Translated from Russian to English - www.onlinedoctranslator.com

The problem of choosing a key test pointer and approaches to its solution

V.V. Vinokurov[1], O.V. Vasilkovskaya[2], I.V. Obscured[1], A.E. Kudaev[1], K.N. Mkhitaryan[3], S.V. Kruglova[1], N.K. Khodareva[1]

([1]MCIT "Artemida", Rostov-on-Don, Russia; [2]Medical center "Vitamed", Gabrovo, Bulgaria; [3]Center "IMEDIS", Moscow, Russia)

Introduction

One of the problems that naturally arise in the practice of using the ART and BRT methods is the choice of the most important of the test pointers, in a certain list of them. The need to choose the most important of the test pointers arises, for example, in the following situations:

1. The list of test pointers, from which it is necessary to select the most important, is a patient's ART diagnosis. In this case, the most important test pointer is representednatural to choose so that it represents the most important part of ART -diagnosis, and his knowledge would give the opportunity to choose the optimal path of therapy for this patient.

2. The list of test pointers, from which it is necessary to select the most important one, is is a list of drugs suitable for one or another preliminary ART criteria for patient therapy. In this case, it seems natural to choose the most important test-indicator so that it is the most powerful or the most optimal as a therapy drug.

The examples given show that the concept of the most important test pointerambiguous: it fundamentally depends on the task of diagnosis or therapy, whichneeds to be decided.

In particular, the expressions “the most important indicator test of the ART diagnosis” and “the strongest drug that compensates for this indicator test” are interpreted differently depending on whether it is a question of using this indicator test and drug to exercise :

- the most effective;
- the most environmentally friendly (leading to the lowest expected residual disturbances);

- the fastest (with the shortest validity period);
- with the longest expected remission period

and many other forms of therapy that are optimal in one sense or another.

The algorithm that allows you to choose the most powerful of the information drugs, of course, may differ from the algorithm that allows you to choose the most significant of the test-indicators of ART diagnosis, and itself may be different depending on whether the first one is selected according to the criteria of efficiency, environmental friendliness, speed of action, or any other.

Obviously, other situations of choice are also possible, for example, you can choose a representative from one list of test-pointers, which to the greatest extent compensates for another list of test-pointers. The plurality of selection algorithms is associated in this case with the ambiguity of the criterion for the “highest degree of compensation”. This criterion can mean:

- compensation for the largest number of test pointers from the second list;
- compensation for the most important (or most important, in a sense) test pointers from the second list;
- compensation for some third test pointer, which compensates for all (the largest number) of test pointers from the second list

and many other criteria.

The task of developing a unified approach to constructing the "most important", in one sense or another, test pointers from a list, or even from several

interacting lists, in the process of diagnostics of ART and BRT, lists.

Research objectives:

1. Introduce a system of concepts and terminology to develop a unified approach to building "Most important" test pointers from the given list.

2. Formulate the main algorithms for choosing the "most important" (relatively various criteria of "most important") test pointers.

3. Give a theoretical estimate of the expected frequency of cases in which the The "most important" (relative to certain criteria) test-pointer.

4. Give an experimental estimate of the frequency of identifying the "most important" (relative to those same criteria) test pointers.

5. Based on a comparison of the theoretically expected frequency and the frequency obtained in practice identifying the "most important" test pointers to draw conclusions about the patterns of pathology detected by ART, in particular, about the possibility of a strict definition of the "periphery" and "nucleus of pathology".

System of concepts and terminology

Defining simple interfaces

So that in the process of solving the task (on a unified approach to identifying"Most important" test pointers) there was no methodological or terminologicalconfusion, it is advisable to discuss some concepts in advance, as well as introduce additional notation.

A list of test pointers, considered together with a specific one, uniform forof all test pointers belonging to it, the method of its testing by ART will be called the (simple) examination interface or the ART interface. Under a uniform wayART is understood here as a unified procedure for performing ART for all test pointers from the list under consideration. For example, all test pointers from the considered list can be tested directly, with filtering through some dedicated test pointer, with filtering through test pointers of an auxiliary list, and the like.

