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Algorithm And Software For Creating An Automated Diagnostic System Of The "Riodoraku" Method For Assessing Energy Imbalance In Meridians

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Resume: J. Nakatani (1950), a Japanese scientist with knowledge of ancient Chinese medicine "Riodoraku" (Japanese: rio - good, do - electrical conductivity, raku - channel). created the method and recommended its use in medicine. Having created his own equipment, J. Nakatani measured the biophysical parameter, i.e. electrical resistance, from the bioactive points in the existing meridians (channels) of the patient's body. Compared to healthy people, he found that the amount of electrical resistance in the existing bioactive points in the patient's body is in the minimum-maximum state from the normal corridor. As a result: it was found that there are such informative bioactive points in each meridian, the amount of electrical resistance in the meridians is equal to the arithmetic mean value, and this means that the meridians are healthy in a normal state. J. Nakatani (1950) criteria, algorithm and software of the "Riodoraku" method were created by the author

Key words: meridian, informative bioactive points, database, model, regression.

In ancient Chinese medicine, positive changes were noticed in diseased internal organs by needle or mokus exposure to bioactive points (BFN) in the human body. In 1950, J. Nakata, a Japanese person with knowledge of ancient Chinese medicine, recommended the use of the "Ryodoraku" method and a set of informative bioactive points (Table 1) in medicine. J. Nakatani was able to create the method due to many needs.

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Table 1
J. Nakatani (1950) "Ryodoraku" method and its meridians and informative bioactive points

№	Меридианлар номи	БФНнинг меридианларда жойлашиш тартиб номери	БФНларнинг хитойча номи
1.	Ўпка	P-9	Тай –юань
2.	Катта йўғон ичак	Gi-4	Хэ – гу
3.	Ошқозон	E-42	Чун – ян
4.	Ошқозоности бези	Rp-3	Тай- бай
5.	Юрак	C-7	Шэнь -мэнь
6.	Кичик йўғон ичак	IG- 4	Ван- гу
7.	Сийдик йўли тизими	V-64	Цзинь- гу
8.	Жигар	P- 3	Тай- си
9.	Перикард	Mc-7	Да- лин
10.	Учта қиздирувчи	Tr- 4	Ян- чи
11.	Ўт пуфаги	Vb- 40	Цю- сюй
12.	Талоқ	F-3	Тай- чун

We present the complete details of the algorithm of J. Nakatani's (1950) "Riodoraku" method in the form of a detailed formula. The norm of the source of energy in the human meridians is equal to the arithmetic mean of the EQ in the measured BFN in the meridians

$$M_x = \frac{1}{n}\sum_{i=1}^{n} Mx_i \qquad (1)$$

where, n is the number of BFN (12 on the right side of meridians, 12 on the left side, total 24) EQ value in BFN.

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It should be noted that, according to the probability theory, the arithmetic mean value of the results measured from the meridians (1) is close to its true norm value. Using the formula (1) above, the normal corridor (confidence interval) of all meridians is calculated by the following formula:

$$\Delta X = 3Ln * M_x + 0.5 * M_x \qquad (2)$$

Now, with the help of formula (2), the diagnostic model for finding the state of energy imbalance in each meridian, which lies within the normal corridor and deviates (three cases: normal corridor, exceeding the norm, and decreasing the norm), is expressed by the following formula:

$$X_i^k = 3\ln(Mx_i * K_i) + 0.5(Mx_i * K_i) + 0.5(Mx_i * K_i), \qquad (3)$$

here, the value of the regression coefficients in the meridian. the value of EC measured from each meridian. With the help of formula (3) above, according to the conditions, it lies in 3 cases:

$$Mx_i = \begin{cases} X_j^k > \Delta X, & i - \text{the meridian is "above" the norm.} \\ X_j^k <, \Delta X & i - \text{the meridian is "below" the norm.} \\ X_j^k = \Delta X, & i - \text{meridian in "normal" condition.} \end{cases} \qquad (4)$$

As a result, using the EPDU method of IRT, in which meridians in the QD, the EQ in the BFN is in the "Normal Corridor", if it is in the upper part of it, this condition is a ventilation process or the energy source in the meridians is high, if it is in the lower part of the "Normal Corridor", it means a degenerative process or the energy source in the meridians is lower than the norm can be found. Algorithm and block diagram of J. Nakatani "Riodoraku" method are shown in Figure 1 below.

