Strengthening Poison Prevention and Treatment Programme

Report of the Regional Workshop
Kathmandu, Nepal, 13–17 September 1999

WHO Project: ICP PCS 001
Report of the Regional Workshop

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1. INTRODUCTION

Poisoning through exposure to toxic chemicals is recognized as a common health hazard in SEAR countries. Accordingly, SEARO has been supporting the development of poison control facilities in the countries of the South East Asia Region. The Regional Consultation on Promotion of Chemical Safety, held in Bangkok from 4-6 March 1998 adopted a Framework of National Actions, which included development of national plans for poison prevention and management. An informal consultation held in SEARO in December 1998 reviewed the situation in the Region and called for a regional workshop to assess the performance of the available facilities for poison control in countries and develop plans for strengthening implementation of national poison prevention, diagnosis and treatment programmes.

The Regional Workshop on Strengthening Poison Prevention and Treatment Programmes in South-East Asia Region, was held at the Godavari Centre, Kathmandu, Nepal from 13 to 17 September 1999, was organized on behalf of WHO jointly by the Institute of Medicine, Tribhuvan University Teaching Hospital (TUTH), the Department of Drug Administration (DDAS), Ministry of Health and the WHO Country Office, Nepal. It was chaired by Professor Shatendra K. Gupta, Head, Department of General Practice and Emergency TUTH. Mrs Pornpis Silkavute (Thailand) acted as Rapporteur, with the support of Mr Terrence Thompson (SEARO).

The Workshop was in four main parts:
(1) Presentation of the situation in countries and of the IPCS Guidelines on Poison Control;

(2) Lectures on the treatment of poisoned patients and the analytical support;

(3) Training in the use of the IPCS INTOX AND IPCS INCHEM databases and in data entry, and

(4) Preparation of country plans of action to develop or strengthen poisons control activities in countries and the identification of areas where WHO could support country activities. The programme of the workshop is given in Annex 1 and the list of participants in Annex 2.

2. **INAUGURAL SESSION**

As Chief Guest, The Honourable Minister of Health, Dr Ram Baran Yadav, participated in the inaugural session.

Dr Harry Feirman, Ag WHO Representative read the message of the Regional Director, SEARO, (Annex 3) which placed the workshop within the regional framework of activities that was developed during the Regional Consultation on Chemical Safety held in Bangkok, May 1998.

Dr John Haines, WHO/HQ, referred to the second SAARC Expert Meeting for Poisoning and Chemical Safety held in Kathmandu, in May 1999), and briefly outlined key elements for the successful implementation of chemical safety programmes: building evidence base, community involvement and intersectoral cooperation, political commitment with health authorities playing a leading role, human resources development, optimization of
existing facilities, and clear plans of action with realistic time frames. Dr Haines requested that governments of the Region give support for the implementation of comprehensive chemical safety programmes in the coming biennia.

Dr Ram Baran Yadav, Honourable Minister of Health, emphasized the importance of poisoning as a public health concern, and lamented the absence of good epidemiological data. He also stressed the importance of intersectoral collaboration between health, agriculture, industry, education and environmental authorities in order to achieve better prevention and control of poisonings.

Dr Hari Govinda Shrestha, Dean, of the Institute of Medicine, and Chairman of the Workshop Organizing Committee, welcoming the participants, thanked WHO for having given Nepal the opportunity to support chemical safety in the Region by hosting the workshop and exhorted the participants to produce recommendations that would further the development of chemical safety programmes.

### 3. COUNTRY REPORTS

#### 3.1 India

The country paper presented by Mr M. M. Datta, highlighted the existing situation of poison prevention and control in 4 aspects namely: spectrum of poisoning, existing poison control facilities, role of poison information centres in poisoning management and prevention, lacunae in the existing situation and future goals; and suggested actions on an urgent basis on the following points:
Establishment of regional centres in the country with facilities for poisoning information and management.

Separate clinical facilities for poisoning patients to be created with place for decontamination and medical management in at least 2-3 poison prevention and control centres in the industrial pockets of the country.

Facilities for 24-hour clinical toxicology services to be created at national and regional levels.

Central registry system to be started for poisoning cases.

Creation, collection, collation, analysis and wide dissemination of a scientific and dependable database at central and regional levels.