The expediency of using the additional term "examination interface" (or "ART interface") follows from the following considerations:

1. It could be limited to the use of the generally accepted term "test group pointers "used in the description of the electronic selector and in the process of teaching the ART method. A uniform way of testing all test pointers of such a group can be described separately, without linking with its composition. However, an essential role in ART diagnostics and BRTthe operation of addition of test pointers plays, which is used, in particular, to build resonant chains and filter some test pointers through others. This operation hascertain algebraic properties that are essential from the point of view of diagnostics andtherapy. In particular, she:

- associative: for any three test pointers T_1, T_2, and T_3 the identities are true (adaptive reactions of the organism when signals are introduced into the measuring circuit): $(T_1 - T_2) - T_3 = T_1 - (T_2 - T_3) = T_1 - T_2 - T_3$;
- idempotent: $T + T = T$ for any test pointer (the effect, strictly speaking, associated with the device of the selector, but nevertheless manifested in the practice of measurements);
- irreversible: for most test pointers T, the opposite does not exist, i.e. such a test indicator T- that filtering through (even a pseudotransparent) marker T - T- does not in any way affect the results of ART. From an algebraic point of view, a set of test pointers endowed with an addition operation with such properties is correctly calledsemigroup. But then the use of the term "test-pointer group" withwill inevitably introduce confusion in terminology, leading to terminological

combinations like: "the considered group of test pointers is a semigroup, but not a group in the algebraic sense." The foregoing limits the possibility of using the term "group of test pointers" in those studies on ART-BRT, in which the addition of signals can be used.

2. It seems more natural to preserve the term "list of test pointers", not causing associations with algebraic structures on them. Its synonym is the term "set of test pointers". Both terms are used by us further if the considered test pointers or their lists (sets) are considered separately from the problems of ART and BRT, which are solved with their help.

When using the terms "list of test-pointers" or "set of test-pointers", a uniform way of testing them should be described additionally, as in the first version. Thus, there is a terminological turnover "[such and such] a list of test pointers being tested [in such and such] way." However, this version of the terminology has significant semantic disadvantages.

In any real ART examination, there is an additional context that is not taken into account by the above terminological turnover. The fact is that when conducting an ART examination according to a certain algorithm, the doctor proceeds from certain ideas aboutwhat, in principle, human diseases can be, as well as how the diversity of allits possible (not necessarily pathological) conditions. The totality of these views of the doctor will be called the pathophysiological model used by him. In order to link the data of the ART examination and the patient's condition, a transitional model is also required, which compares to each such condition a set of results of ART measurements carried out under certain conditions, an ART model or a marker of this condition.

Different doctors may adhere to different ideas about the possible states of the patient's body. Their views on which lists of test pointers and conditions of ART measurement correspond to the same state may also differ. These differences are due to the different pathophysiological and transitional models that these doctors follow. Moreover, one and the same doctor can consistently use several different pathophysiological and transitional models in the process of ART examination and BRT of a patient. In such cases, different doctors, or even the same doctor, may use different lists.test pointers and various conditions of ART measurement.

For example, suppose that a physician is of the opinion that the main health problems of a patient are caused by a violation of the neuroregulation of his body. Bacterial, mycotic and viral diseases of the body are, in his opinion, secondary lesions that disappear when the correct activity of the nervous system is restored. Then he should include in the list of test pointers for ART the organ products of the brain regions, but he will not necessarily include in it test pointers of viruses, bacteria, fungi and protozoa, which will still leave the body when its basic (neuroregulatory) parameters are normalized. On the contrary, a doctor who adheres to the idea that that the main problems of the body arise as a result of its infection with external pathogenic agents or its chronic intoxication (homotoxicological doctrine), must be included in the list of test pointers for its ART examination of nosodes of viruses, bacteria, fungi, helminths and protozoa, as well as hetero- and homotoxins. However, in his list of test pointers, on the contrary, there may be no organ products of the brain regions, since in his model the activity of the central nervous system is "automatically" "restored during the" detoxification "of the organism.

