

## **Adverse Drug Reaction Monitoring Program in Georgia**

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### **Abstract**

Background: Due to the fact that the information about the adverse drug reactions (ADR) registered during pre-marketing period is incomplete and according the recommendations and guidelines of the WHO, the drug monitoring program and the system of pharmacovigilance was established in Georgia according the order of the minister of health in 1997 to monitor the safety of medicinal products and detect adverse drug reactions. Methods: According the international standards the special system of active search and spontaneous ADR reporting was elaborated and implemented in Georgia. The special CIOMS methods were implemented to analyze the reports about the adverse drug reaction and report to the international database center in Uppsala (Sweden). Results: The significance of the international system of adverse drug monitoring is very high and it will rise together with the overall use of drugs, complicity and increase of treatment duration. The system of spontaneous adverse drug reporting is of highest importance due to its economic efficacy and scientific significance especially in countries with limited resources.

**Key words:** *adverse drug reaction, drug monitoring, spontaneous ADR reporting, pharmacovigilance*

### **Introduction**

**R**ecent political, economic and social changes in Georgia had a great impact on the health care system.

The costs of diseases are enormous throughout the world and in our country, especially due to improper drug use and drug adverse effects. They are both human (through bereavement and disability) and economic (through the premature death and incapacity, and by the demand for medical services).

In fact, in our country diseases are now more common among the people of low socio-economic status with limited financial resources, which should not be wasted

for the dangerous, ineffective or counterfeit drugs, irrational drug combinations.

Efforts regarded to the safety of the drugs on the market especially are needed in our country because of the magnitude of the problem and the medical and public concern about this problem. There are a lot of examples when severe ADRs and drug-induced illnesses are occurring during treatment by new drugs unknown for our prescribers.

At the present time the existing knowledge about the drug safety is underutilized in our country. Hence, there is a great scope for increasing the safety of current use of pharmaceuticals.

There is a well-developed theoretical basis for safe drug use and it is supported by empirical evidence. The achievement of a certain minimum level of ADR reporting is required if the new approach is to be self-reinforcing. The implementation of the system of adverse drug reaction reporting in clinical practice requires effort; once achieved, however, the reporting habits will be regarded as normal and should be self-maintaining.

## **Methods**

Methods of adverse drug reaction reporting are complex and locally variable, but generally the first step is setting up of the ADR Monitoring Center of Pharmacovigilance with the following aims:

- to organize the system of pharmacovigilance, safety assessment and drug monitoring during post-marketing surveillance,
- to evaluate and disseminate the information about safe drug use to prescribers, pharmacists, other health professionals and general public,
- to serve as an expert center for Pharmacological Committee of the MOH of Georgia, to report about all recently registered ADRs and suggest regulatory actions in aim to ensure safety of drugs on the Georgian market;
- to transmit the information about ADRs from local sources to Uppsala Monitoring Center (WHO Collaborative Center of International Program of Drug Monitoring) and from international publications and alerts to Georgian prescribers and professional organizations;
- to publish independent drug safety information in bulletins and mass media, to edit the adverse drug reactions and interactions reference book of the medicinal products registered in Georgia.

The Drug Monitoring Center of Pharmacovigilance has Expert Committee, which consists from the leading specialists-clinicians of all branches of medical science.

Several policy choices are available for implementation of the drug-monitoring program in Georgia. Each policy has its advantages and disadvantages, but the spontaneous ADR reporting system and direct active collection of primary pharmacological information have the greatest potential and are recommended by the WHO Collaborative Center of International Drug Monitoring, Uppsala, Sweden. The advantage of implementation of the drug-monitoring program in

Georgia is that it's scientific, it's of great interest and potential benefit for the community.

Spontaneous ADR reporting on special forms is likely to be particularly cost-effective. A relatively inexpensive input in cautions of doctor's prescription habits, a call for awareness of drug safety and availability of independent analytical drug information for doctors and patients will in time produce large benefits for community resources, which could give substantial savings in community in short or long-term perspective by decreasing total costs by eliminating ineffective and dangerous drugs.

The spontaneous reporting system is functioning by dissemination of the special spontaneous reporting forms ("Yellow Card" system) between prescribers and other health professionals in aim to receive feedback with information on ADRs.

All data should be converted into WHO-format for submission to WHO Collaborating Center for International Drug Monitoring (in Uppsala, Sweden) in computer-diskette medium. The analysis of the received ADR reports was performed according CIOMS II standards on COSTAR language.

## **Results**

Drug Monitoring National Center of Pharmacovigilance was set up in 1997 in collaboration with Pharmacological Committee of the Ministry of Health and WHO Collaborative Center of the International Drug Monitoring in aim to:

- to monitor the safety of medicinal products in the post-registration period on the territory of Georgia and improve the quality of pharmacovigilance activities (drug use and safety),
- to reduce health risk and improve therapy of patients in Georgia,
- to promote the development of knowledge and tools in drug safety and risk-benefit analysis to contribute to improved drug therapy,
- to collect by data collectors, edit and disseminate the information about drug safety.

Data collectors are specialists-pharmacologists who collect the information on ADRs from the Drug and Therapeutic Committees of the different medical institutions to ensure the constant flow of information between the Center and Committees participating ADR Monitoring Program. These specialists together with specialists of the Expert Committee are responsible for

expertise in selection of reportable ADRs, preparation of publication, suggestion of regulatory decisions, etc.