For strengthening of poison information centres, as well as for the establishment of new centres, funding arrangements to be assured and made available on a continuous basis, with the support of IPCS/WHO and other external agencies.

3.2 Indonesia

Dr M Hayatie Amal introduced the country paper referring to the establishment of the Indonesian National Poison Centre (NPIC) which was established in November 1995. The Centre is within the Directorate-General for Drug and Food Control, Ministry of Health, Directorate of Narcotic and Hazardous Substances Control. It serves as the national clearing house for poisonous substances in respect of provincial (PPICS), major hospitals, other governmental agencies and to a limited extent, the community.

Four pilot PICs have been established (1997–99) with a further five in the early developmental stage. The decentralized approach
to PIC development is both essential in circumstances of limited communication and in line with government devolution policies. NPIC, in addition to its formal information services, provides specialized training and develops a database for (repository) community awareness raising activities.

The experience (1996-99) with data dissemination is that a large bulk of the work is with hospital-based emergency clinicians, with limited community participation. NPIC involvement in on-site and transportation emergencies is being developed.

### 3.3 Nepal

The report was presented by Dr Asfaq Shekh, Director and Chief Drug Administrator of the Department of Drug Administration, Ministry of Health. Dr Shekh mentioned that so far only sporadic attempts had been made to establish poison information centres in the country.

The existing centres, individual and in some hospitals, did not yet function in a well-coordinated manner. Nepal was working on poison centre development in line with the recommendations of the Second SAARC Expert Meeting for Poisoning and Chemical Safety, held in Kathmandu.

### 3.4 Sri Lanka

Professor R. Sheriff presented the country paper. He stated that a National Poison Information Centre (NPIC) at the National Hospital of Sri Lanka in Colombo had been in operation for 11 years, which covered following three main areas:
(1) Functions as a 24-hour information centre on chemical poisoning;

(2) Offers laboratory services through the adjoining Forsenic Laboratory, and

(3) Offers clinical services for poisoning cases.

The trends of data for different types of poisoning for the last 11 years showed that although the incidence of snakebites had increased, the associated case-fatality decreased due to appropriate case management through the use of anti-venoms. In contrast, this was not decreased for other types of poisoning, highlighting the need for ensuring the availability of antidotes for all cases throughout the country, in addition to laboratory services and linkages with media for information dissemination.

3.5 Thailand

Ms Pornpis Silkavute presented the overview of Thailand’s experiences with the development of poison control facilities. The country still had a very large agriculture based economy despite years of rapid industrial growth and, as a result pesticide poisonings were common. So far, 29 laws and pieces of legislation concerning chemical safety had been enacted and administered by 11 ministries. Despite this, a clear orientation of the chemical safety programme in the country was lacking. Attempts were made to develop a comprehensive approach, the latest example being the first National Master Plan (NMP) 1997-2001 designed to strengthen chemical safety and include all stakeholders in the process, with a budget of US$ 230 million. Progress was being monitored through national indicators, one of which was the establishment of poison control network which would be responsible to the Sub-Committee on Poison Information Network.
The Network would be based on collaboration among the ongoing PICs by sharing existing resources and facilities. The above report represented only the activities of the Food and Drug Administration, but there were other players at the national level in Thailand.

3.6 Other Countries

Dr Ali Abdulla Latheef (Maldives) and Professor Thein Zaw (Myanmar), presented the problems of poisoning and the potential for establishing poison control activities in Maldives and Myanmar respectively.

4. WHO/IPCS GUIDELINES ON OPERATING POISON CONTROL FACILITIES

4.1 Information Services

Dr M Ruse, WHO/HQ summarized the information given in Chapter 2, Information services and Chapter 9, Library Requirements for Poison Information Centres, found in the IPCS Guidelines for Poison Control (WHO 1997). When planning a new poison information service the following points should be considered:

1. To whom will the services be offered (health care community, general public) and what will be the hours of service? (Ideal is a 24 hour service.)
2. What are the staff requirements (director, clinical toxicologists, poison information specialists, administrative and library staff) and how will staff be trained appropriately?
(3) How will data received at the centre (both from telephone consultations and direct patient contacts) be registered in a harmonized and consistent manner? (The global, harmonized formats of the INTOX project can be considered for this purpose).

(4) What are the essential textbooks, journals and databases which must be acquired in order to ensure that valid information can be given?

(5) Where will the centre be located? What facilities and equipment are needed?

