

BIBLIOMETRICAL ANALYSIS OF NEUROPHYSIOLOGICAL INVESTIGATIONS IN THE SECOND HALF OF THE XX CENTURY

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Neurophysiology is one of the most intensively developing spheres of biology. This field of knowledge makes it possible to perceive principles of organization and activity of the brain, including integration of information, cognitive functions and memory. Moreover it is necessary for decision of a number of medical problems.

Bibliometrical investigation of published material on neurophysiology was not carried out up to now. The present work is devoted just to this material. Some data in this connection partly were presented in our another published works [1-3].

MATERIALS AND METHODS

Information accumulated in world on neurophysiology during 35-year period in the later half of the XX-th century (1966-2000) was considered. The state of neurophysiological investigations was carried out by means of the database "Medline" accessible in Internet. Bibliometrical data concerned investigations performed in different neurophysiological objects (the brain, the cortex, neurons, nerves) were considered. Quantitative characteristics of publications of all kinds were obtained for every observed year according to key words.

At statistical analysis of the material Wilcoxon paired comparison test, Student criterion, and the coefficient of correlation are used.

RESULTS AND DISCUSSION

The general numbers of neurophysiological published works reaches great value - 1401300: 705259 works carried out in the brain, 180602 - in the cortex, 237160 - in neurons and 278279 - in nerves, that corresponded to 50.33%, 12.89%, 16.92% and 19.86% from their sum.

Investigations carried out in the whole brain predominate. Significant distinctions between analyzed consequences existed, which was revealed by means Wilcoxon paired comparison test and comparison of sampling fractions ($U = 2.78-5.15$). Moreover average number of works carried out in the whole

brain in 1 year statistically is higher than corresponding values of another publications ($t = 21.88-29.04$).

The steady essential increase of the numbers of published works carried out in neurophysiological objects took place during 35-year time interval. This increase was 2.92-9.10 time. Positive correlation between the numbers of publications related to neurophysiological objects was found ($r = 0.98-0.99$). However dynamics of the sampling fractions (%) of works related to different neurophysiological objects during 35-year period was extremely dissimilar. The part of works on neuronal level in general totality undergoes gradual increase unlike parts of works of other kinds. (9.10 time in comparison with 2.92-3.72 time).

Thus, performance of the present bibliometrical investigations shows that the number of published neurophysiological works is too high. Besides undoubtedly absolute numbers of publications of investigations carried out in different neurophysiological objects steadily increase, which particularly is marked at work on neuronal level.

Developing of science is depended by "social problems" and "social order". The nervous system plays a key role in all reactions and behavior of animals and humans, which makes interest to its study. Now the prevalence of research in sphere of applied aspects of all kinds of knowledge takes place [1-3]. Fundamental investigations are paid insufficient attention.

As far as research on neuronal level, dynamics of their number is determined by improvement of methods and of elaboration of technical equipment of investigation in last ears. Moreover exactly study on neurons to a considerable extend correspond to fundamental trends of sciences. Obviously this neurophysiological trend will hold a leading position in future.

REFERENCE

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