vector control, general epidemiology and simple statistics could be adequately covered. However, the more malaria-specific subjects such as the epidemiological approach to malaria control, clinical management of the severely ill patient and planning and management were not areas for which experienced and knowledgeable teaching staff were readily available. In addition, with the revamping of the national malaria control programme by the Ministry of Health and Medical Education and planning the accelerated control programme for the 3 southern provinces of Hormozgan, Kerman and Sistan and Baluchistan, the need for well-trained health professionals to plan and manage the programme at district level

was recognized. Thus, it was primarily to meet this national need and to comply with the WHO Regional Committee resolution that the Bandar-e Abbas centre was developed for international training courses in planning and management. The preparatory period was the latter part of 1996 and the first 7–8 months of 1997. During that time the physical facility was set up, the tutors and facilitators prepared themselves, the evaluation instruments were developed, the training materials completed and printed, supplies and equipment procured, books ordered and delivered for the library and trainees and the course advertised within the Region and world-wide to recruit trainees.

The training courses

The first course was for 12 weeks, from 27 September to 18 December 1997. It was on "Malaria and other tropical diseases and planning their control" and included, besides malaria, leishmaniasis, schistosomiasis and filariasis. There were 17 participants, of whom 10 were from Iran and the remainder from Afghanistan (2), Sudan (3), Yemen (1) and Zambia (1). Field training was for only 3 days in Siahu district of Hormozgan province. Two teams were formed; one stayed and worked in the village of Sagaz Ahmadi and the other in Siahu town. A joint WHO, Ministry of Health and Medical Education and School of Public Health certificate of achievement was awarded to those reaching the required standard.

The second course was held at the Regional Training Centre in 1998 from 22 August to 24 October. This was the first part of an 8-week course, which did not include other tropical diseases. It was on "Malaria and planning its control" and all 21 places on the course were filled. Participants came from Egypt (1), Islamic Republic of

Iran (13), Namibia (1), Somalia (3), South Africa (1) and Yemen (2). This was the first course which had a female participant.

The third course was for 8 weeks, from 22 September to 18 November 1999. A total of 20 participants attended, of whom 8 were Iranian and the remainder from Botswana (1), Egypt (1), Iraq (1), Jordan (1), Saudi Arabia (1), Somalia (2), Sudan (1), Syrian Arab Republic (1), Yemen (2) and Zimbabwe (1). This was the first course where the international participants outnumbered the nationals.

The fourth course is presently under way, running for 8 weeks from 6 September to 2 November 2000. Unfortunately there are only 13 participants, 9 Iranians and the remainder from Afghanistan (1), Egypt (1), Pakistan (1) and Saudi Arabia (1). There are 2 women on the course, 1 from Iran and 1 from Pakistan, making a total of 3 since these courses began.

During these courses, 71 participants have been trained, a total of 40 (56.3%) were from the Islamic Republic of Iran and 55 (77.5%) were medical doctors.

The learning approach

Since the inception of the training course, a participatory approach to learning has been adopted, with the learning being dynamic, interactive, practical and problem-solving. Emphasis has been placed on practicals, small group discussions, individual projects and team fieldwork to develop the skills and competence necessary to plan and manage a malaria control programme.

Lectures have been kept to a minimum with a few guest speakers only being invited. Tutors have been encouraged to reduce lectures to short introductions to the subject with discussions and exchange of experience and ideas predominating the sessions. This approach to learning has

taken time to be accepted by all the tutors involved in the course. All tuition is in the English language.

The faculty

To ensure the sustainability of the course and the potential of the training centre, attention has been directed towards developing a national faculty to teach all 8 disciplines presently in the course curriculum. This has been a gradual process. Since the beginning, external tutors have been required for clinical malaria, epidemiological approach to malaria control and planning and management. All other subjects were taught by national specialists in the field.