It should be remembered that a poison centre should be independent and neutral. The poison centre should be run by appropriately trained, dedicated staff in a dedicated location.

The planning of the centre should be realistic in its aims, considering both available human and financial resources, and the needs of the population that will be served.

4.2 Clinical Services

Dr Jones, WHO/HQ stated that ideally clinical services should be in specialized medical units in a multifunctional hospital related closely to PIC. Minimum requirements included ER, ICU, internal medical ward. The functions of a clinical toxicologist included patient management, toxicovigilance, education and research. To do this, the following were required:

- resuscitation and decontamination facilities;
- antidotes and pharmaceuticals;
- access to radiology / specialised units;
> access to information service;
> facilities for maintenance of ventilation and circulation, and
> training in clinical toxicology (short courses: postgraduate training courses).

### 4.3 Analytical Services

Dr Haines, WHO/HQ summarized the guidelines in relation to analytical toxicology and other services, which were essential elements of a poison control programme for diagnosis, severity assessment and supporting treatment and follow-up. Ideally located within or close to where poisoned patients were treated, it could be part of a general laboratory service. The functions and equipments required at an analytical service were reviewed. The importance of reference materials, quality assurance and safety measures for staff was emphasized. Cooperation with clinical and information services should be encouraged in order to discuss interpretation of analytical results, examine results of research and review developments in the published literature. Staff should be encouraged to take further education, be members of relevant professional bodies and to participate in scientific meetings and present and publish papers.

### 4.4 Toxicovigilance and Prevention

Dr J Pronczuk, WHO/HQ pointed out that one of the major functions of poison centres was to identify risks of poisonings, characterize them and implement prevention activities. “Toxicovigilance” consisted of the active evaluation of toxic risks and
phenomena, reporting to health authorities and promoting activities aimed at reducing the risks of exposure. The importance of this role of the centres, closely linked to education and training was underscored by a number of international agreements and recommendations.

Toxicovigilance and prevention were feasible and successful wherever epidemiological data of good quality was collected; health authorities were concerned about chemical safety, human and financial resources were available, and poisons centres were in action. Educational and information messages should be delivered on an urgent basis (e.g.:alerts on radio) or non-urgent basis (e.g. prevention campaigns, posters). Information material should be attractive, clear, reassuring and adopted to the target community. A number of examples of prevention activities were shown.

4.5 New Challenges in the Area of Chemical Safety: Role of Poison Centres

The new roles and responsibilities of the poison centres foreseen in response to emerging challenges in the area of chemical safety included:

(1) Increase in the number of chemicals of production, transportation and uses;

(2) The globalization process and the need for sustainable development based upon the judicious use of chemicals;

(3) Reduced resources in the public health sector;

(4) The need for identification of more vulnerable population groups (e.g. poor, migrant workers, small children, others), as a means to plan appropriate preventive measures;
(5) Changing needs for information and knowledge, and

(6) Changing needs for communication and data sharing. The IPCS INTOX project assisted poison centres and related units in the response to these challenges. It enabled the harmonized collection of observational and chemical case data, using a controlled vocabulary and facilitated communications among centres, and sharing of experience at the national and international levels.

4.6 Discussions

Dr Dewan (India) sought clarification on the roles of clinical toxicologists and non-medical trained poison information specialists in answering clinical enquires received at the centre. Dr A. Jones, Medical Toxicology Unit, Guys & St. Thomas’ Hospital Trust, London, UK, responded that trained poison information specialists were able to answer and give appropriate treatment advice for routine poisoning calls. However, in clinically complicated cases, the clinical toxicologist should answer the enquiry. The roles of different staff members should be well defined.

Dr. Asfaq Shekh (Nepal) asked about the role of the clinical toxicology laboratory in those cases of poisoning involving nanogram amounts of poisonous substance. Dr Haines clarified that generally the laboratory offered support during the course of patient care, although in many developing countries, laboratories did not have access to sophisticated equipment. He said that the IPCS Basic Analytical Toxicology publication (WHO 1995) provided information on basic techniques for laboratories lacking sophisticated equipment and even a supply of continuous electricity. He said that in acute poisoning, the services of the
laboratory were not necessarily used in the first instance of patient care, but they might become important during the course of patient management, for example in measuring liver function tests. It was in relatively few cases that the laboratory was required for the management of acute poisoning.