Thus, the list of test pointers used for ART examination,considered in conjunction with the methods of testing them, is a rule (agreement, protocol) that ensures the interaction between the pathophysiological and transitional models available in the doctor's head and the procedure itself

(algorithm) of the ART examination conducted by him. In other words, it is a "dividing line"two systems: the system of making a diagnosis, which exists in the head of the doctor, and the system of techniques that constitute the ART itself, which he performs. This type of objects is well known to modern science. For example, according to the Wikipedia definition:

"Interface (eng. interface - interface, interface, partition) - bordersection of two systems, devices or programs, determined by their characteristics, characteristics of the connection, exchange signals, etc. A set of unified hardware and software tools and rules (descriptions, agreements, protocols) that ensure the interaction of devices and / or programs in a computing system or interfacing between systems. The concept of an interface also extends to systems that are not computing or information systems. "

Examples of interfaces, according to Wikipedia, are:

- "the main element of the interface between the horse and the coachman, or, - the interface of the" horse - coachman "system) - the reins";
- "a set of standard library methods that a programmer can use to access the functionality of another program - an application programming interface";

- “the user“ speaks ”with the program in his native language.

Following the definition of Wikipedia, the list of ART test pointers and the method of their measurement, in fact, is most correctly called the ART examination interface. By its nature, this type of interface is closest to the third of the given examples. In fact, it is a specific language in which the doctor "speaks" with the patient's body, believing that it is this language that provides an adequate description of his problems.

The survey interface will be denoted by the same letter of the alphabet as the test pointers from it, but "bold", for example, for test pointers from the previous sentence, the interface is a list T. It is convenient to number (index) the test pointers in some way from the interface in question. For this, many indices are introducedI listing alltest pointers from T, i.e. if the test pointer T belongs to T, then it has the form T_i for some I from the set I. Then the survey interfaces are written as {T, I}, and the testpointers belonging to them as T_i, where i belongs to the set I.

If all test pointers in the survey interface under consideration are resonant, i.e. T ↓, where T Is an arbitrary test pointer from the interface, then we will say that this interface itself is resonant. An example of a resonant interface is the ART diagnosis of a patient. Ifthe interface T is resonant, that is, for any test indicator T from the set T (or, in more detail, T_i from {T, I}) the VRT condition T ↓, then we will add to its designation an arrow pointing down, T↓.

Inspection interfaces are ordered by nesting: if all test pointers are, say, interface T_1 also belong to the interface T_2, then we say that the interface T_1 nested ininterface T_2... Due to the fact that selection interfaces are sets of test pointers, it is possible to consider their unions and intersections. An interface that includes all admissible (under any external conditions) survey interfaces will be calleduniversal interface. For example, in the modern version of ART the universal interface
Is the set of all test pointers and their combinations contained in the electronic selector used for the test. From a mathematical point of view, all interfaces included in some universal interface form a lattice and, moreover, a Boolean algebra with respect to the operations of intersection and union.

In the process of ART examination, a situation often arises when several lists of test pointers are used for testing, and testing is carried out for test pointers from different lists according to different rules. For example, all test-pointers from the second list are filtered through a test-pointer selected, according to certain rules, from the first list. Such sets of lists with instructions for testing the tests belonging to them

Hereinafter, pointers will be referred to as composite interfaces. Their constituents are lists of test pointers with a uniform testing rule (i.e., interfaces), we will sometimes also call simple selection interfaces in order to distinguish them from composite interfaces.

Examples of simple survey interfaces:

1. Interface Org consists of test pointers - organopreparations of individual organs, tissues and systems of the body. Separate test pointer from it, Org_i equipped with an index i, indicating its position in this interface, for example, the serial number of its check during ART. Lots of$Org \downarrow$ test indexes of organopreparations, such thatthe ART condition Org is fulfilled for this patient$_i\downarrow$, is the resonant interface nested within the interface Org.

2. Interface El consists of test pointers of the potentiated elements used the body in the process of life. Separate test pointer from it El_i - equipped with an index i, indicating its position in this interface, for example, the serial number of its check during ART. Lots of$El \downarrow$ test-indicators of organopreparations, such thatthe ART condition El is fulfilled for this patient$_i\downarrow$, is the resonant interface nested in the ointerface El.

3. Interface OrgC = Cer consists of test-pointers of potentiated preparations of the departments brain. Index I of a single test index $OrgC_i = Cer_i$ from this interface can be interpreted as the ordinal number of its test for resonance during ART. Lots of$Cer \downarrow$ test indicators of organopreparations of brain regions, such that for a giventhe patient fulfilled the ART condition Cer$_i\downarrow$, is the resonant interface nested within the interface Cer.