As an approach to strengthening the national capacity to manage the whole curriculum "shadow tutors" were appointed to teach alongside the external tutors. It was difficult at first to find suitable young staff for this purpose, to ensure continuity and sustainability. However by this year's course (2000), the difficulty has been solved. A national clinician working in the private medical sector, who is very knowledgeable in clinical malaria, managed the teaching of those sessions with competence. An epidemiologist from the School of Public Health, who has been appointed Director of the Training Centre, and a PhD graduate are gradually assuming responsibility for the course in epidemiological approach to malaria control. For the first time 2 national tutors have been assigned as "shadow tutors" for planning and management, an MD and the PhD graduate who is also taking over the epidemiological approach to malaria control. These 2 are graduates from the first international course held in 1997. Thus, in a year or two all subjects will be adequately taught entirely by Iranian tutors.

Curriculum development

The curriculum has been evolving over these past 4 years. Changes have been made as a result of feedback from the participants themselves and from the tutors. The content has been updated in line with the WHO general approach to malaria control, in particular the Roll Back Malaria objectives and main thrust.

Twelve weeks was clearly too long for senior managers to be away from their duty stations. The training period has, therefore, been reduced to 8 weeks. Even this is felt to be too long by some; it is, however, difficult to reduce the time further without a large investment of time and money.

There are 3 objectives to be achieved by the end of the course, when the participants should have gained sufficient knowledge and skills to be able to:

- analyse the malaria situation and problems and find solutions,
- plan, implement, manage and evaluate antimalaria programmes,
- develop a training programme for capacity building for malaria control.

The basic subjects are oriented towards malaria control and have been found to be necessary in view of the heterogeneity among the participants on entering the training programme. The course is aimed at providing district level, responsible, health professionals with the skills and competence to be able to plan, manage, evaluate and replan malaria control programmes with the resources available and as an integral part of the health system of the country.

The course is not designed to train the participants in research methodology and its implementation, nor is it intended to produce microscopists, parasitologists, entomologists or vector control specialists. The time spent on the basic subjects is justified

to bring the participants up-to-date. In addition, it provides them with the skills, competence and confidence to supervise the diagnostic, entomological, vector control and other services under their authority. Furthermore, a thorough knowledge of these subjects is essential to be able to understand the epidemiological approach to malaria control and for programme planning purposes.

The structure and content of the course can best be illustrated diagrammatically (Figure 1).

Field training

The field experience is a critical part of this programme. This has taken longer to develop for a variety of reasons. The experience in the year 2000 has been the best to date but improvement is still required.

The first course in 1997 provided only a 3-day field experience in 2 health districts of Hormozgan province, Ahmadi and Siahu. There had been no preparation ahead of time and thus the experience was very limited. Accommodation could not be found and participants travelled daily to the fieldwork sites.

In 1998 the field experience was for 5 working days in 3 districts of Hormozgan province, Minab, Roudan and Siahu. Owing to the absence of suitable accommodation, the participants travelled to the sites from the training centre in Bandar-e Abbas by road on a daily basis, a 1½-hour journey.

In 1999 WHO provided a consultant from 9 to 28 May to help select and develop 3 field-training sites for the 1999 course. These were the health districts of Minab in Hormozgan province, Kahnūj in Kerman province and Iranshar in Sistan and Baluchistan province. They are accessible by road from the training centre in Bandar-e Abbas with the exception of Iranshar. The