In response to a query Mr Datta asked about the relationship between trauma centres and poison centres, Dr Jones pointed out that there was a great deal of overlap between the two types of centres which required accident and emergency physicians and clinical toxicologists. However, the clinical toxicologist would be required to provide specialist skills in severe poisoning cases.

Responding to a query about answering difficult inquiries to the poison centre, Dr Ruse pointed out the importance of consultation between colleagues in the centre and between the poison information specialists and clinical toxicologists. Dr Pronczuk added that it was impossible for anybody to know about all of the several million or so known chemicals. If the person answering the call could not respond immediately to an enquiry they should explain this and arrange to telephone back as soon as the answer was found. The art of answering poisoning enquires was not necessarily having the knowledge but knowing where to find the knowledge.

The role of the poison centre in prevention campaigns should be well planned and targeted at specific population groups at risk from specific poisonous substances. The method of delivering prevention information should be carefully thought out and the issues of language, particularly with the community and children, should be considered. Advice should be sought from outside
professionals, for example, from school teachers in the case of children.

While giving out information on poisons over the telephone, care should be exercised, in case the information was being sought for suicide. The possible mimicking effect that a well known personality, such as a movie star, attempting suicide could have on the population and parasuicides i.e attempts at attention-seeking as opposed to real suicide attempts were also mentioned. The importance of reducing the availability of pesticides both in the home and the occupational setting was stressed.

5. LATEST TRENDS IN THE DIAGNOSIS AND MANAGEMENT OF POISONED PATIENTS: CLINICAL AND ANALYTICAL ASPECTS

5.1 Decontamination and Enhancement of Elimination

The presentation on decontamination by Dr J Pronczuk, outlined the evaluation of various techniques of decontamination, particularly eye decontamination, skin decontamination, and various gastrointestinal procedures.

Discussions which followed, emphasized the use of water as easily and readily available eye decontamination method. It was noted that more sophisticated eye washing techniques were very useful and should be made available in a factory setting. It was stressed that emesis induction or gastric lavage might be effective decontamination procedures, only if applied early and if the technique was appropriate (e.g. gastric lavage preceded by gastric
absorption). Activated charcoal use was considered as a very effective method to prevent absorption of toxics but was not available in many countries of the Region. Inducing vomiting with traditional methods was considered not useful. The technique should only be applied if indicated, and using Ipecacuanha syrup only. Gastric aspirations and lavage was useful only if applied soon after ingestion of a toxic agent, and if there were no contradictions. Cathartics were not favoured as of much value, and whole bowel irrigation had very limited applications.

The presentation on enhancement of elimination of poisoning by Dr Allison Jones, outlined many methods of increasing poison elimination, including the use of activated charcoal, alkaline and saline diuresis, dialysis and haemofiltration, haemadsorption and plasmapheresis techniques.

The advantages and disadvantages of various techniques were discussed, and it became evident that haemodialysis machines and equipment related to haemoperfusion and plasmapheresis were not available or easily accessible for management of the poisoned patient in the Region. Therefore, peritoneal dialysis and manual methods of slow plasmapheresis could also be useful in severely poisoned patients if facilities were limited. It was recommended that sophisticated extra-corporeal techniques be optimally coupled with suitable analytical techniques (e.g. of dialysate and repeated blood levels, especially when continuous arteriovenous haemofiltration (CAVH), continuous veno-venous haemofiltration (CVVH), continuous veno-venous haemodialysis (CVVHD) and haemadsorption techniques were used).

Such mechanisms might not be expected to be of value for drugs with a high volume of distribution or strong protein binding.
Prof. Sheriff (Sri Lanka) indicated his country’s plan to use activated charcoal in the form of biscuits at the village level to be made easily available for all types of ingested poisoning cases with the end point of reducing mortality. However, colouring, ice-cream, too much fat or sugar would reduce the effectiveness of such biscuits. A study on the subject was encouraged.

5.2 Exposure to Pesticides

A very stimulating talk was given on clinical issues of organophosphorous pesticides (OPs) by Prof. Senanayake (Sri Lanka). He stressed the importance of careful history taking and detailed chemical examination. He referred to the delayed effects of OPs to chronic polyneuropathy and the intermediate syndrome (which could occur after acute poisoning); also to acute effects and the introduction of a clinical score.

