

რეზიუმე

გლუკოკორტიკოიდული რეცეპტორის გენი: სტრუქტურა, პოლიმორფიზმი და კლინიკური ასოციაციები (მიმოხილვა)

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სუმის სახელმწიფო უნივერსიტეტი, სამედიცინო ინსტიტუტი, შინაგანი მედიცინის კათედრა, სუმი, უკრაინა

მიმოხილვაში გაანალიზებულია რეტროსპექტული და მიმდინარე სამედიცინო ლიტერატურა გლუკოკორტიკოიდული რეცეპტორის გენის სტრუქტურის, მისი იზოფორმების, მისენსური და

ალელური პოლიმორფიზმის გავრცელებული ვარიანტების შესახებ. მოცემულია N363S, BclI, ER22/23EK და TthIII პოლიმორფიზმის დახასიათება; გაანალიზებულია მათი კავშირი მეტაბოლურ ცვლილებებთან, სხეულის აღნაგობასთან, გულის სისხლძარღვოვან დაავადებებთან და გლუკოკორტიკოიდების მიმართ მგრძობელობასთან.

დადგენილია, რომ N363S და BclI პოლიმორფიზმი დაკავშირებულია გლუკოკორტიკოიდების ჰიპერმგრძობელობასთან და, შესაძლოა, წარმოადგენდეს სიმსუქნის და მეტაბოლური სინდრომის პრედიქტორებს; პოლიმორფიზმები ER22/23EK და TthIII კი ასოცირდება გლუკოკორტიკოიდების მიმართ რეზისტენტობასა და კეთილსაიმედო მეტაბოლურ პროფილთან.

## DEVELOPMENT AND IMPLEMENTATION OF THE INTERNAL AUDIT MECHANISMS TO BE USED IN THE HEALTH CARE FACILITIES

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Health 2020 is the new European health policy framework. It presents effective preventive approach, so the health care facilities will be oriented to promote healthy lifestyle and manage leading chronic noninfectious diseases, including arterial hypertension [1].

Majority of patients with arterial hypertension are treated in outpatients and polyclinic institutions. Worldwide experience, generalized by WHO claims that early diagnosis, primary and secondary preventive measures, appropriate prescribed drug therapy, and a patient's family members involving into the treatment procedure to delay the progression of disease, decrease a risk of complications, besides it leads to quality of life improvement and preserves workability [4,7]. Thus, arterial hypertension is controlled. Internal audit is one of the approaches to manage the quality of care [2,3,6,8,9].

Internal audit, as the permanent approach to manage the quality of care system, is a general definition that contains certain audit types, which are used for certain tasks [5].

Structure audit includes financial and economic audit, personnel audit, supply audit and medical records audit.

Process audit involves clinical audit, technology audit, organizational and methodical audit, audit of medical technology implementation efficiency.

Summary audit studies satisfaction of patients and medical officers, patient's health audit and population health audit.

There is a procedure for developing the internal audit system:

1. Establishment of legal framework to manage quality of care service on basis of standardization at the health care facility (local clinical protocols, orders, guidelines, patient's accessibility, internal technological standards, questionnaires for surveys, annual plans and generation of statistical data, etc).
2. Creation of propitious atmosphere to function there as the system for quality of care service permanent improvement at the health care facility:
  - a) leadership of a chief;
  - b) to hold a general meeting for explaining scopes and principles of quality of care service permanent improvement (kindness, privacy, use of already known data, absence of punishments and charges after the conducted audit);
  - c) Forming of a structural component: management of quality of care service, certain mono- or multi-disciplinary groups. These groups may involve employers from different departments of this health care facility chosen by the order of the chief medical officer as well as users of medical services.
  - d) Monitoring of the existing level of quality service for the provided medical support, patient's attitude survey.

e) Development of a motivational component in the system of quality of care service permanent improvement. This step will include setting of the system for material and moral incentives for providing qualitative medical support and active participation in the multi-disciplinary groups.

3. Holding the internal audit of quality of care service by multi-disciplinary team:

a) Setting of an audit topic, scopes and tasks (the audit topic has to be of important and relevant for the certain area). Mostly the topic is set by the chief medical officer.

b) Issuing the order and holding the internal audit.

c) Preparation for the audit:

- Selection of methodology (analyses of initial documentation, reports, accordance of treatment procedure to local protocols and standards, and patient's attitude survey, etc).

- Setting of the quality of care parameters concerning this topic.

4. Holding the audit.

5. Determining and analysis of disadvantages and weaknesses of organization process.

6. Development of suggestions for existing medical service improvement.

7. Issuing the order about internal audit results at the facility and implementation of suggestions for medical support improvement.

