методів лікування не госпітальної пневмонії з важким перебігом у наркозалежних пацієнтів та осіб, які не вживають наркотики. Було встановлено, що тяжкість захворювання у цієї категорії хворих спричинялася латентною поліорганною патологією, асоціацією антибіотикорезистентних бактерій та грибків роду Candida, а також розвитком системної запальної реакції організму. Крім того, було виявлено, що традиційні підходи до лікування важкої пневмонії в цій категорії пацієнтів супроводжуються більш тривалою (p <0,05) госпіталізацією та значно (p <0,05) більш високою смертністю.

Ключові слова: негоспітальна пневмонія, опіоїдна наркоманія, прихована поліорганна патологія, результати лікування негоспітальної пневмонії у наркозалежних хворих.

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методов лечения негоспитальной пневмонии, с тяжелым течением у наркозвисимых пациентов и лиц, не употребляющих наркотики. Было установлено, что тяжесть заболевания у этой категории больных была обусловлена латентной полиорганной патологией, ассоциацией антибиотико резистентных бактерий и грибков рода Candida, а также развитием системной воспалительной реакции организма. Кроме того, было установлено, что традиционные подходы к лечению тяжелой пневмонии, у этой категории пациентов, сопровождались более длительной (p <0,05) госпитализацией и достоверно (p<0,05) более высокой смертностью.

Ключевые слова: внебольничная пневмония, опиоидная наркомания, скрытая полиорганная патология, результаты лечения внебольничной пневмонии у наркозависимых больных.

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IMPROVEMENT OF THE PATIENT CARE PROCESS BASED ON THE PRINCIPLES OF CLINICAL AUDIT

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The purpose of the study was to analyse the possibilities of implementing a clinical audit in the activities of the health care institutions (HCI) and to summarize the steps taken during the audit. The article analyses modern approaches to clinical auditing and existing models based on the principles of the Deming - Shewhart cycle (PDCA). A standardized model of the patient's clinical route based on the principles of clinical audit has been developed. The clinical route of the patient is differentiated into blocks that reflect the principle of optimal distribution of responsibilities among staff, which will improve the quality of patient care.

Key words: clinical audit, quality of medical care, Deming - Shewhart cycle, patient-oriented approach, clinical route of the patient.

The work is a fragment of the research project "Early diagnosis of dysplastic, metaplastic and neoplastic changes in the pathology of the gastrointestinal tract, respiratory, urogenital and neuroendocrine systems", state registration No. 0117U000001.

At the present stage of important scientific and practical significance and relevance are studies aimed at developing special assessment methods, new approaches to the organization, planning and management of clinical and economic activities of HCIs, aimed at providing quality and safe health care services. The introduction of the concept of health care quality management in the health care practice requires the organization of clinical audit as a tool for assessing the quality of health care services, a mechanism for improving health care, a means of stimulating the professional activities of medical staff. Problems of clinical audit as one of the means of quality control of health care services were considered in the works of domestic researchers, including: Zimenkovskyi A.B., Bagdatsaryan V.E., Biriukov V., Bohomaz V.M., Smiianov V.A., Stepanenko A.V., as well as foreign authors Barry K., Kumar S., Linke R., Dawes E., Miettunen K., Metsala E., Imoh L.C., Mutale M., Parker C.T., Mangla G., Arora V.K., Singh N. and others. Analysis of the literature shows that the term "clinical audit" is interpreted differently by experts [1,2,4,7], which indicates the incompleteness of the process of identification properties of this concept. As for the practical aspects of the functioning of clinical audit in domestic HCI, we can note their insufficient coverage by domestic experts, which indicates, in our opinion, either the limited use of clinical audit in hospitals for various reasons (consequently, little experience and low efficiency), or imperfect legal regulations and undeveloped methodological aspects of audit in the current conditions of reforming the medical sector in Ukraine (the main legal act dates back to 2012 - Order of the Ministry of Health of 28.09.2012 No 752 "On the quality control of health care", recommendations for improving the quality management system of health care in Ukraine - 2009). The lack of compulsory health insurance slows down the process of active introduction of clinical audit in the HCIs.