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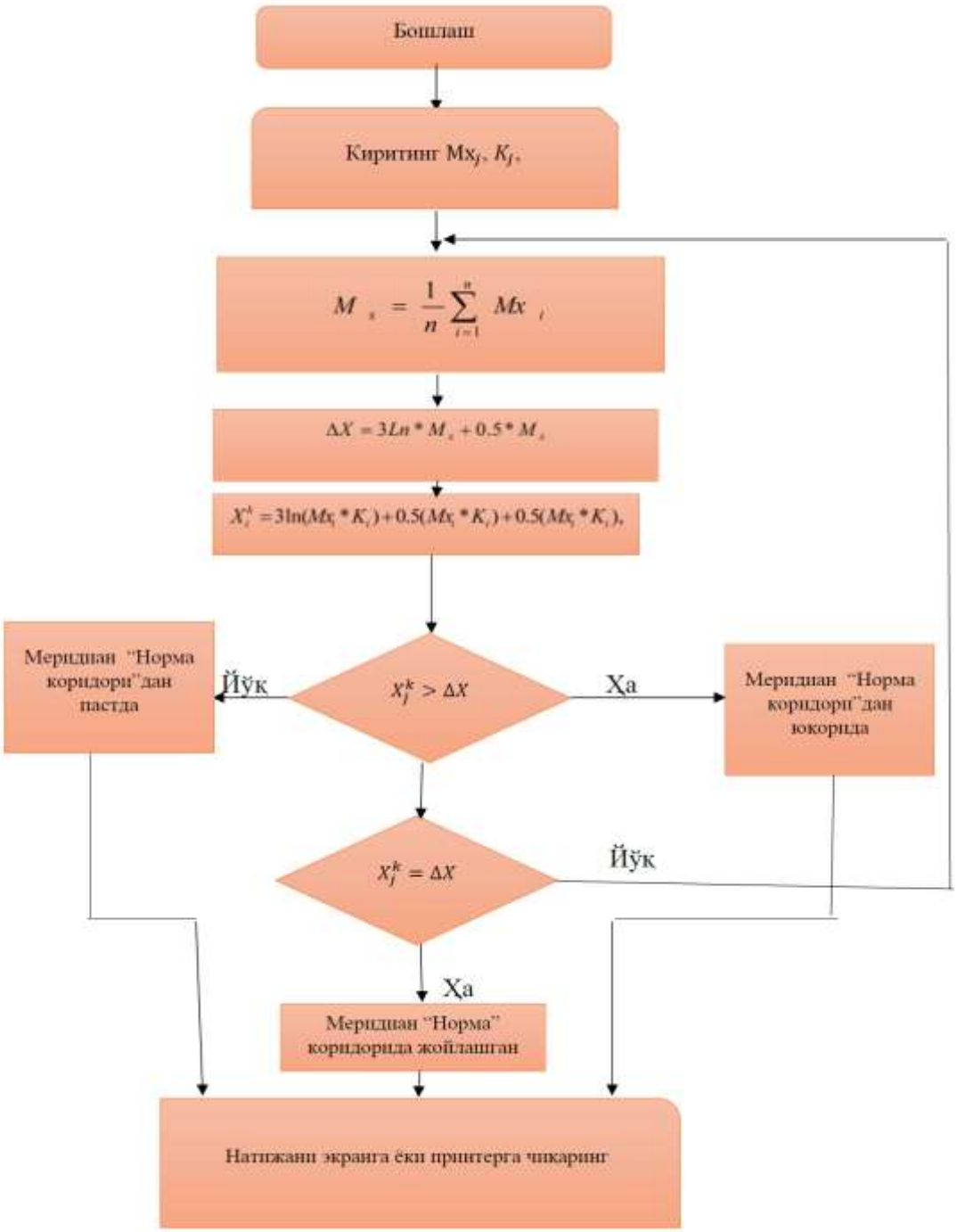

Figure 1. J. Nakatani "Riodoraku" method block diagram of the algorithm.