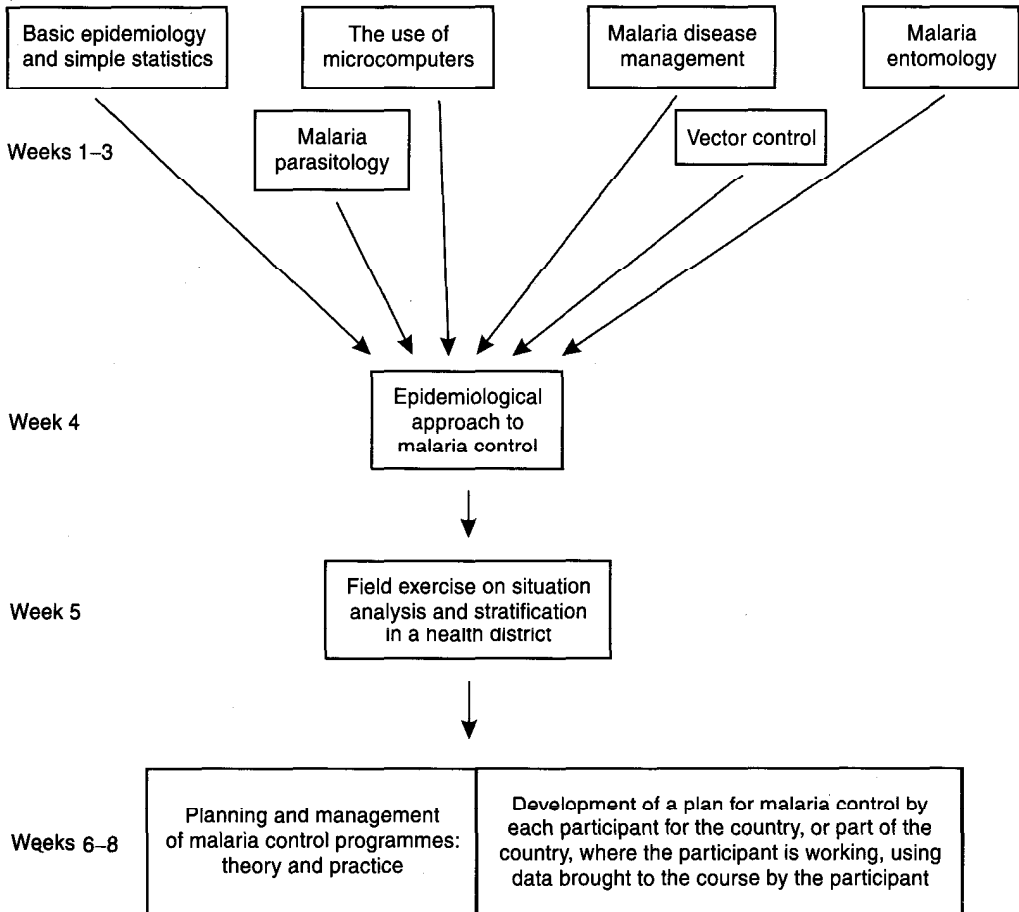


Figure 1 Course structure

team of participants travelling to Iranshar will first have to fly to Chabahar and then travel by road for 5 hours to Iranshar. Nevertheless, they represent excellent examples of the different epidemiological types of malaria in Iran and thus can be expected to provide the participants with the best possible experience. A list of data that needed to be compiled and translated into English well before the course commenced was drawn up and left with the heads of the

district health centres. During the remainder of 1999 this data was collected, compiled and translated. Unfortunately, at the time of conducting the 1999 training course, owing to security issues, the participants were not permitted to travel to Kahnuj and Iranshar. Thus, they were assigned to the same 3 areas in Hormozgan province as in the 3 previous courses, but only the statistics for Minab were readily available as planned. The outcome was al-

most the same as in previous years: accommodation in Siahu was very poor and the participants had difficulties. The exercise was nevertheless useful but not implemented as planned.

In 2000 there were only 13 participants, which was not enough for 3 field teams, so only 2 field sites were needed. The course manager and coordinator decided to select Minab health district in Hormozgan province, which had been used in the 3 previous courses, and Chabahar city and health district in Sistan and Baluchistan province. The former was accessible by road and the latter by a 50-minute flight from Bandar-e Abbas. The experience was much improved and appreciated by all participants.

Accreditation

Since the inception of the course, 2 certificates have been awarded jointly by WHO and the School of Public Health, a certificate of achievement for those reaching the required standard and a certificate of attendance for those who satisfied the attendance requirement but who did not come up to standard otherwise.