He indicated that different types of OPs might give rise to different syndromes. During the discussions, it was evident that the intermediate syndrome might appear after rather moderate acute OP exposures.

Prof. Senanayake recommended that doctors should be aware of the long term effects of OPs, especially behavioural, neurological, visual, teratogenic and biochemical effects. Dr J. Pronczuk made a presentation on the latest trends of treatment of OP pesticide poisoning, based upon supportive care, decontamination (external and gastro-intestinal) and specific treatment with atropine, different oximes (enzymatic reactivators) and diazepam. The experimental use of sodium bicarbonate was mentioned. The main issues in OP poisoning management included:
- Identification of the pesticide (since patients don’t bring bottles or labels).
- Was it acute, or acute on chronic exposure?
- Was the use of the pesticide agricultural (in high concentration) or household (low concentration)?
- Circumstances of poisoning (e.g. accidental, occupational, or intentional).
- Of all specific therapies, atropine was the mainstay of therapy, in spite of controversies on the optimal dose, frequency of repeated dose and the issue of formulations available in the countries.
- Diazepam was recommended as useful treatment (only to be used in an ICU setting).
- The use of different Oximes raised controversy among members. (e.g. use only for slow aging potential or low dose exposures, obidoxime or pralidoxime according to the agent). Dr Senanayake reported that during the eight-month period when palidoxime was not available in Sri Lanka, there was no change in mortality. However, there was a need for controlled trials on the use and efficacy of oximes.
- Sodium bicarbonate seemed to facilitate the hydrolysis of OP and might be effective, but further studies were required.

Dr Alison Jones made a presentation on poisonings due to other pesticides such as organochlorines, chlorophenoxy acid herbicides, aluminum and zinc phosphides, pyrethroids and warfarins. The aluminum phosphide problem was highlighted by Dr Lall (India) and its high mortality was noted.
In conclusion:

▷ There was a large variety and quantity of pesticides causing poisoning in the Region.

▷ There was a recognized need for harmonized multicentre studies.

▷ Sound scientific data here needed to improve better control policies/strategies.

▷ Prevention and education activities were required.

▷ More stringent registration processes and regulations on the accessibility of pesticides would need to be addressed to reduce the burden of acute and chronic pesticide exposures in this Region.

5.3 Poisoning by Pharmaceuticals

Pharmaceuticals were a leading cause of poisoning, either intentional or unintentional. Geriatric and paediatric population were at risk for unintentional poisoning.

The characteristics of poisoning by analgesics, such as paracetamol, was presented and discussed. Paracetamol poisoning was common in some countries, such as Thailand, but not in all countries in the Region. Toxicity from paracetamol was dose-dependent. N-Acetylcysteine had proven to be the effective antidote for preventing paracetamol overdose induced hepatotoxicity and its efficacy was determined by the time of administration after ingestion of paracetamol. In severe cases, liver transplantation might be needed.
Poisoning from opiates and related substances was a problem in the Region, not only due to their toxicity, but also to related infection such as hepatitis, HIV, and infective endocarditis which contributed to morbidity and morality. Naloxone was the antidote of choice for reversing acute toxicity. The dose of naloxone was dependent on the clinical severity of the case. Modes of administration were discussed.

Antidepressant poisoning was common. Patients who took these drugs were in high risk groups for self-poisoning. Tricyclic antidepressants were used less often than the newer antidepressants such as Selective Serotonin Re-uptake Inhibitors (SSRI) and 5-Hydroxytryptamine (serotonin) (5-HT) respectively. Mechanisms of poisoning from tricyclic antidepressants include anticholinergic effect, neurotoxicity and cardiovascular toxicity (sodium channel effect). Sodium bicarbonate was an antidote for cardiovascular toxicity. Monoaminooxidase inhibitor (MAOI) poisoning might cause hypertension, but beta blocker worsened the condition. Serotonin syndrome was a drug adverse reaction from (SSRI) and (5-HT) drugs, which needed to be watched.