The purpose of the study was to analyse the possibilities of implementing clinical audit in the activities of the HCIs; development of a standardized patient-oriented model of the clinical route based on the principles of clinical audit.

Materials and methods. The materials of the research are normative-legal acts regulating the health care quality control in the field of health care in Ukraine, and international standards in the field of health care. The general scientific research methods are used in the work: system, process and conceptual approaches.

Results of the study and their discussion. Administrative team approach to provision of quality in health care system, based on principles of control that was valid in Ukraine till the last time did not correspond to organizational, legal and economic conditions of this branch functioning and must be changed by another approach, based on principles of process management. Continuously rising quality provides complex, integrated and dynamical approach through the prism of quality enhancement, forwarded to improvement of work results of the system in common, constant modification and improvement of the system by its own, not just detection and punishment related to co-workers, whose practice or results don't correspond to the established standard.

Clinical audit is an integral part of the quality improvement process. Some researchers understand clinical audit as a review of the effectiveness of treatment of a pathology, others - inspection or critical analysis of established, obsolete schemes of diagnosis, treatment or prevention [1, 2, 7, 8].

To explain the essence of clinical audit, it is necessary to proceed from its target function, aimed at improving medical practice in a particular HCI. The subject of research of this type of audit is the existing practice in the institution. This means that the clinical audit is aimed at improving the process of providing health care services. According to Stepanenko A.V., Smiyanov V.A. [8], clinical audit aims to improve the processes and outcomes of care to patients through its systematic review against detailed criteria and the implementation of changes where care or its results do not reach the expected level.

The main goal of clinical audit is to improve existing clinical practice and provide leadership in the provision of health care services based on constant choice to address the most pressing challenges facing the HCI or its structural unit. Other objectives of the clinical audit include ensuring the protection of citizens' rights in the field of health care and providing the population with quality services under guaranteed state or insurance programs of healthcare; improving the diagnosis, treatment and rehabilitation of socially significant and other diseases treated by the population [3].

Bohomaz V.M. notes that the use of audit is a form of feedback that indirectly contributes to the professional development of staff. To achieve these goals and ensure such communication, the leadership of the HCI must successfully address a few issues:

- to form a quality control service in the HCI
- to optimize the management of personnel activities (standardize processes, develop algorithms)
- based on evidence-based medicine to conduct a revision of treatment regimens adopted in this for the most important and socially significant diseases [2].

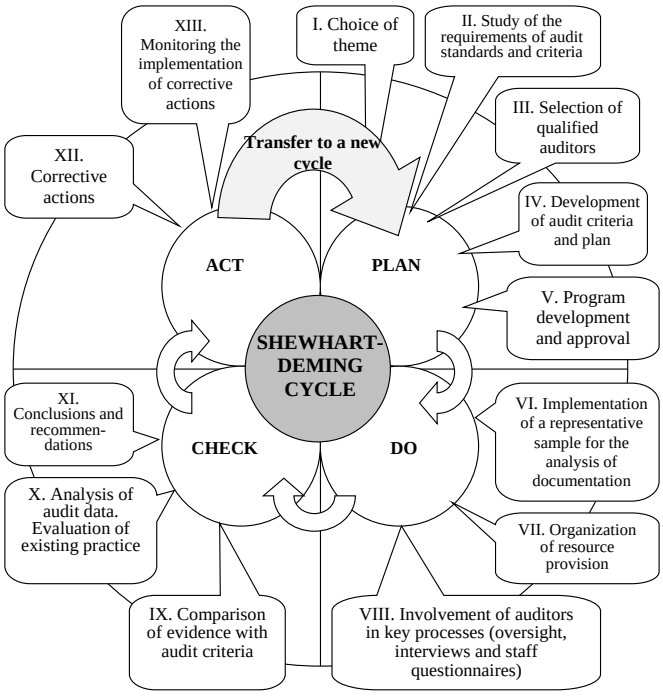

Fig. 1. Cycle of clinical audit [1].

