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Special Communication

Report of national training course on "Medical preparedness and response to radiation emergencies", 2-6 Oct. 2004, Tehran, Iran

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During the past years, special emphasis was put on medical preparedness in the event of radiological or nuclear emergencies.

Novin Medical Radiation Institute (NMRI) encouraged and supported the national authorities to enhance their cooperation in improving medical response to radiation accident. NMRI in cooperation with International Atomic Energy Agency (IAEA) and Atomic Energy Organization of Iran (AEOI), within the framework of the IAEA Regional Model Project RAW/09/009 "Development of Technical Capabilities for Sustainable Radiation Protection Program" in West Asia region, has organized this training course. It was a very well organized workshop about the Medical Preparedness and Medical Response to Radiation Accident which was held for the first time in Iran.



Course director, IAEA and local experts and lecturers.

This educational program has originally been prepared by the IAEA amending and developing on the material provided in 1997 by Boston University School of Medicine in co-operation with REAC/TS for the IAEA train the trainers course organized within the regional technical co-operation project RER/9/049 in 1998-2001. Experts from WHO, involved in Radiation Emergency Medical Preparedness and Assistance Network (REMPAN) Centers, have reviewed this program for publication.

This meeting was held at the Homa hotel's lecture theater. About 50 people from a cross-section of all medical departments of emergency or radioactive materials were attended the workshop.

Two IAEA and six local experts have presented their lectures in this course. Training material was prepared for five-day courses for emergency medical personnel. Dr. Makoto Akashi, director of the Radiation Emergency Department of National Institute of Radiological Science (NIRS) from Japan and Dr. Gennadi Souchkevitch from Institute of Emergency Children's Surgery and Trauma, Russian Federation were invited as IAEA experts.

The workshop was officially opened by the Iranian Medical Consul Chairman's introductory speech followed by introducing the training materials, the role of the IAEA and other international medical radiation response networks, general information on radiation accidents, and on radiation emergency medical preparedness and response.



Demonstration of wearing protective clothes

Day 1, finished with the briefing in practical radiation physics and basic dosimetric terms follows.

Day 2, lectures on reviewed the biological and health effects of exposure to radiation.

Day 3, devoted to brief lectures about the management of local radiation injuries and radioactive contamination, pre-hospital and hospital preparedness and response to radiation

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accidents.

Day 4, a review of ten radiation accidents focusing on their causes, medical management, biodosimetry and lessons learned were provided. Psychological effects of radiation exposure and injury were also discussed.

Day 5, an overview of nuclear emergency preparedness and response; iodine prophylaxis; planning medical response to radiological accidents; international co-operation and providing information for medical assistance to radiological accidents was provided.

Radiation monitoring devices in order to enable a physician to detect contaminated patient with radioactive materials were shown and also live demonstration of the use of protective clothes for medical teams in hospital and on-scene levels was performed.

The training course covered the following theoretical and practical topics:

1. Radiation accidents: scope of the problems, statistics,
2. Radiation emergency medical preparedness and response,
3. Practical radiation physics for emergency medical personnel,
4. Dose concepts: quantities and units, basic principles and method of radiation protection,
5. Biological effects of ionizing radiation at molecular, cellular, tissue and organ level,
6. Dose-effect curves, deterministic and stochastic effects of radiation,
7. Major nuclear accidents: health consequences of Chernobyl,
8. Acute radiation syndrome: clinical picture, diagnosis & treatment,
9. Biodosimetry: available methods & their roles in dose assessment & prognosis,
10. Diagnosis and treatment of local radiation injuries,
11. Medical management of combined radiation injuries,
12. External and internal contamination: decontamination and de-corporation,
13. Emergency medical management: on-site & at pre-hospital level,
14. Hospital preparedness & management of victims of radiation accidents,
15. Radiation accidents: case reports,
16. Psychological effect of long- term exposure and radiation injury,
17. International co-operation for medical community & public, and
18. Providing information for medical community & public.

I will take this opportunity to thank all those who helped for holding the training course and for organizing such a timely meeting program. I am impressed by their dedication and with the magnificent results of their efforts. I am certain that this course was successful in having a positive and possibly profound impact on the view and careers of those who attended!

The Scientific Committee, which was responsible for presenting all scientific lectures, consists of S. M. R. Aghamiri (Ph.D), M. Foroughizadeh (MD), K.H. Mojir-Sheibani (MD), H. Mozdarani (Ph.D), N. Rastkhah (M.Sc), F. Samiei (MD), M. Sohrabi (Ph.D) and IAEA experts.

The Executive Committee, which was responsible for all the logistic and financial works of the course within budgetary and time limitations and for developing CME category programming within the educational program of Ministry of Health, consists of F. Soleimani (MD), A. R. Djalali (MD), M. Zaferanchi (B.Sc), N. Fallahian (M.Sc), F. K. Yekta , P.G. Manavi and F. Majidfar (MD).

This National Training Course presented an unequaled opportunity to evaluate the results of new topics in Emergency medicine and to develop knowledge and skills vital to clinical practice. We are willing to continue our work with similar training course in the National and Regional level in the near future.

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