4. Interface TZ = Z consists of test pointers - photographs used for conducting the L. Zondi test. Index i of the individual test pointer $TZ_i = Z_i$ from this interface, as usual, can be interpreted as the serial number of its resonance test during ART. Lots of$Z \downarrow$ test-indicators of organopreparations, such that for a givenpatient ART condition $Z_i\downarrow$ performed for each test pointer Z_i of the multitude $Z \downarrow$ isresonant interface nested within the interface Z.

5. Class of interfaces Graf consists of test pointers - images used to carrying out one or another projective test. Runes, Tarot, symbols of I-dzin, planets, spirits, images of icons, “Person” cards, pagan symbols and many others can be considered as such images. Index i of a single test pointer $Graf_i$ from this interface, as usual, can be interpreted as the number of the test for its verification, during ART. Lots of$Graf \downarrow$ test-indicators of organopreparations such that the ART condition$Graf_i \downarrow$ done for each Graf test pointer$_i$ of the multitude Graf ↓, for this patientis a resonant interface nested within an interface Graf.

6. Class of interfaces NozX consists of test pointers for viruses, bacteria, fungi, protozoa and helminths that can cause human disease. In this case, instead of the symbolX in a specific interface it is convenient to put down the name of a specific classdisease-causing agents. For example,NozV interface consisting of virus test pointers, NozB - bacterial agents, NozG - helminth interface. Separate test pointer fromthe given interface can be "abbreviated" in the naming in the same way as it was done in the previous interfaces, for example, we write V_i instead of $NozV_i$, B_i instead of $NozB_i$ and G_i instead of $NozG_i$... Ordinal index i of a separate test pointer, for example, V_i can be interpreted as the number of the test for its verification during ART. Lots of$NozX \downarrow = X \downarrow$ test pointersnosodes from class X such that (for a given patient) an ART condition $X_i\downarrow$ done for each test pointer X_i of the multitude $X \downarrow$, is the resonant interface nested ininterface X.

7. Interface The SDA consists of test guides for Systemic Spiritual Adapters. Ordinal index i of a separate test pointer, for example, SDA_i, can be interpreted as the number of the test for its verification during ART. Lots of$SDA \downarrow$ test pointers

nosodes from class SDA, such that (for a given patient) ART condition SDA$_i$↓ done for each SDA test pointer$_i$ of the multitude SDA ↓, is a resonant interface,nested in the interface SDA.

8. Interface SBP consists of test pointers, the so-called fate
drugs. Ordinal i of a single test pointer, for example, SBP$_i$, can be interpreted as the number of the test for its verification during ART. Lots ofSBP ↓test-pointers nosodes from class SBP, such that (for a given patient) ART condition SBP$_i$↓ done for each SBP test pointer$_i$ out of many SBP ↓ is resonantan interface nested within an interface SBP.

It is also possible to consider many other simple survey interfaces: meridians, chakras, chromosomes, etc. In all the examples given, the interface is a set of test pointers, with a specified uniform way to test them. For example, it is checked whether they cause direct vegetative resonance in the body.

Bi-level and multi-level interfaces

In this paper, 2-level interfaces (2-interfaces) are considered. In them, test pointers from the first list (the first part of the interface) are tested directly, and test pointers from the second list (the second part of the interface) are filtered through some test pointer belonging to the first list (the first part of the interface).

Examples of multi-level (in this case, 2-level) survey interfaces: 1. Set (Org ↓, El ↑), where
the first level of the composite interface is simple and described above,
and the second consists of those potentiated chemical elements, which, by definition, compensate for the key element from the bottom of the list Org ↓.

2. Set (Cer ↓, GrafI ↑), in which the first interface level is a list
resonance test pointers - brain organopreparations, and the second - a list of icons - images of saints of Orthodox Christianity, compensating for the drug from the bottom Cer ↓.

