40 years of the toxicological service in the Sverdlovsk region of Russia

Objective: In the Sverdlovsk region of Russia a special medical service for patients with poisoning was set up in 1973 due to the high incidence of chemical poisoning among the population and the increasing number of unfavourable outcomes. This study analysed the process of setting up the toxicological service in a large industrial region of Russia.

Methods: Sverdlovsk region is the large industrial region of Russia with the area of 194,307 sq.km. The main city is Yekaterinburg (Sverdlovsk till 1991), the second city is Nizhniy Tagi.

Poisoning morbidity rate and pattern of poisoning were evaluated according to the data from Poison Centres and Epidemiology and Hygiene Control Centre.

Results:

- 1967 – Poisoning treatment team started its work in Sverdlovsk-city Ambulance Station
- 1973 – Poison Treatment Centre was founded in the Emergency hospital of Sverdlovsk-city
- 1988 – The second Poison Treatment Centre was founded in Psychiatric Hospital of Sverdlovsk-city
- 1991 – 1997 – Four province Poisoning treatment units were established in Pervouralsk (130,000), Kamensk-Uralsky (200,000), Nizhniy Tagil (400,000) and Krasnotur’insk (67,000) based on hemodialysis departments
- 1995 – Department of Toxicology and occupational diseases was founded in the Ural State Medical Institute

Now days position

- That team was closed in 70th. Nowadays there are 10 teams with physicians qualified in resuscitation and trained in toxicology onboard
- City Poison Centre with 9 beds ICU, 16 beds in Poisoning treatment unit, toxicological laboratory. About 1200 admitted patients annually
- Regional Acute Poisonings Centre with 12 beds ICU, 35 beds in poisoning treatment unit, 24/7 information service, dialysis service with mobile dialysis team, toxicological laboratory. About 2000 patients and 600 calls annually
- All 4 units were closed during 2001 – 2007. Only one new centre was founded in 2001, and functions for now – in Psychiatric Hospital of Nizhniy Tagil. There are 25 beds including 6 in ICU, toxicological laboratory. About 500 admitted patients annually
- Department of Toxicology in the Ural State Medical University is based on the Regional Acute Poisonings Centre. During 1995 – 2012 about 3200 physicians of Ural and Siberian regions have been trained in clinical toxicology

History of toxicology service making

Specialty of physicians trained in the Department of toxicology 1995 - 2012

Conclusions: According to our experience the development of Poisoning Treatment Centres seems to be rational in the cities with population exceeded 400,000 and current morbidity rate 1.5 – 2 per 1000 inhabitants. This is more important to found specialized Poison Centers in the resource limited areas where dialysis is not easily accessible and most of antidotes are too expensive for the health care service, which means standard hospital isn’t able to treat poisoned patients. Metropolitan Poisoning Centers including poisoning treatment, information service and training programs are required for physicians training and research.

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