8. Defining a secondary audit term for monitoring and assessing the efficiency.

**Material and methods.** We used a systemic approach to model quality of care service, survey, analysis and synthesis techniques and statistical informational processing methods for carrying the research.

We analyzed 452 patients' cards to study quality of care service gathered from ten sections undertaken by the polyclinic № 5 of Sumy city. Everything was initiated by the hospital administration. Patients were 18-74 years old and they were accounted for arterial hypertension (men – 31%, women – 69%). General number of case patients with arterial hypertension within ten sections was 2019, the share of audit group was 22.39% (Table).

Table. Description of medical records audit

Criteria	Number
Population undertaken by the hospital sections, people	21600
Number of case patients with arterial hypertension, people	2019
Number of patients, whose cards were selected to be audited	452
Share of audit group in general number of case patients, %	22,39
Terms	01.11.2012 -31.12.2012

Results of the secrete survey (conducted in 2012) served as materials for complex analysis of patient's awareness about disease progression, diagnostic and treatment measures. Research was conduct in January 2013. Internship doctors and graduate level students of Medical Institute of Sumy State University were the interviewers. They together with the district nurses visited case patients at home. Simultaneously with measuring blood arterial pressure, there had a talk about disease prevention with patients and their family members. They also discussed lifestyle changes, risk factors and possible complications. We visited and interviewed 2019 case patients with arterial hypertension. There were men (29.21%) and women (70.79%). Patients were divided into groups according to age: 18-34 years old – 7.23%, 35-59 years old – 29.93%, 60 and older – 62.84%. Obtained data were processed by the OSA software.

**Results and their discussion.** Due to the order there was formed the multi-disciplinary group in the health care facility. The group included specialists from Medical Institute of Sumy Sate University, doctors, paramedical personnel, patients (in number of 15 people). The order also determined the internal audit topic. The deputy chief officer was in charge for the multi-disciplinary group.

The general topic of internal audit was "Initial quality of care service improvement for patient with mild arterial

hypertension". The multi-disciplinary group set a step-by-step plan to hold medical records audit, defined audit terms, determined criteria to check initial medical records and appointed executors during the meeting. These executors were not subjectively interested in one or another result after the patients' cards had been checked.

Analysis of patients' cards clarified:

1. 62% of general practitioners had local protocols;
2. Appropriate observation of the disease dynamics in the patients with arterial hypertension was not carried out. Only 41% of patients were twice examined.
3. Only 40% of patients got recommendations to change the lifestyle.
4. Only 2/3 of patients had full information about results of used laboratory and instrumental methods in their patients' cards.
5. 18% of patients' cards omitted data concerning the factors of risk.
6. Target measure of blood arterial pressure was pointed only in 14% of patients.

After the data processing, which was derived from medical records audit of case patients with arterial hypertension, we decided to suggest the following quality of care service improvement methods, treatment and preventive measures for with arterial hypertension:

1. Provide each general practitioner with the local protocols;
2. Develop organizational procedures to improve diagnostic and consulting services availability for case patients with arterial hypertension in a polyclinic.
3. Form motivational techniques for general practitioners and nurses, so they will fully follow local protocols for prevention, examination and treatment of patients with arterial hypertension.
4. Study real situation about awareness level and if case patients follow preventive measures and guidelines in the care (to prepare the survey).
5. Create and provide "The record book" for case patients with arterial hypertension. The book contains these sections: a diary of self-control arterial pressure; a booklet about risk factors and preventive measures; dietary recommendations about healthy food; a diary of self-control drug intake.

According to the multi-disciplinary team decision, we monitored real level of awareness and if the case patients follow prevention and guidelines in the care.

Results about patient's awareness pointed that:

1. 37% of patients irregularly measured their arterial pressure, 8 % of patients did not measure their arterial pressure in 2012;
  2. 52% of patients took the medicines irregularly, and every in five denied to take medicine at all (at the same time 91 % of patients knew about prevention, progression and risks of arterial hypertension);
  3. 32% of interviewed case patients did not see a general practitioner as the preventive measure.
- There were key reasons why patients measured arterial pressure and took the medicine irregularly, like 48% said that they mostly forgot; 14% of patients refused to be treated. The main reason for hypertonic crises was stress in family and at work due to 51 % of patients.

#### Conclusion.

1. Case patients with arterial hypertension are aware about disease progression, preventive measures and risks.
2. There are key reasons of unsatisfied observation of doctor's recommendations, named by patients, such as "I forget", "I do not have time for it" and "I just do not want".
3. Based on the obtained results of monitoring we developed and implemented these suggestions:
  - 1) Paramedical personnel and students of Medical Institute will remind a patient about a preventive examination in a clinic, necessity of regular drug intake and measuring of arterial pressure. Besides, if it is needed they are able to consult a patient over the phone once in a week.
  - 2) Every patient with arterial hypertension will be provided with "The record book".
  - 3) A reminding program using SMS-messages will be created for the patients with arterial hypertension.
  - 4) Usual explanatory work will be held with family members of the patients with arterial hypertension. There will

be discussed risk factors, danger of stresses, and necessity of changing their lifestyles.