It is possible and advisable to consider also multi-level (in particular, three-level) survey interfaces, consisting of a number of lists of test pointers, each of which is tested according to its own rules. In the case when n ≥ 3, each test-pointer of a layered interface is usually tested through a pseudo-transparent marker built from test-pointers of previous levels. A detailed discussion of layered interfaces is beyond the scope of this work. It is still advisable to describe the idea from which they appear within the framework of an ART examination (in order to remove the objections arising from the principle of Occam's Razor: do not introduce entities beyond necessity). Multilevel systemic adaptive diagnostics and therapy proceeds from the existence of a hierarchy of tasks of self-fulfillment in the patient's body [1]. The body's solution to more general tasks of self-fulfillment is based on the solution of particular tasks. Therefore, in the process of ART-examination and BRT, it seems natural to consistently present to the body more and more general tasks of self-fulfillment, and the subsequent task of self-fulfillment is presented after a way to solve the previous task has been indicated. The multilevel interface is a formalization of this model of the disease and its diagnosis. Each subsequent group of drugs simulates a group of more and more general tasks of self-fulfillment. A composite test pointer, through which test pointers from this group are tested, is a model for solving a set of problems of less generality, leading to a solution of a more general problem. A sequence of composite test pointers obtained in the course of an ART examination, represents models of therapy, on the one hand, more and more accurate, and, on the other, more and more burdening the patient's body. This issue will be covered in more detail in subsequent publications.

Key top and bottom test pointers for simple and 2-interfaceThe "most important" test indicator relative to the preselected "criterion of the greatest

importance ", from the test pointers of a given simple interface we will further call it the key one. In other words, we leave the term “most important” for an informal description of the qualities of a test indicator (for example, when an exact criterion for its identification is not specified), leaving the term “key” for a situation when it is identified formally, according to unambiguous rules.

Within the framework of a simple interface, it is advisable to consider, first, the following restrictions on the problem of choosing a key test pointer:

1. All selection interfaces are assumed to be resonant; contain only such test pointers Tithat Ti↓ for any i belonging to I - the set of indices numbering test-pointers from the interface T = {T, I}.

2. It is assumed that the key test pointer is selected only with the help of the rest test pointers from the interface in question. In other words, the criteria that use additional selection interfaces are not considered in this paper.

3. It is assumed that for the choice of the "most important" test pointer, you can use only ART procedures. Moreover, these procedures are limited to pairwise filtering of test pointers through each other (addition of the corresponding control signals), and only the results of diagnostics of ART of these filtering can be used as components of the selection criterion - regardless of whether the results obtained with their help are resonant or not. control signals. Within these constraints, there are two "natural" ways of defining the "most important" test pointer, which we will further call the key from below, or the weakest, and, accordingly, the key from above orthe strongest test pointers.

The bottom key, or the weakest, test pointer is determined by the VRT condition for compensating all other test pointers from the interface under consideration:

$$T_i\downarrow - T_{\_}\uparrow \text{ for every i belonging to I (T) (1),}$$

where the index i ranges over the set I (T) indices numbering test pointers fromthe interface in question.

Key from above, or the strongest test pointer determined condition not compensating it with any other test pointer from the considered interface:

$$\bar{T}\downarrow - T_i\downarrow \text{ for every i belonging to I (T) (2),}$$

where the index i ranges over the set I (T) indices numbering test pointers fromthe interface in question.

Of the "most important" test pointers that arise in the context of 2-compound interfaces, consider:

The bottom key, or weakest, test pointer 2-part interface defined by the VRT condition:

$$T_{i1}\downarrow - T_{\underline{2}}\uparrow \text{ for every i belonging to I } (T_1) \text{ (3),}$$

where the index i ranges over the set I (T) indices numbering test pointers from the first part the interface in question.

Key top, or strongest, test pointer 2-part interface defined by an ART condition:

$$T_{i1}\Downarrow - \bar{T}_2\uparrow - T_{2\ i}\uparrow \text{ for every i belonging to I } (T_1) \text{ (4).}$$

The superscripts "1" and "2" in the designations of the test pointers indicate their belonging to the first or second part of the interface.