Following long-standing discussions with the university, the course has now been accredited as a diploma course of Tehran University of Medical Sciences. The tutor/trainee contact is 350 hours and the standard of tuition has reached an acceptable level for the award of a diploma. The diploma is in "Malaria and planning its control," designated DMPC. The year 2000 class will be the first to graduate with this university diploma.

This is a major step forward in the development of the course and is expected to increase the attractiveness of this course to overseas participants as well as nationals and contribute to its sustainability.

Course management

The course is organized and managed jointly by WHO (WHO Representative, Islamic Republic of Iran; the Regional Office for the Eastern Mediterranean; and Headquarters), the School of Public Health of Tehran University of Medical Sciences and the Ministry of Health and Medical Education. The course director is the dean of the School of Public Health; the course manager is the head of the Entomology Department in the School of Public Health in Tehran.

The management of the course has also evolved over the 4 years that it has been running. The long experience that WHO has in planning, organizing and implementing international courses on malaria has been fully exploited in establishing the Regional Malaria Training Centre and the international course. For the first 3 courses, WHO provided the technical coordinator for the whole period of the course, and the School of Public Health a national counterpart. From the present course, the course administration will be carried out by the course manager and the role of technical course coordinator has been shared between the course manager and the director of the training centre in Bandar-e Abbas.

Financial management and accountability is the responsibility of the course director. Requests for allocations are made to the course director by the course manager. The actual accounts are maintained with the assistance of the School of Public Health, Tehran University of Medical Sciences.

Multisectoral collaboration

The structure of the health system in the Islamic Republic of Iran greatly facilitates the possibility for close multisectoral col-

laboration. The establishment and development of the Regional Training Centre, and in particular the malaria training course, have fostered close collaboration with the provincial universities of medical sciences of Hormozgan, Kerman and Sistan and Baluchistan. Working closely with the vice chancellors for health affairs of these universities, good collaboration has been established with the district health authorities, especially in the districts where the field training exercises have been carried out. The chancellors of the universities of medical sciences in each of these provinces and the vice chancellors for health affairs have welcomed the extension of this international training activity into these provinces and pledged their full support. Benefits are expected to accrue by having the national and international participants carry out a situation analysis in the selected health districts. It was agreed that, for the period of the field training, a field facilitator (who will be a past participant on this course) from the School of Public Health and a field coordinator appointed by the chancellor of the provincial university would be provided in each province. The terms of reference of these two key professionals were agreed upon. Thus, in 1999 and 2000 the heads of the district health centres were appointed as the field coordinators.

Further close cooperation was received from the Hormozgan University of Medical Sciences in 2000 in the form of permission to use their server to provide internet access for the participants. This has proved to be an excellent arrangement, and more cost effective with only a local telephone call instead of long distance to Tehran as in the previous year.

Since 1997, close collaboration has been promoted with the Vice Chancellor for Health Affairs of Hormozgan University of

Medical Sciences, which is situated in Bandar-e Abbas, and with the director in charge of the provincial malaria programme. Both were past participants on the WHO Italy–Thailand course.

Sustainability of this course is to a large extent dependent upon a commitment on the part of, and close practical collaboration between, the School of Public Health in Tehran; the Ministry of Health and Medical Education; the universities of medical sciences of Sistan and Baluchistan, Kerman and Hormozgan provinces; and the provincial health authorities. This collaboration will be seen and felt by the international and national participants of this course. It will demonstrate that multisectoral collaboration is a key element to sustaining capacity-building for the control of communicable diseases. Participants will return to their places of work as ambassadors for the course and with a model of how this could be made to work well. The other strength in running the course in the Islamic Republic of Iran is the excellent primary health care system and through that, the delivery of malaria control activities.

