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FINAL REPORT

***Training Course on
"Quality Control and Standardization of Herbal Drugs"***

***Panama City, Panama
7-11 October 2002***

organized by
ICS-UNIDO

in collaboration with the
**CYTED, Fine Pharmaceutical Chemistry Subprogramme,
CIFLORPAN, Pharmacology Research Center
University of Panama**

and the
Organization of American States

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BACKGROUND

The last two decades have seen tremendous interest in the area of medicinal and aromatic plants. The role of plant derived drugs has been emphasized both at national and international levels. A number of plant drugs have emerged successful in recent years to highlight the contribution of medicinal plants to the development of modern drugs. Many modern drugs continue to be obtained from their natural sources. As a result more and more pharmaceutical companies are getting engaged in exploring medicinal plants to discover molecules with novel structure and activities. Furthermore, the increasing interest of population of the developed world in plant-derived medicine has generated huge demand for medicinal plant products at the international market. This situation has created ample opportunities for the developing countries to derive economic benefit by using their natural resources of medicinal plants. Considering the potential of medicinal plants of Central America, a national training course was organized in Guatemala last year to create awareness for plant drugs and their products and the participants were apprised of the prevailing international trends.

JUSTIFICATION

The present demand status of medicinal plants and their products, especially in Europe and North America provide opportunity for developing countries to benefit from the emerging market, as they possess most biodiversity of medicinal plants. However, the market is getting more and more aggressive and stringent for enforcing product standards. So it is important that the plant drugs and their products are prepared following standardized procedures to ensure product uniformity and quality. A lot of international efforts are directed towards laying standards for plant drugs. Good Manufacturing Practices have been recommended for the production of herbal drugs. The situation apparently makes it necessary to be aware of standardization norms to penetrate the international market. The present regional training course aimed to continue the efforts of national training course held in Guatemala last year, where appraisal to international market, important aspects of herbal drugs including their future potential prospects were highlighted by the international and national resource persons. The present training course will focus on the standardization and quality control of herbal drugs.

The training course was aimed to disseminate information among producers of herbal medicinal products, on the needs and methods to ensure product quality. The importance of standardization to ensure product uniformity and ways to develop standards for the products will be the focus of this training course.

OBJECTIVES

The training course was aimed to consolidate the existing knowledge and train the participants on:

- The importance of standardization;
- The different aspects of standardization;
- The methods and ways to ensure product quality;
- The Role of Good Manufacturing Practices, Good Harvesting/Gathering Practices and Good Agricultural Practices in quality assurance of medicinal plants and their products.

STRUCTURE OF THE TRAINING COURSE

The course was inaugurated by Prof. Eduardo Durán, the Vice-President for Research and Graduate Studies of the University of Panama on 7 October, as per the programme (See Annex I).

The Director of the General Secretariat of the Organization of American States, Mr. Karan Vasisht from ICS-UNIDO Trieste, Italy, Dr. Armando Cáceres of RIPROFITO, Guatemala, a representative of the Italian Embassy in Panama, the Dean of the College of Pharmacy and the Director of CIFLORPAN, as well as the International Coordinator of CYTED Programme also took part of the opening ceremony.

The training course consisted of lectures, deliberations, discussions and laboratory training on aspects related to the quality control of medicinal plants and their products. The lecturers who contributed in the course were, Dr. Arnold Vlietinck and Dr. Sandra Apers from Belgium, Dr. Götz Harnischfeger from Germany, Dr. Armando Cáceres from Guatemala, Maria Luisa Villarreal from Mexico and Dr. Karan Vasisht from ICS-UNIDO (See Annex I).

The theoretical part of the training course was held at the Guatemala Hotel, while the laboratory part at CIFLORPAN of the University of Panama. Within Annex III a compilation of all handouts and reports of the resource persons can be found.

In Annex IV the results of the Evaluation of the Course are shown in the form of statistics.

RESULTS

From a total of applications, 8 were selected as ICS participants and 9 as OAS participants. The candidates came from the industry (6), academia (9) and drug control agencies (2). In spite of the great efforts, no candidate from Dominican Republic applied.

The main results obtained were:

- ❑ Increased awareness of the participants on the utilization of their country resources of MAPs;
- ❑ Training of participants on the quality control techniques of herbal drugs and their products;
- ❑ Updating of participants of the global scenario of herbal drugs and quality parameters;
- ❑ Interaction of participants and resource persons among themselves to work in collaboration;
- ❑ Participants were apprised to the existing network of CYTED in Ibero-American countries for mutual cooperation to strengthen technological base.

CONCLUSIONS AND RECOMMENDATIONS

- There is a lot of potential in the region as top mega biodiversity centres lies in the region and a very large number of medicinal plants is unexplored and unutilized.
- The governments of these countries should be sensitized for the potential of their natural resources to promote the utilization of medicinal plants in the rapidly emerging demand of herbal medicinal products.
- There is a lack of infrastructure facilities and trained human resources in the region which should be considered while thinking to promote the use of natural resources of MAPs.
- A special emphasis should be given to make the producers of the region aware of the prevailing standards of herbal medicinal products in Europe, which has a mega size market potential for international producers.

In summary, the training course gave an excellent opportunity to professionals in Central America, Colombia, Cuba, Mexico, Trinidad and Tobago and Panama to update their knowledge on many aspects of quality control, which will help the region in improving their competitiveness in producing herbal medicinal products of quality. This could promote industrial development of this region.

IMMEDIATE FOLLOW-UP

Taking into consideration the interest shown by the participants on the standardization techniques it can be concluded that:

- there is a need to prepare a video documentary to train personnel in the advanced quality control techniques forwarded in the standardization of modern herbal medicine products;
- in order to sensitize the governments of the region, a brochure showing the international potential of herbal medicinal products and the available resources in the Latin American countries, can be prepared and distributed;
- as there is a lot of useful published information on production of medicinal and aromatic plants for the Latin American countries, it would be useful to collaborate with some agencies in the region to translate the literature into English, to make it available for emerging and developing countries of the rest of the world.

LIST OF ANNEXES

PROGRAMME

See attached Annex I.

LIST OF PARTICIPANTS

See attached Annex II.

LECTURE NOTES AND PRESENTATIONS

See attached Annex III.

FINANCIAL REPORT

See attached Annex IV.