Existence and uniqueness of top and bottom key test pointers in survey interfaces

The first of the problems to be solved for the introduced definitions is the question of the formal existence and uniqueness of the introduced key test pointers. In order to visually clarify the situation, let us compare each test indicator T_i satisfying the ART condition $T_i\downarrow$, point (vertex) on the plane. We will denote these vertices by the ordinal numbers of the corresponding test pointers (i.e., the test pointer T_i

corresponds to point i). We connect by segments of a curve (edges) those and only those of the vertices i and j for which $T_{i\downarrow}$ - $T_{j\uparrow}$. The resulting figure is called a graph, in this case, the graph of the interface under consideration. From general considerations it follows that this graph is simple (has no loops and multiple edges) and labeled (all its vertices are labeled with different numbers).

Suppose now that in a certain set of test pointers there is a test pointer $T_{\_} = T_k$... Then (and only then) in the graph associated with this interface there is a vertex k connected to all its other vertices, or, as we will say, a full star with a center at the vertex k. On the contrary, the test indicator key from above $T^{\_} = T_l$ corresponds to an isolated vertex l of the graph under consideration.

From this it is immediately clear that without imposing any additional conditions related to the medical content of the examination interface, we cannot expect either uniqueness or the existence of a key test pointer from below or from above.

The non-uniqueness of the key from below (from above) test-pointer in the general case follows from the fact that a graph can have two or more complete stars with centers at different vertices, or more than one isolated vertex.

The non-existence of a key from below (from above) test pointer in the general case follows from the fact that a graph may have a minimal cycle, including more than three vertices, or not have isolated vertices.

Moreover, if G (n) is the number of simple labeled graphs with n different vertices, then the number of graphs with n different vertices and with a single complete star, as is easy to see, does not exceed nG (n-1). The value of the quantity G (n) is known: it is $G(n) = 2^{n(n-1)/2}$ [2]. Therefore, the fraction of simple labeled graphs with a complete star does not exceed nG (n- / 1) G (n) = $n / 2^{n-1}$ of the total number of such graphs. The number of simple labeled graphs with at least one isolated vertex is obviously equal to the number of graphs with at least one complete star and, therefore, also does not exceed.

Already at n = 10G (10) = $2^{10(10-1)/2} = 2^{45}$, and G (11) = $2^{11(11-1)/2} = 2^{55} = 2^{ten}$G (10). Thus, for an interface of only 11 test pointers, the existence of a key from below (from above) test pointer is possible only in ($11/2^{ten}$) 100% - 1% of cases of possible interactions between its components.

Let's extend the obtained results to 2-level interfaces. Let the first list 2-part interface includes test pointers $T_{1\ 1}$, T_{12}, ..., T_n and the second is a test pointers T_{21}, T_{22}, ..., T_{m2}, each of which compensates for the key from below test indicator T_1 - for a simple interface {$T_{1\ 1}$, T_{12}, ..., T_{n1}}. Then the ART condition:

$$T_{-1\downarrow} - T_{2\uparrow} - T_{2\,l\uparrow}$$

can be considered a condition for the directed connection of points (k) = ($T_{1\downarrow}$ - $T_{2\ k\uparrow}$) and points (l), corresponding to test pointers $T_{2\ l}$... Moreover, points of class (k) and points of class (l) can be to be considered coincident, in particular, their number is the same. This shows that the problem of determining the proportion of graphs that implement the top-key test-pointer is reduced to the problem of determining such a test-pointer for a simple interface. That is, the fraction of such graphs is no more than $m / 2^m$ from the number of common graphs formed by test pointers of the second level of the 2-interface.

From what has been said it follows that:

- or there are medical (biological) patterns that make it possible to identify key test pointers from below or from above in simple and 2-part examination interfaces;
- or one should abandon the hope of reducing such interfaces to one test-pointer and turn to other ways of handling them - for example, operations with the sum of their constituent test-pointers;
- if the existence of key test pointers in the interface arises from any additional medical considerations, its composition, the type of test pointers included in it, should play a significant role. The interface in which the key

a test pointer is found in a large percentage of cases (conventionally, in 80% of cases) and should differ significantly in its composition from a randomly selected interface.

Existence of a key bottom (top) element in medical research

Materials and methods

A study to determine the percentage of patients in whom it was possible to determine the key from below (the weakest) organ, tissue or system, as well as the key from above (the strongest) chemical element was carried out by K.N. Mkhitaryan and O.A. Vasilkovskaya in the course of their research on the degree of correlation of constitutional homeopathic elements obtained using various criteria [3].