5.4 Poisoning from Solvents and Household Products

The number of poisonings from these products was growing. Ingestion of some of them might cause gastrointestinal tract irritation, ranging from mild to strong caustic actions. Some were non-toxic (e.g. soap, anionic and non-ionic detergents) and treatment was unnecessary. Cationic detergents, some used as fabric softeners, caused stronger gastrointestinal tract irritation. Acids, alkalis and hypochlorite, added in some of these products,
could cause severe injury to the gastrointestinal tract. Endoscopy was recommended for caustic ingestion to evaluate the lesions. Some household products contained acetone or isopropanol. The effects of small button batteries, superglue and fluoride tablets ingestion were also discussed, as was naphthalene exposure causing hepatotoxicity, especially in those with glucose-6-phosphate deficiency, and the consequences of kerosene and solvents exposure.

5.5 Snakes-bites and Stings

The characteristics of wasp and bee stings were presented. Specific effects were discussed on the basis of a case with immunological effects presented by Dr S.B. Lall.

Poisonous snake-bites were a public health problem in the Region. The neurotoxic snakes in the Region included cobra, krait and sea snake, and the hematotoxic snakes were the green pit viper and Russell’s viper. Management of snake-bites, including antivenin, was discussed.

5.6 Lead Poisoning

Lead poisoning was a worldwide health problem. It had been proved that lead toxicity in children decreased their IQ. Therefore, methods were nowadays being promoted to screen and diagnose lead poisoning in the early stages of exposure. Measurements to reduce lead contamination were available. Dimercaprol or British Anti Lewisite (BAL), Ethylene diamine tetracetic acid (EDTA) and Dimercaprol succinic acid (DMSA) were chelating agents for
treating lead poisoning. Preference was being given to DMSA, as it was effective and could be administered orally.

6. **USE OF IPCS INTOX DATABASE AND DATA MANAGEMENT SYSTEM**

During the training session in the use of the IPCS INTOX CD-ROM database and INTOX data management system, the participants were shown the range of documents on the CD-ROM and the various search and other capabilities available, followed by practical sessions, “hands-on” experience.

The INTOX data collection format, INTOX authority lists and classifications and appropriate definitions were provided to participants. The importance of harmonized data collection which allowed comparability of data within and between different centres and different countries and contributes to the process of toxicovigilance was stressed. The participants were then presented with a series of problems to solve involving clinical cases for relevant information on the INTOX CD-ROM and to register the cases and accidents using the INTOX harmonized format.

During the discussions, the issue of quality assurance in poison centres was raised. Registering data in a harmonized format allowed cases to be more easily discussed within a centre, ensuring that treatment protocols were being followed and hence contributing to a consistent approach to poisoning-related communications. External quality control would involve interaction with the users of the poison centre and with other external professionals who would be given the responsibility of checking
the information given out by the centre (a process made easier with harmonized data registration).

7. ANALYTICAL SUPPORT FOR POISON CONTROL PROGRAMMES

At the outset, Dr R. Braithwaite, (Medical Toxicology Centre, Guys & St. Thomas’ Hospital Trust, London, U. K.) highlighted the range of analytical services provided by his Regional Laboratory at Birmingham, U.K. for laboratory diagnosis of poisoning, forensic toxicology, therapeutic drug monitoring, screening of drugs of abuse, monitoring for essential and non-essential trace elements and biological monitoring of occupational and environmental exposure to chemicals. The toxicology laboratory provided 24-hrs service and was situated in a large teaching hospital, which had an emergency unit and different wards and laboratories (hematology, pathology, biochemistry). Therefore, the laboratory had close links with various laboratories, poison information centres and also with other universities, and had facilities for research and training.

He gave an overview of IPCS guidelines for analytic toxicology services. The laboratory services depended on:

(1) Need, whether required for diagnosis, management, forensic or research;

(2) Speed of response, and

(3) Nature of poisoning (drugs, chemicals, plants and animals).

The best way to develop these services was to build on the existing facilities and experiences. He also discussed the basic and advanced laboratory techniques and applications along with the equipment required. Interpretation of results and quality assurance
were the two most important elements in the laboratory services. There should be a close association between a laboratory and the clinicians.

