## Modern principles and requirements for software development homeopathy provision V.V. Mishchenko (Moscow Institute of Homeopathy, Moscow)

At the present stage of development of the homeopathic method of treatment, the need to use the basic capabilities of computer technologies is of great importance.

Today we can say with full confidence that thanks to modern programming capabilities, the most difficult tasks for the use of various types of algorithms for searching and analyzing information databases have been implemented. These achievements are actively used in diagnostics, analysis and repertorization by modern homeopathy, increasing the likelihood of finding the desired homeopathic remedy. The relevance of this task can be traced at all stages of the development of homeopathy. Beginning with the first reference books by von Benninghausen and J.H. G. Yar [1], K. Gereng's symptomatic tables and the homeoscope developed by S.N. Korsokov, and as he himself wrote: "a machine for comparing ideas" [2] to modern computer programs for homeopathy. Due to the increasing number of studied homeopathic medicinal drugs (FPP) day by day, the doctor's task becomes more complicated,

In each specific case, these tasks are solved by different methods. One of the most difficult, but more accurate, to this day, remains a comparative analysis of groups of symptoms, i.e. "Analytical assessment of individual symptoms of the disease and their comparison with the symptoms of drug pathogenesis" [3]. An important role in this was played by J. T. Kent, who created the "Repertory of Homeopathic Medicines", which describes more than 64,000 symptoms corresponding to 650 FPP, described in trials and clinical use [4] until 1916. His works served not only as the basis for most authors who created similar reference books in the future, but also laid down the basic principles of searching, analyzing and comparing the information found - repertorization.

At the same time, it should be emphasized that modern software for homeopathy for the formation of a database uses the same principles and traditional reference books (repertoria, materia medica, etc.), written in the XIX-XX centuries, which in turn most often determines an algorithm for finding the necessary information.

This logic of writing software was inevitable, since the basic information carrier was a book. Therefore, it is no coincidence that repertory (repertory - warehouse, repository; archive) began to form from the textual descriptions of FPP pathogenesis. This is due to the need not only to store and optimize the search for available information, but primarily for its systematization and analysis, making it easier to search through the book. Moreover, the structure

The repertory can be considered as a prototype of a modern computer database of FPP pathogenesis. But since the vast majority of homeopathic specialists do not have sufficient training and knowledge in the use of modern search engines, software developers are often forced to simplify the search and analysis system to the existing user level.

This approach limits the possibilities of modern programming, and as a result, does not allow the implementation of the tasks in the most complete and accurate way. This state of affairs leads to a simplification, and therefore to a decrease in the capabilities of computer programs for homeopathy. To promote the further development of homeopathy, it is necessary to change the prevailing beliefs. Take a fresh look at the knowledge accumulated over more than two centuries about FPP, methods and ways of choosing and prescribing them.

Proceeding from this, there is a need to improve the educational level of specialists who use the homeopathic method of treatment in their daily practice. It is necessary to introduce, already at the stage of postgraduate professional development in homeopathy, the study of the basic principles of using an automated workplace, consolidating and developing this knowledge at scientific and practical seminars and conferences. The most complete coverage of the software for the practical level of health care in the field of homeopathy, will make it possible to create the most complete database of FPP pathogenesis. It will become possible to carry out statistical processing of the accumulated information, edit and clarify existing ideas and knowledge about the pathogenesis of FPP. Such development will lead to the formation of a unified FPP database, and will make it possible to form the basic standards for selection and appointment.

An important role in the development of this direction is played by the creation of an operating environment that increases the ergonomics of the workspace. Therefore, a modern software product for homeopathy should include not only the main components of any medical practice, but also take into account the peculiarities of the homeopathic practice of doctors of various specializations:

- interrogation of the patient and registration of the medical history;
- search by symptomatic and nosological principle;
- sorting and analysis of the information found;
- determination of the leading FPP and the formation of a homeopathic prescription. Along with this, additional options are needed to optimize the work of a specialist:
  - a database of the most frequently used queries;
  - templates, the most frequently used analysis results;
  - prescription data bank;
  - weekly planner, etc.

In this case, the software must be able to completely

customize to the needs of the user:

- free change of the location of the main and auxiliary windows;
- changing the displayed information directly while working with program;
  - free editing of the color scheme of the workspace.

And, in our opinion, an important requirement is the absence of binding to the computer in use and an insignificant amount of occupied disk space:

- the program should take no more than 50MB of disk space;
- install on any flash card or similar removable carrier;

This allows the user to use this software product when working on different computers. Then such a program can be called with full confidence "Office in your pocket", which is important for the work of a doctor conducting an appointment in various medical institutions.

An extended version of such a software product should allow the user to replenish and change the main database:

- to form headings and subheadings;
- to establish cross-references;
- define synonyms;
- add and remove drugs and links to authors;
- change the score of the indicated drugs.

Of course, not all users should have such an opportunity, but only those who have the appropriate qualifications and work experience.