The study was conducted on a sample of 62 patients aged 16 to 70 years suffering from chronic diseases of various nosologies. All patients underwent primary diagnostics using the ART method using a unified algorithm in accordance with the approved method [4–6].

In the course of ART, blood autonosodes and an individual marker KMX were used. For ART and the production of the necessary information products, we usedhardware and software complex (AIC) for electropunctural diagnostics, drug testing, adaptive bioresonance therapy and electro-, magnetic and light therapy according to BAT and BAZ "IMEDIS-EXPERT", Registration certificate No. FS 022a2005 / 2263-05 dated September 16, 2005

All subjects underwent direct testing test pointers organopreparations from the list Org = {Five hollow organs + Five dense organs + Endocrine system + Genital organs + Spine}. Corresponding path in the IMEDIS-EXPERT program: Testing / Vegetative resonance test / CDT / Localization / {Five hollow organs + Five dense organs + Endocrine system + Genital organs + Spine}.

After that, the following step-by-step algorithm was implemented:

1. A search was carried out for the organopreparation key from the bottom from the list T_1 = Org ↓ consisting of those test list pointers Org, when tested, the initialmeasuring level (which caused autonomic resonance in the body of the examined patient).

2. If the list contains T_1 = Org ↓ it was possible to find a key organopreparation from below T_{-1} , a list was compiled El ↑, composed of those potentiated chemical elements, which compensated for the Org pointer test $_{1-}$, i.e. for which the ART condition was satisfied:

$$Org_{-}\downarrow - El\uparrow \quad (5).$$

3. In the event that the list El ↑ turned out to be not empty, the key was searched in it from above (strongest) element El_{-}^{-}satisfying, by definition, the ART condition:

$$Org_{-}\downarrow - El_{-}\uparrow - El_{j}\uparrow \quad (6),$$

for all test pointers El_J from El ↑.

4. Finally, in the case when it was possible to find the test pointer El^{-}, a family of ART conditions was tested:

$$Org_{i}\downarrow - El_{-}\uparrow \quad (7),$$

characterizing in aggregate the ability of the top-key test indicator - a potentiated chemical element - to compensate for all test indicators from the list without exception Org ↓.

At each step of the above algorithm, the number of patients for whom it was possible to complete this step was calculated.

To ensure the reliability and independence of measurements from the subjectivity of the operator, all subjects were divided into two groups. In the first group of 26 patients, measurements were carried out by K.N. Mkhitaryan, in the second group of 36 patients - O.A. Vasilkovskaya.

For the statistical assessment of the results obtained, the criterion was used -- Fisher [7].

Research results

The results of the study are shown in table. 1.

Table 1

	The first group - 26 patients	The second group - 36 patients	Total number patients - 62
The number of patients for whom it was possible to determine the weakest organopreparation from the list Org ↓	22	31	63
Percentage of patients for whom it was possible to determine the weakest organopreparation from the list Org ↓	84.61	86.11	85.48
The number of patients for whom the strongest item from the list was determined El ↑	22	31	53
Percentage of patients for whom the strongest item on the list was identified El ↑ (from the number of patients with identified the weakest test indicator of Org ↓)	100 %	100 %	100 %
Number and percentage of patients for whom the strongest element compensated for all organopreparations from the list Org ↓ (from the number of patients withidentified the strongest test indicator of El ↑)	19 / 86.364%	29 / 93.548%	48 / 90.566%

Applying the criterion -- Fisher, in the form that allows us to compare the coincidence of experimental and theoretical samples [1, 7], we find that with a significance level of $p \le 0.01$, the probability of finding the key from the bottom and the key from the top test-indicators exceeds the share by 70%, and the probability of finding the key from the top element provided the list is nonempty El ↑ is generally statistically indistinguishable from 100 %.

As for the probability of solving the main problem, for the sake of which, in fact, the key elements from above and key from below were determined - compensation with one element from the list El ↑ of all test pointers from the Org ↓ list, then it is statistically significant ($p \le 0.01$) is solvable in at least 60% of cases, which is a clinically significant percentage.

