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ORGANISATIONAL ASPECTS OF LABORATORY DIAGNOSTICS

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Abstract
According to the World Health Organisation (WHO), the specific weight of laboratory investigations in modern medicine is more than 70% of the total number of different types of investigations performed on a patient [11,12].

Keywords: Laboratory tests, diagnosis, investigated objects, diagnostic laboratories, biomaterials.

Introduction

Laboratory tests are prescribed to establish and confirm the diagnosis, to carry out differential diagnosis of diseases, to determine the prognosis, to justify treatment tactics, to assess the effectiveness of therapy. The object of study in the clinical diagnostic laboratory (CDL) can be any biological materials (fluids, tissues, excreta) both endogenous and exogenous (e.g., bacteria, viruses, fungi, parasites, products of their vital activity). According to the nature and properties of the objects under study, as well as the specifics of the analytical procedures used, clinical laboratory tests are subdivided into biochemical, haematological, immunological, coagulological and others, which are performed at separate areas of the CDL [4,5,6].

Clinical diagnostic laboratories function within health care institutions (hospitals, polyclinics, dispensaries, etc.) as a department. Depending on the structure, profile and capacity of health care organisations, CDLs can be of general type, specialised and centralised. General-type CDLs perform the most common routine laboratory tests (general clinical analysis, routine biochemical, etc.). Specialised CDLs are usually part of specialised health care institutions (scientific and practical centres). They have a wider range of analytical capabilities in certain narrower sections of laboratory medicine. Centralised laboratories are another option for increasing access to the most sophisticated, high-tech and informative tests. Clinical diagnostic laboratories work in constant interaction with clinical departments. Without such interaction, it is impossible for the treating physician to use objective information about the patient's condition provided by the

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laboratory. In general, the responsibility for deciding which laboratory tests should be performed and for interpreting the results lies with the attending physician. However, the role of the clinical laboratory is not simply to fulfil the order of the attending physician [7,8,9].

Nowadays, due to the dramatic expansion of the nomenclature of laboratory tests, the attending physician often finds it difficult to select the most appropriate parameters, as well as to assess their clinical significance. But his task can be greatly facilitated by adequate assistance from the CDL. Therefore, in modern clinical medicine, the following model of interaction between a clinician and a CDL is considered to be the most rational: the attending physician sets a diagnostic task, defining the range of required tests, and organises the collection of samples of relevant patient biomaterials; the CDL provides information on the method of patient preparation, biological material collection, normal values and permissible error for the tests, performs the tests and transmits the result to the attending physician [10,11,12].

Interpretation of the results of laboratory tests is carried out by the attending physician together with the laboratory diagnostician. The leading global trend in the development of clinical laboratory diagnostics is the centralisation of laboratory tests. The experience of economically developed countries testifies to the positive role of centralisation in solving practical problems of public health care. Centralisation makes it possible to solve a number of urgent problems:

- expand the range of laboratory services for doctors and patients, primarily by increasing highly informative types of tests;
- reduce the time required to perform laboratory tests, especially high-tech ones;
- minimise the cost of performing tests;
- improve the quality of test results;
- optimise the supply of consumables and reagents;
- respond more flexibly to the demands of laboratory information consumers;
- successfully address the staffing problem [14,15,16]

All types of laboratory tests that are not related to emergency medical care can be centralised. The priority clinical base for centralisation of laboratory tests is the laboratories of large healthcare organisations, as they are usually better equipped and provide more specialised and high-tech medical care. In addition, it is the CDLs of leading healthcare institutions that employ highly professional specialists who are able to ensure the high quality of laboratory tests and organise their performance at all stages [16].

Centralisation of research is considered only in the context of automation and informatisation of the analysis production process, without which effective centralisation is impossible [13,114,15].

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