The next criterion for assessing the main capabilities of computer programs for homeopathy should be the requirements for the analysis of selected groups of symptoms without ranking, sorting the selected FPP by:

- the sum of the occurrence in symptoms;
- the sum of the points of the medicine;
- outstanding symptoms;
- key symptoms;
- small headings;
- small preparations.

And with ranking, sorting the FPP by:

- the sum of the significance of the symptoms;
- the sum of the severity of symptoms;
- the sum of the points of the medicine and the significance of the symptoms;
- the sum of drug scores and the severity of symptoms;
- the sum of the significance and severity of symptoms;
- the sum of points, the significance and severity of symptoms;

Such variants of the mathematical analysis of the selected symptoms make it possible to make a choice of both the leading FPP and to form a complex homeopathic prescription.

For all, at first glance, the complexity of the task, such a software product should have a high degree of profitability and be

affordable for most potential users. This can be achieved only by optimizing the set task under the clear requirements of the software, aimed at fulfilling the main tasks of the doctor using homeopathy. Therefore, expensive multimedia applications should only be used when really needed.

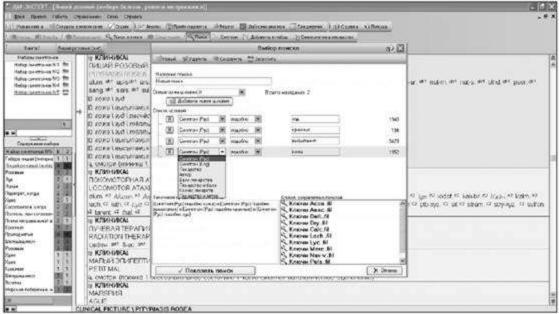
Having formed the above requirements and having set ourselves such a difficult task, we analyzed the available software for homeopathy presented on the Russian market.

At the moment, the formed assessment criteria also corresponds to the "Diagnostic analytical repertory", implemented in a modern software shell called "DAR" version 1.0 (author L. Kosmodemyanskiy Moscow, Russia) [5]. When working on the program, more than 400 sources on homeopathy were used.

The database currently includes:

- more than 2500 homeopathic medicines;
- more than 100,000 headings and subheadings of the described symptoms and nosologies.

The universal search window allows you to form a query of any complexity (see Fig. 1 window - Search selection).



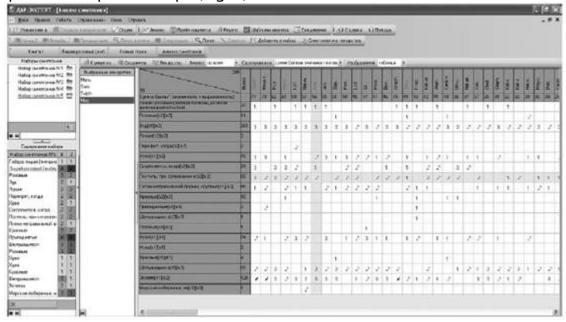
Rice. 1. Program DAR version1.0 - window - Search selection.

At the same time, we see the number of occurrences of the entered value in the general database (see the right column of links in the Search selection window) and the number of combinations in one symptom (heading) (see Total found - Search selection window). This allows you to immediately get an idea of the likelihood of finding the necessary information in the database at the time the request is generated. As you can see in the dropdown menu of the first entered value - skin, various parameters can be selected:

- symptom in Russian;
- symptom in English;
- only medicine;

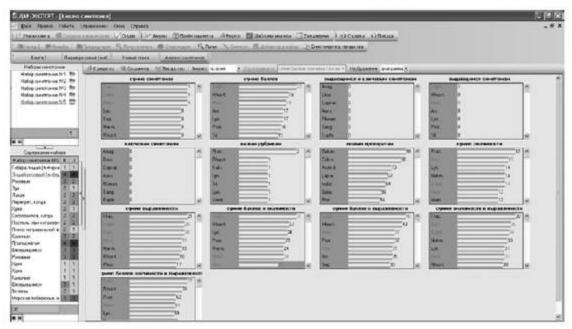
- only the author;
- drug score only;
- medicine and score;
- set the number of drugs;
- choose a medicine and an author.

These and many other search criteria that can be set make this option of the DAR program a universal system for working with FPP databases of any complexity. The system of analysis of the formed group of found symptoms allows you to quickly determine both the leading homeopathic remedy and form a complex homeopathic recipe (Fig. 2).



Rice. 2. Program DAR version1.0 - window - Symptom table - sorting by the amount of points, significance and severity.

A graphic representation of the results of mathematical analysis allows you to quickly familiarize yourself with the results of all analysis options (see Fig. 3 - window - Diagram). A deeper study of this software product allows us to evaluate all its possibilities for optimizing the workplace of a specialist in the field of homeopathy who is interested in using a computer in their daily work.



Rice. 3. Program DAR version1.0 - window - Diagram.

## Literature

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