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#### SUMMARY

#### DEVELOPMENT AND IMPLEMENTATION OF THE INTERNAL AUDIT MECHANISMS TO BE USED IN THE HEALTH CARE FACILITIES

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Issues concerning the quality of care service improvement have become of national importance in the health-care system for both developed and developing countries. Internal audit is effective and efficient method to improve the quality of care in various health care facilities.

Data from 452 outpatient cards of the case patients with arterial hypertension were analyzed, the level of awareness and patient compliance were defined.

The stages of internal audit mechanisms implementation in the health care facilities were developed. As a result of medical records audit and awareness monitoring of patients with arterial hypertension ways to improve quality of medical care were defined.

**Keywords:** internal audit, arterial hypertension, quality of medical care service, medical records audit, patient awareness monitoring

## РЕЗЮМЕ

### РАЗРАБОТКА И ВНЕДРЕНИЕ МЕХАНИЗМОВ ВНУТРЕННЕГО АУДИТА В УЧРЕЖДЕНИЯХ ЗДРАВООХРАНЕНИЯ

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Вопросы улучшения качества медицинской помощи стали национально значимыми задачами систем здравоохранения как развитых, так и развивающихся стран. Эффективным и действенным механизмом повышения качества медицинской помощи в учреждениях здравоохранения является внутренний аудит. Проанализированы данные амбулаторных карт 452 диспансерных больных артериальной гипертензией, выявлен уровень осведомленности и соблюдения пациентами профилактических и лечебных рекомендаций врачей.

Разработана этапность внедрения механизма внутреннего аудита в учреждениях здравоохранения.

В результате аудита медицинской документации и мониторинга уровня осведомленности диспансерных больных артериальной гипертензией выявлены пути совершенствования качества медицинской помощи.

## რეზიუმე

ჯანდაცვის ობიექტების შიდა აუდიტის შემუშავება და განხორციელება

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სამედიცინო დახმარების ხარისხის გაუმჯობესების საკითხები ჯანდაცვის მნიშვნელოვანი ამოცანაა როგორც განვითარებულ, ასევე განვითარებად ქვეყნებში. ჯანდაცვის დაწესებულებაში სამედიცინო დახმარების ხარისხის ამაღლების ნამდვილ და ეფექტურ მექანიზმად ითვლება შიდა აუდიტი.

452 ამბულატორული ბარათის მონაცემების შესწავლის საფუძველზე გამოვლინდა დისპანსერულ პაციენტებში არტერიული ჰიპერტენზიის განსაზღვრული დონე და, შესაბამისად, გაიცა პროფილაქტიკური და სამკურნალო რეკომენდაციები ექიმებისთვის.

შემუშავდა ჯანდაცვის დაწესებულების შიდა აუდიტში დასანერგი მეთოდების ეტაპები. არტერიული ჰიპერტენზიის მქონე დისპანსერული პაციენტების სამედიცინო დოკუმენტაციის და მონიტორინგის აუდიტის დასკვნების საფუძველზე შემუშავებულია სრულყოფილი და ხარისხიანი სამედიცინო დახმარების გზები.

## THE USE OF DRUGS IMPAZA AND NEBIDO IN THE TREATMENT OF ERECTILE DYSFUNCTION IN PATIENTS WITH TYPE 2 DIABETES MELLITUS OF REPRODUCTIVE AGE

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Diabetes mellitus (DM) is disease in which raises a number of complications: diabetic neuropathy and diabetic angiopathy. These complications are frequently accompanied by erectile dysfunction (ED) or ED frequently used marker of diseases, including cardiovascular diseases (CVD) [6].

Insulin deficiency affects the synthesis and secretion of testosterone and creates conditions for the development of androgen deficiency in patients with diabetes. In diabetic patients, despite the fact that sometimes notes a state of com-

pensation, sometimes develops endothelial dysfunction and diabetic neuropathy, as well as erectile dysfunction. Use in the treatment and prevention of erectile dysfunction drugs, including of phosphodiesterase (PDE-inhibitors) type 5 inhibitors ("first-line drugs"), gives a positive effect [1,2]. However, due to the fact that use of drugs is often accompanied by side effects, they are badly perceived by patients, especially patients with diabetes with frequent CVD, so they after taking these drugs, refuse them. But, even long-term use in patients with CVD of the drug Impaza, and even in patients who are taking