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J. Nakatani "Riodoraku" algorithm consists of the following steps:
Step 1. We collect the following data 〖Mx〗_j, K_j,.
Step 2. We calculate the following formulas:

$$M_x = \frac{1}{n}\sum_{i=1}^{n} Mx_i \ ;$$

$$\Delta X = 3Ln * M_x + 0.5 * M_x \ ;$$

$$X_i^k = 3\ln(Mx_i * K_i) + 0.5(Mx_i * K_i) + 0.5(Mx_i * K_i),$$

Step 3. We can check the 1st column below: If the condition X_j^k>ΔX is fulfilled, the meridian will be above the "Norm Corridor", otherwise the meridian will be below the "Norm Corridor" and the result will be obtained. Go to step 1,2.
Step 4. We can check the 2nd column below: If the condition X_j^k=ΔX is fulfilled, the meridian will be located inside the "Norm Corridor", as a result, it confirms that there are no changes in the meridian.
Step 5. That's it.

We provide information about the simplest biometer device created by the author[8,9,10]. When using the device, the measurement measures the amount of EQ in two ranges (up to 1 MoM and up to 8 MoM) at a stable current of 1 μA.

At the Department of Endocrinology of the Tashkent Medical Academy, Prof. Salokhova N.S. according to the instructions, experiments were carried out on healthy and 1.2 types of QD in the biomeasurement equipment in Figure 4. The question of determining the state of imbalance for QD disease in which of the generalized meridians for the "Riodaraku" system was raised. The solution to this problem is as follows: for each type of QD, we can create the following matrix using the results of formula (4) above

$$S = |P|nxm, \qquad (5)$$

where , the number of patients;
the number of informative meridians.

The probability that the patient will fall into the (ß,)-class as a result of the EQ (5) formula obtained by the matrix column and the sum of the results of the total number of patients is determined using the following formula

$$P_j^{\alpha} = \frac{1}{m}\sum_{i=1}^{n} S_{ij} x100\% \qquad (6)$$

$$P_j^{\beta} = \frac{1}{m}\sum_{i=1}^{n} S_{ij} x100\% \qquad (7)$$

$$P_j^{y} = \frac{1}{m}\sum_{i=1}^{n} S_{ij} x100\% \qquad (8)$$

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Based on sources [1], it is determined that the conditions below and above the norm in the meridians are considered pathological processes, as a result, the formula (6), (7) and (8) given above will have the following form

$$P_j^{\alpha,\beta} = \frac{1}{m}\sum_{i=1}^{n} S_{ij} x100\% \qquad (9)$$

For the 1st, 2nd type of QD, the meridian information coefficient (IK) is determined according to the formula (9) of the "Riodoraku" system.
J. Nakatani's method "Riodaraku" system algorithm and its software and main window in S++ language were created (see Figure 2). The size of the program is 1.76 Mb.

Figure 2. The main window of the Riodoraku system

As a result of J. Nakatani's method of determining the "Energetic interruption" in the human body, the attending physician will be able to perform restoration therapy in advance of the measures to treat the disease. The main window of the "Riodoraku" system is shown in the 3rd picture. The patient's name, surname, year of birth, date, and electrical resistance from bioactive points on the 12th meridian are measured using the measuring equipment, and all the information is entered into the computer. If you press the button "schitat", the status of the values of each meridian will be displayed. within the norm", "above the norm" and "below the norm". J. Nakatani J. when pressing the "Diagnostics" button. of M. Huodo in the "Riodaraku" system for the pathological process of the meridians determines the signs (symptoms) of diseases and the results of the patient's condition. After pressing the "Sokhranit" button, the results of the surveyor will be entered into the database (MB). The treating doctor, referring to MB, selects the desired patient and starts treatment based on the results. The total experimental procedure and data analysis in the software takes 5 minutes.

In conclusion, J. Nakatani J. The compatibility of criteria, algorithm, block diagram and unig software created with the "Riodaraku" method has been proven. According to formula analysis (9) of the data obtained from QD, the most informative (that is, meridians deviating from the normal corridor) BFN of Jing-gu, Tai-si, Da-lin, Tai-bai and Shen-men were selected as follows.

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