The most common model of health care audit provided to patients is the basic model of quality measurement, developed by Donabedian A. and distributed in industries. It contains the following components:

- internal resources - in medicine, in addition to material resources, they also include the structure that provides resources (for example, equipment and tools of doctors, HCI and a combination of human resources and skill level)
- process - is a way to use resources, such as the style of relationships with patients
- result - the price consequence of the intervention, measured by both medical and functional indicators.

Unlike classical quality control, clinical audit is based on the principle of continuous quality improvement, which is reflected in the cycle Deming - Shewhart, or spiral PDCA (Plan-Do-Check-Act), which clearly demonstrates the cyclical nature of work (fig. 1), i. e. not only conducting evaluation activities directly, but also further changes in work practice, as well as further control in the dynamics.

The main principle of the whole process of clinical audit is that it should lead to further improvement of clinical practice to improve the results of treatment of patients [4]. It carries out a systematic critical review of the multidisciplinary command as a clinical practice. With the help of clinical audit, it is possible to monitor the processes of diagnosis, treatment and care of patients, the resources used and the impact of health care on life.

In addition, the following principles of clinical audit are distinguished: it begins within the boundaries of the HCI; already available data are used; confidentiality; no one will be punished or accused of conducting a clinical audit.

Two fundamental principles of clinical audit in HCI differ it from the expert assessment approach: confidentiality (research results neither divulged nor used for chastisement) and free cooperation between medical and non-medical professionals [1].

Control and audit can combine the retrospective nature of the activity. Some differences between these concepts are given below.

Table

Comparison of control and audit processes [1]

Control	Audit
Evaluation of compliance with one or more parameters, "the senior controls the junior"	Collection and analysis of complete information on a certain type of activity by a specially created working group
Formalized process	Formalized criteria are complemented by an informal creative approach
Establishing compliance with a previously established level	Determining the required level with the approval of the action plan

The audit compares the current practice with the standards of medical practice. As a result of the comparison, any shortcomings in the current practice can be identified and eliminated.

There are currently several models of clinical audit. All of them are based on the principles of PDCA but have significant differences. The clinical audit systems of the National Health Service of the United Kingdom (NHS) and the United States function primarily as accreditation mechanisms.

These systems are particularly promising, but it should be noted that the practice of standardization and clinical audits in the UK and US was introduced more than 30 years ago and now such audit methodologies are used there to further improve national health systems, but they are not applicable to those countries where medical practice is insufficiently systematized.

Over the past 20 years, the world has undergone qualitative changes in the health care system, including the development of the so-called patient-centred approach based on the principles of respect for the patient and focus on his individual interests, needs and values, as well as involvement it to the decision-making process for the provision of health care. This is confirmed by Zimenkovskyi A.B., Stepanenko A.V., Ieremeeva T.V., Shibinskyi V.Y. noting that “the evolution of clinical audit interpretations reflects its gradual transformation from a professional-oriented approach to a patient-oriented one. Thus, it should be noted that in modern conditions, the "focus on the patient" has significantly influenced the methodology of clinical audit. No wonder there was even a statement that the clinical audit is conducted "by people, not people and, in our deep conviction - for people" [4, p. 9]. This approach has become the main basis for managing a modern health care organization, as practice confirms the optimality of management decisions made on its basis.

On the example of the analysis of different approaches to monitoring the quality of diagnostics, we have formed a methodology of clinical audit, focused on assessing the organization of logistics. A key component of the methodology is a standardized patient-centred model of the clinical route when performing diagnostic studies. The main idea of the audit is to compare the actual state of the patient's logistics and a standardized model of the clinical route with the subsequent formulation of individualized recommendations aimed at improving the quality of the diagnostic department (considering local characteristics). In general, the audit methodology is developed considering international recommendations and is a system that improves the quality of both patient admission and work organization within the department.