Outcome to date

In summary, the Regional Malaria Training Centre has been developed from the Centre for Health Education and Research situated in Bandar-e Abbas, which is one of the field stations belonging to the School of Public Health in Tehran. The government has been fully committed to developing the centre and the training activities. Over the past 4 years, the facilities have been renovated and further developed, equipped and staffed for the courses. The School of Public Health has provided members of its faculty as tutors and facilitators.

The World Health Organization has provided full support in the form of fellowships for participants; staff members as

tutors; consultants as technical coordinators and tutors; and books, equipment, training materials and evaluation instruments.

The courses have a built-in system for evaluation of both participant and tutor performance and for feedback from the participants and tutors on the organization and functioning of the course. It is through this mechanism that improvements have been made each year to facilities, training materials, evaluation instruments and choice of tutors and facilitators.

Relevance to Roll Back Malaria

The training being offered in the Regional Malaria Training Centre in Bandar-e Abbas provides the participants with the knowledge, skills, competence and confidence to be able to analyse the malaria problem and develop from first principles approaches to controlling the disease according to the prevailing epidemiological situation.

Participants are taught how to conduct knowledge, attitude and practices studies and have the opportunity to carry out such studies themselves in order to understand the communities in which they are working. During the situation analysis they identify the at-risk population and devise approaches to controlling the disease and to protecting people from malaria. Their training includes the use of comparatively new technologies, in particular the use of a geographic information system for stratification and surveillance.

The experience in the Islamic Republic of Iran provides participants with the opportunity to examine the primary health care system and how it functions to accomplish malaria control; community mobilization is very much to the forefront. The educational process follows the 6 key elements of Roll Back Malaria, in particular, effective case management; detection and

control of, and preparedness for, epidemics; early diagnosis and prompt treatment of cases and monitoring of treatment failures; multiple and cost-effective approaches to preventing infection; sector-wide capacity-building and intensified community efforts; partnerships for action, especially with the provincial universities, the health system and the private sector; and a research and development approach along with the in-depth analysis and critique of published articles.

The training is all about effective management, and in the implementation of the learning experience participants are given the responsibility to manage their own resources, including time, and to organize their own teamwork. Thus, the process of education at the training centre embodies team building, wide collaboration, effective management practices and modern approaches to learning.

Vision for the future

In the first 4 years of the Regional Malaria Training Centre there has been remarkable progress in all aspects: administrative, constructive and educational. There are still several areas for improvement and these are in the medium-term plan for the centre and the diploma course. They include further improvement of the physical facilities, strengthening the library, improving the field experience and the field training sites and improving the evaluation instruments.

The course has reached the point of curriculum development whereby very little can be cut or added within the same time frame. However, there is one way in which learning can be improved and made more enjoyable, and possibly reduce the length of the course, and that is through computer assisted learning. The basic modules used during the first 4 weeks of the course could be developed as computer assisted learning

modules. This would mean that participants could bring themselves up to date faster by using these learning tools under tutor guidance and learning at their own rate, depending on their basic knowledge of the subject. Practical work and group discussions would continue and eventually the length of the course could be slightly reduced without damaging the learning experience. Consideration would, however, still need to be given to the minimum number of contact hours needed to maintain the accreditation.

The potential value of this course to the national malaria control programme in the Islamic Republic of Iran and to the health system has not yet been fully exploited, nor has the capacity of the Iranian health system to improve the learning experience. The future augurs well for both.

Any gains achieved in malaria control with the full support of the Roll Back Ma-

laria campaign will not be sustained without continuing development of human resources and improved management effectiveness throughout the health systems. Strengthening and supporting the management of health systems and services is vital to the success of communicable disease control programmes, especially those as complicated as malaria. The opportunity in the Islamic Republic of Iran for a pilot training course in malaria control through primary health care, supported by Roll Back Malaria, and improved health systems, supported by the Management Effectiveness Programme, provide evidence that the strategy is sound and can provide an ideal training ground for participants on the diploma course and, through them, subsequent dissemination to other countries of the Region and to other WHO Regions.