The sources of the collection of information:

- From general doctors - questionnaires,
- In hospitals - history of disease,
- In outpatient departments - ambulatory cards,
- In private outpatients - questionnaires,
- In drug stores - questionnaires and periodic reports.
- Additional information should be taken from local and foreign medical literature, statistical editions, conversations with health professionals.

The following questions should be answered during collection of information:

- Physician's contact addresses;
- Patient's information (age, sex, pregnancy, diseases of liver or kidney, genetic factors, etc.);
- Duration of the disease and diagnosis;
- Name of drugs, dosage, duration, results of treatment;
- Description of drug adverse event (duration, intensity, re-challenge, de-challenge, outcome, laboratory results, etc);

Very important part of the program is active dissemination of information about the ADR monitoring program in different medical establishments by organization of meetings on site with reports, discussions, update communications of the news from international monitoring program, demonstrating electronic materials, which are prepared by Uppsala Center and should find their audience also in Georgian hospitals. The Center edits special periodical editions. Also it has continues column in the Pharmacological Committee's bulletin "Drugs Today" and several publications in mass media about the drug monitoring program and counterfeit drugs, besides the leading specialists of the Center have great experience in edition of other pharmacological editions.

The interested parties collaborating in implementation of ADR monitoring program in Georgia are all medical establishments, especially Pharmacological Committee of the Ministry of Health of Georgia (submit periodic

report on the drug safety, alert immediately about serious events, publish independent drug information, etc), professional organizations (Georgian Association of Cardiology, Georgian Society of Pharmacology, etc) (conduct of joint research projects in the field of drug safety, ethical problems, etc), Uppsala Monitoring Center (the WHO Collaborative Center of the WHO Program for International Drug Monitoring) (transmit information about revealed ADRs and receives update information on drug safety), other all profile hospitals and outpatients (monitoring of drug information).

Different ways of encouraging professionals to report their ADR experiences have been tried, but under-reporting remains a major problem. But we suppose several ways to improve ADR reporting: acknowledge receipt of reports, feedback to reporters, publish articles in medical journals, organize local conferences, include ADR monitoring in student education, get in touch with professional organizations.

The main objective of Drug Monitoring Program is to provide information about the drug safety so that remedial action can be taken as soon as problems arise. The information collected by the monitoring process should be fed back continuously to the public.

The following regulatory actions could be taken by the drug regulatory authority in Georgia against "unsafe drugs", the information about which the drug-monitoring program transmits to the drug regulatory authority in Georgia:

1. Modification of product information:

- removal of indications,
- addition of contraindications, adverse effects and warnings in product's information for doctors and patients.

2. Restriction in use:

- prescription only,
- OTC (over-the-counter),
- hospital use only,
- mandatory periodical laboratory, instrumental and objective checking of the patients.

3. Temporarily suspension of registration in Georgia till additional information or investigation.

4. Withdrawal of product from the market.

## **Conclusions**

Evidence from many countries now demonstrates that success is already being achieved in preventing and treatment of various diseases by safe drug use. However, these advances fall far short of what could be achieved by fully implementing existing pharmacological knowledge. Governments, the public, and medical authorities should accept that we know enough to achieve a large reduction in the present incidence of the major diseases. The recommended actions will also help to prevent other adverse reactions and thus they form a part of a broad plan of health promotion.

Doctors often lack the motivation to enlarge their responsibilities about safety of prescribed drugs. Medical schools should teach the principles of safe prescription practice. New training systems and educational materials need to be developed to improve drug-monitoring standards for health personnel.

The implementation of the new drug policy depends on the active participation of all members of community. The commitment and support of local authorities is highly important. Government, health services, professional organizations, voluntary health agencies and the mass media all have a role. Evidence from many countries now demonstrates that success is already being achieved in preventing and treatment of various diseases by safe drug use. However, these advances fall far short of what could be achieved by fully implementing existing pharmacological knowledge. Governments, the public, and medical authorities should accept that we know enough to achieve a large reduction in the present incidence of the major diseases. The recommended actions will also help to prevent other adverse reactions and thus they form a part of a broad plan of health promotion.

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## **Вопросы организации мониторинга побочных действий лекарств в Грузии**

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### **Р Е З Ю М Е**

Сбор информации о возможных побочных реакциях новых лекарственных средств до его использования потребителем и маркетинга всегда не полон. Поэтому ВОЗ рекомендует производить мониторинг лекарственных средств в каждой стране, а полученные результаты переводить в международный центр ВОЗ в Уппсале (Швеция). В соответствии с международными стандартами в Грузии разработана программа мониторинга побочных реакций лекарств и основан Национальный центр изучения побочных реакций лекарственных средств. Разработана система анализа поступающих извещений от врачей и фармацевтов об обнаружении побочного явления от приема лекарственного препарата как путем активного поиска, так и путем спонтанного извещения и передачи этой информации электронными средствами в международную базу данных. Значение системы спонтанного извещения о новых и неожиданных реакциях и постмаркетингового активного мониторинга лекарств возрастает во всем мире. Еще более возрастает значение и эффективность системы спонтанного извещения о побочных явлениях лекарств, если произойдет ее дальнейшее становление в соответствии с международными стандартами.

**Ключевые слова:** *побочные явления лекарственных средств, мониторинг лекарств, система спонтанного извещения о побочных явлениях*