In developing the standardized model, we were guided by the Law of Ukraine "Fundamentals of the legislation of Ukraine on health care", Art. 4 which defines in particular such principles of health care as: observance of human and civil rights and freedoms in the field of health care and provision of related state guarantees; focus on modern standards of health and medical care, a combination of national traditions and achievements with world experience in the field of health care [5]. In addition, the development of the clinical route of the patient is regulated by the norm of the Ministry of Health of Ukraine from 29.12.2016 No 1422, as well as the need for interaction between the HCI in the provision of health care in order to meet the requirements of the standard, a unified clinical protocol of health care and a new clinical protocol of health care. The clinical route of the patient is developed in any form, considering the characteristics of

the relevant HCI [6]. Given the above rules, the patient's route was differentiated into blocks, which primarily reflect the principle of optimal distribution of responsibilities between staff (fig. 2).

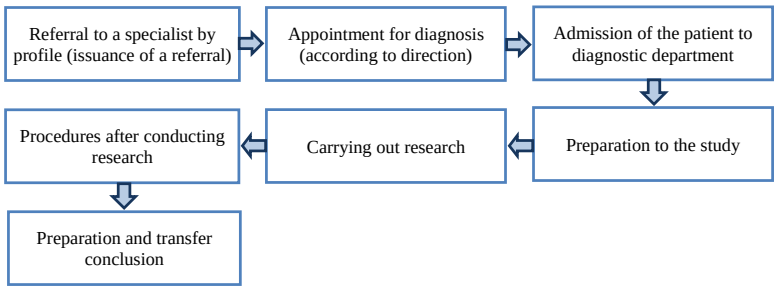

Fig. 2. Standardized patient-oriented model of clinical route

For each unit, clear and concise principles based on a patient-centred approach are formed.

1. Referral to a specialist for research. Planning a diagnostic test to detect or clarify the disease, or to monitor the treatment is carried out by a physician (relevant clinical specialty), who needs to obtain timely and reliable diagnostic information that affects the subsequent tactics of treatment of the patient.

The attending physician refers the patient for research, establishes the nature of the clinical problem to be solved and realistically evaluates the possibility of obtaining useful diagnostic information as a result of the study, and selects the most informative study based on approved recommendations of the HCI or national standards. The attending physician is obliged to inform the patient about possible complications of the diagnostic procedure and make sure that there are no contraindications to its implementation, as well as to enter the relevant information (both in the presence of contraindications and in their absence) in the patient's medical records.

2. Appointment for diagnosis. Registration for research in health care organizations can be implemented in different ways depending on the availability of electronic system-health or the use of patient information protection systems based on block chain technology, but the priority is to preserve patient data and the ability to obtain complete information about the status of the study. Registration for the diagnostic examination should be carried out with the involvement of a minimum number of persons. It is advisable to establish direct routing between the person who refers the patient (doctor) and the doctor who receives (a specialist in an area of diagnosis), without the participation of the medical commission. Registration for the study can be done both electronically and in documentary form, provided that the information is stored by the attending physician and the transfer of this information to the patient, as well as the person recording the study (administrator), laboratory assistant and specialist.

3. Admission of the patient to the diagnostic department. To avoid unintentional harm to the patient and staff, any admission of the patient to the ward / office should be expected and provided for in the organization of the ward. The staff of the department should make sure that the planned examination of a patient is necessary and safe, as well as the preservation of this information, as it may be required in controversial cases.

4. Preparation for the study. In preparation for any diagnostic test, it is necessary to provide the patient with maximum privacy and comfort, as well as to comply with sanitary and hygienic standards when working with medicines and medical equipment, including when working with blood.

5. Conducting research. The performance of diagnostic tests should be regulated as much as possible to ensure not only the high quality of the diagnostic procedure, but also the safety of the test for both the patient and the staff.

6. Procedures after the study. Upon completion of the study, the medical staff of the department should make sure that:

-the patient received adequate medical care, he was informed about the progress of the study and the procedure for obtaining results,

-the patient's doctor will receive a detailed description of the results of the required study in a certain direction.