Discussion

It is convenient to consider this study in the context of the study [3], which shows that the element determined using the organopreparation key from below and the key element from above, statistically significantly ($p \le 0.01$) coincides in the area of applicability of the methods:

- with a constitutional homeopathic remedy - a potentiated chemical element selected in accordance with the ART criterion:

KMX ↓ - Pot-El ↑ (8),

moreover, (8) holds for all - introduced in [0];

- with a prediction of residual violation of elemental metabolism, identified in accordance with

ART criterion:

KMX ↓ - NANKr ↑ - El ↓ (9);

- with a residual violation of elemental metabolism, identified by direct testing:

El ↓ (10),

carried out after the course of therapy with NANCr-ohm used in criterion (9).

All these coincidences show that in each of the listed cases, the used ART examination procedure highlights the same internal structure of pathology, which is naturally called its division into “core” and “periphery”. The "core of pathology" is characterized by one single test indicator. It is either an organopreparation - an indicator of its localization in organs, tissues or systems of the body, or a potentiated chemical element - an indicator of its pathogenesis. Compensation of the core of the pathology leads to compensation of the pathology as a whole, including the periphery. At the same time, compensation of the periphery of the pathology does not lead to compensation of its nucleus. The ability to really identify the “core of pathology” using ART is an important, and perhaps even somewhat unexpected, contribution of multilevel examination interfaces to information medicine.

Conclusions:

1. Introduced a system of concepts and terminology for the development of a unified approach to building "Most important" test pointers from the given list.

2. The main algorithms for the selection of the "most important" (with respect to various "most important" criteria) test pointers in simple and 2-tier interfaces.

3. A theoretical estimate is given of the expected frequency of cases in which The "most important" (relative to certain criteria) test-pointer.

4. An experimental assessment of the frequency of identifying the "most important" (relative to those same criteria) test pointers.

5. Based on a comparison of the theoretically expected and practically detectable frequencies identification of the "most important" test pointers, conclusions were made about the existence of the "core" and "periphery of pathology" phenomena arising in the process of ART examinations, in accordance with the protocols of 2-interfaces.

Literature

1. Kudaev A.E., Mkhitaryan K.N., Khodareva N.K. Multilevel system adaptive diagnostics and therapy. - Rostov n / a: Publishing house of SKNTs VSh SFU APSN, 2009. - 309 p.

2. Evnin A.Yu. Problem book on discrete mathematics. Tutorial. 5th edition. - M .: Book house "Librodom", 2012. - P. 118. back. 393.

3. Akaeva T.V., Vasilkovskaya O.V., Mkhitaryan K.N. Selection algorithm constitutional homeopathic remedy in accordance with a signal from a key organ // Abstracts and reports. XIX International Conference "Theoretical and Clinical Aspects of the Application of Bioresonance and Multiresonance Therapy". Part II. - M .: IMEDIS, 2013. - P.58–73.

4. Electro-acupuncture vegetative resonance test: Methodical recommendations №99 / 96 / Vasilenko A.M., Gotovsky Yu.V., Meizerov E.E. Koroleva N.A., Katorgin V.S. - M .: Scientific and practical. Trad. Center medical and homeopathy of the Ministry of Health of the Russian Federation, 2000. - 28 p.

5. Gotovsky Yu.V., Kosareva LB, Makhonkina LB, Sazonova IM, Frolova LA. Electro-acupuncture diagnostics and therapy using the vegetative resonance test "IMEDIS-TEST": Methodical recommendations. - M .: IMEDIS, 1997 .-- 84 p.

6. Gotovsky Yu.V., Kosareva LB, Makhonkina LB, Frolova LA. Electropuncture diagnostics and therapy using the vegetative resonance test "IMEDIS-TEST": Methodical recommendations (addition). - M .: IMEDIS, 1998 .-- 60 p.

7. Akaeva T.V., Kudaeva L.M., Minenko I.A., Mkhitaryan K.N. Method validation "Vegetative resonance test" in the determination of elemental metabolism in patients with chronic pathology // Bulletin of Restorative Medicine. - 2010. - No. 2. - pp. 35–36.

V.V. Vinokurov, O.V. Vasilkovskaya, I. V. Zamlela, A.E. Kudaev, K.N. Mkhitaryan, S.V. Kruglova, N.K. Khodareva The problem of choosing a key test pointer and approaches to its resolution // - M .: "IMEDIS", 2014, v.2 - P.20-42

To favorites