8. PLANS OF ACTION

The country delegations working in groups, prepared national plans of action for the development of poison control programmes, on the basis of which, common areas were identified for WHO support to SEAR countries in their implementation (Annex 3).
Annex 1

PROGRAMME

Monday, 13 September 1999

09:00-10:00 Registration
- Introduction of participants
- Nomination of Chairperson and Rapporteur
- Announcements
- Objectives of the Workshop

10:00-10:30 Inauguration
- Opening address and Regional Director’s message
  Dr H. Feirman, Ag WHO Representative to Nepal
- Statement by
  Dr John A. Haines, IPCS-WHO/HQ
- Inaugural address
  Dr Ram Baran Yadav, Minister for Health, HMG-Nepal

11:00-12:30 Country review of existing poison control facilities for prevention and treatment of poisoning in:
- India
- Indonesia
- Nepal
- Sri Lanka
- Thailand
Potential for setting up poison control facilities in other countries in the region
Discussions

14:00-15:30 Presentation of WHO/IPCS Guidelines on operating poison control facilities
- Information Services (Dr M. Ruse)
- Clinical Services (Dr M. Jones)
- Analytical Services (Dr J.A. Haines)
- Toxicovigilance and Prevention (Dr J. Pronczuk)

16:00-16:15 New challenges in the area of Chemical Safety: Role of Poison Centres

15:30-16:30 Discussions

**Tuesday, 14 September 1999**

Latest trends in the diagnosis and management of poisoned patients: clinical and analytical aspects

08:30-09:15 Decontamination and enhancement of elimination
09:15-10:00 Exposure to pesticides (OP, OC, AI phosphide, others)
10:30-12:30 Exposure to pesticides (Contd.)
  - Discussions
13:30-14:30 Poisoning by pharmaceuticals
14:30-15:00 Poisoning by solvents and household products
15:30-16:00 Treatment of bites and stings

**Wednesday, 15 September 1999**

Use of the IPCS INTOX Package

08:30-09:15 Demonstration of the use of the software and CD-ROM
  - Discussions
10:30-12:30 Hands-on training in the use of IPCS INTOX
13:30-15:00 Hands-on training: data recording, annual reports
15:30-16:30 Training and equipment needs
Thursday, 16 September 1999

08:30-09:30 Analytical Support for Poison Control Programmes
   Dr R.A. Braithwaite
   Working groups on Poison Control Facilities

09:30-10:30 Experience of setting-up poison control facilities in the Region
   Examples: – India (Dr Lall)
   – Indonesia (Dr Thomphson Siamnipar)
   – Nepal (Dr Lohani)
   – Thailand (Dr Winai)
   – Discussions on how to strengthen poison control facilities in the Region and preparation of working groups

11:00-13:00 Working groups on preparation of country plan of action including POA for individual poison control centres
   – Indian group (12 professionals)
   – Indonesian group (11 professionals)
   – Nepal/Thailand, Bhutan, DPR Korea group (6- 10 professionals)
   – Sri Lanka, Maldives, Myanmar and Bangladesh group (6-8 professionals)

14:00-15:00 Working groups (continued)

15:30-17:30 Working groups (continued)

Friday, 17 September 1999

08:30-10:00 Presentations of working groups

10:30-12:30 Presentation of regional and country action plans
identifying:
- Infrastructure needs including MIS
- Laboratory needs
- Manpower training needs
- Analytical training
- Case management

Financial Resources

CLOSING SESSION
## Annex 2

### LIST OF PARTICIPANTS

#### Regional Countries’ Participants:

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Strengthening Poison Prevention and Treatment Programme

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Annex 3

SUMMARY OF WORKSHOP CONCLUSIONS

Areas for WHO support to countries in the implementation of action plans for poison control programmes

(1) Information Management

− Provision of INCHEM and INTOX databases to improve access to evaluated information on chemicals and poisoning.
− Provision of INTOX software and related systems to promote harmonized data collection on poisoning cases and chemical incidents, with the development of registries of chemical products and sites/transporters involving toxic chemicals, with a view to strengthening the evidence base for toxicovigilance and control of diseases of chemical aetiology.
− Possible development of a SEAR or SAARC regional database on chemical products.
− Training courses at national and sub-regional level.

(2) Treatment of Poisoned Patients

− Provision of training materials for clinicians adapted to local conditions
− Provision of training materials for medical officers and primary health care workers (based on the WHO publication “Management of Poisoning”).
− National courses for training the trainers.

(3) Analytical Toxicology Support

− Provision of training material and handbooks for laboratory staff on analytical toxicology methods.
- National and sub-regional training courses for laboratory staff trainers in analytical methods of local poisoning cases.
- Provision of analytical and other reference materials; quality assurance programme among toxicology laboratories of the region.

(4) Guidance Materials
- Translation