7. Preparation and transmission of the conclusion. The results of the study should be promptly analysed and described by a specialist, and then passed on to all parties - both the patient and the doctor - while maintaining the confidentiality of data.

It should be noted that in countries with developed health care, clinical audit is usually used to assess the success of the implementation of a method or clinical guidelines [1,2,4]. There are also frequent cases of using audits to conduct a large-scale inspection of the health care quality in individual hospitals, in the field of general practitioners, in outpatient facilities and even in the field of medicine. Often in foreign practice, audits are conducted to study the economic efficiency of the use of certain methods [4]. Sometimes the audit reveals the facts of significant systemic excess of the cost of health care services, but most publications confirm their economic effectiveness. Clinical audit is widely used both in treatment and in assessing the correctness of various diagnostic procedures: for example, when performing radiological

examinations, express-tests, aspiration biopsies [9-12]. Our standardized patient-oriented model of the clinical route reflects the most important factors that may affect the quality of care in planning and conducting diagnostic tests. This gives reason to agree that clinical audit can be effectively used to optimize diagnostic procedures as well as treatment.

Conclusion

The concept of clinical audit has gone through a few evolutionary stages, which resulted in methodologies that have found wide global application in the health systems of developed countries. Clinical audit is a mandatory component of quality work of the HCI and its structural clinical units. The method of choice for conducting a clinical audit is to compare the performance of the structural unit of the HCI with a standardized patient-oriented model of the clinical route in the study. The result of the audit in this case is a reasonable (due to the standardized model), individualized (due to local characteristics) recommendations for optimizing and improving the quality of the structural unit of the HCI.

Prospects for further research are to validate and analyse the results of the proposed standardized patient-oriented model of the clinical route.

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Реферати

ВДОСКОНАЛЕННЯ ПРОЦЕСУ ОБСЛУГОВУВАННЯ ПАЦІЄНТІВ НА ПРИНЦИПАХ КЛІНІЧНОГО АУДИТУ

Гаврилюк А.О., Жарлінська Р.Г., Міщук А.А., Вергелес К.М., Березовський А.М., Пашинський Я.М., Яковцова І.І.

Метою дослідження був аналіз можливостей впровадження в діяльність ЗОЗ клінічного аудиту та узагальнення кроків, які здійснюють під час аудиту. У статті проаналізовано сучасні підходи до клінічного аудиту та існуючі моделі на принципах циклу Deming - Shewhart (PDCA). Розроблено стандартизовану модель клінічного маршруту пацієнта на принципах клінічного аудиту. Клінічний маршрут пацієнта диференційовано на блоки, які відображають принцип оптимального розподілу відповідальності між персоналом, що дозволить покращити якість медичного обслуговування пацієнтів.

Ключові слова: клінічний аудит, якість медичної допомоги, цикл Deming - Shewhart, пацієнт-орієнтований підхід, клінічний маршрут пацієнта.

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УСОВЕРШЕНСТВОВАНИЕ ПРОЦЕССА ОБСЛУЖИВАНИЯ ПАЦИЕНТОВ НА ПРИНЦИПАХ КЛИНИЧЕСКОГО АУДИТА

Гаврилюк А.А., Жарлинская Р.Г., Мищук А.А., Вергелес К.Н., Березовский А.Н., Пашинский Я.Н., Яковцова И.И.

Целью исследования был анализ возможностей внедрения в деятельность учреждений здравоохранения клинического аудита и обобщения этапов, которые осуществляют в ходе аудита. В статье проанализированы современные подходы к клиническому аудиту и существующие модели на принципах цикла Deming – Shewhart (PDCA). Разработана стандартизированная модель клинического маршрута пациента на принципах клинического аудита. Клинический маршрут пациента дифференцирован на блоки, отражающие принцип оптимального распределения ответственности между персоналом, что позволит улучшить качество медицинского обслуживания пациентов.

Ключевые слова: клинический аудит, качество медицинской помощи, цикл Deming - Shewhart, пациент-ориентированный подход, клинический маршрут пациента.

Рецензент Голованова І.А.