

## **The Essence of Providing Students with Information about the Content and Theoretical Foundations of Statistics**

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### **ABSTRACT**

*The beginning of the practice of statistics dates back to the emergence of the state. There is information that in ancient times statistical work was carried out on economic and social needs, population, land, and property accounting. Medical statistics considers human health as a product of his social life and studies all phenomena in human activity in connection with his social life. No process in the human body occurs without the influence of the social environment. Thus, statistics is a social science, and its main subject is social phenomena. This article discusses the essence of providing students with information about the content and theoretical foundations of statistics.*

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**Introduction:** "Statistics" is one of the social sciences, which studies the quantitative changes in the events occurring in society in relation to their qualitative changes. Depending on which sphere of social life the science of "statistics" studies, it is called by the name of that sphere: industry, agriculture, construction, trade, municipal services, medicine, judicial statistics, etc. The main goal of statistics is to study the magnitude and quantitative changes of events occurring in society in certain regions during a specific period of time, in relation to the laws of their origin.

The practical need for information about the life and livelihood of society gave rise to statistics.

The desire to understand the patterns expressed in the data, the need to find ways to explain them, turned statistics into a branch of science.

**Statistics** (from Latin *status* - wealth, state) is a branch of social science that studies the general laws of social life by quantifying various phenomena and processes, processing and analyzing data. In other words, statistics (from Latin: *status* - "situation") is a branch of mathematics devoted to collecting, organizing, interpreting and displaying data. In addition, it is a branch of science, a field of practical activity, a direction of knowledge, a tool for knowledge. This also includes statistical research and experimental design.

In a narrow sense, statistics means a set (collection) of aggregated data (indicators) about a particular event or process. Statistics complicated and multi-thread sciences from the complex consists of social of life variety different events studies and analysis will do.

**Discussion:** The main sections of statistics:

- general theory of statistics — studies the general principles and methods of statistical analysis ;
- economic statistics- national economy studies the system of indicators, its composition, ratios, inter-sectoral, inter-sectoral relations and others ;
- economy industry statistics , agriculture , construction, transport, communication s is divided into statistics;
- demographic statistics , labor, population employment statistics ;
- Social statistics - studies the system of indicators describing the lifestyle of the population and various issues of social life.

Their main task is the people in economic sectors, society consists of studying the system of indicators describing socio-economic processes in some areas of life and reflecting reliable, scientifically based information. In order to perform these tasks , tools and methods such as general statistical observation, indicator systems reflecting the specific aspects and characteristics of phenomena and the relationships between them, cumulative and combined tables with the results of statistical grouping have been developed and used in practice. Summarizing descriptions such as averages and indices play an important role in statistics. There are a number of areas where statistical methods are used, and accordingly there are medicine, law, geology, sports and other statistical fields. Mathematical statistics emerged at the intersection of mathematics and statistical research It is a separate department of statistics. Mathematical statistics studies the methods of collecting statistical data, systematizing them, processing them, and drawing scientific and practical conclusions from them. It is divided into national, regional and international statistics.

International statistics studies the level, structure and trends of social and economic development of different countries based on ensuring international comparability of socio-economic indicators.

International statistics, the UN specialized statistical services play a leading role. At the national (nationwide) level, the collection, processing and analysis of statistical data is carried out under the leadership of state statistical bodies on the basis of uniform principles, according to a uniform program and methodology. In Uzbekistan, the Republic of Uzbekistan with its statistical practice State committee of statistics and its region, city, district departments ( departments ) are engaged.

17 to statistics as a science At the end of the century, the English economist U. Petty founded. In his works, the science called "political arithmetic", inseparable from political economy and other socio-economic sciences, is expressed in the foundations of statistics. The emergence of the science of political science also plays an important role in the development of statistics. In the second half of the 19th century and the beginning of the 20th century Statistics developed rapidly. Especially under the conditions of state monopoly capitalism, the technical means and economic capabilities of statistics improved .

The use of mathematical methods in the processing of statistical data has become important in the development of the theory of statistics.

**The subject of statistics is** to study the quantitative quality of mass events and processes and to express the laws that appear in them in quantitative proportions .

**Biological statistics** is an applied science that studies certain medical and biological objects using mathematical methods .

Biostatistics involves the collection and interpretation of statistical data.

The main difference is that statistics uses statistical methods to answer questions related to topics in biology.

The direct tasks of biostatistics include:

- group characteristics in the bioenvironment
- quantitative description of events .

Medical statistics is a field of statistics that includes statistical data on medicine, hygiene, public health, use of health resources, and the activities of medical organizations. Therefore, health statistics are used to understand risk factors for communities, monitor health events such as diseases, monitor the impact of policy changes, and assess the quality and safety of health care. Health statistics are a form of evidence or facts that can support a conclusion.

At this point, the question arises: "Why do we need statistical data?" Today, statistics is a science that studies the general issues of collecting, measuring, observing, analyzing, and comparing quantitative or qualitative data based on certain methods and principles. In essence, statistics are a tool for studying events occurring in and around society. Statistics are important to consider in all areas. Depending on the area of research, statistics can be divided into several areas: social, economic, demographic, industrial, medical, trade, and others.

Health system statistics (indicators of industrial accounting and reporting documents) is covered as a practical discipline of mathematical statistics related to the development and use of statistical methods in scientific research in biostatistics or biometrics-biology, medicine, healthcare and epidemiology. Coverage of information about medical statistics and its main tasks will serve as a basis for students to further study the field.

The main goal of statistics is to study the magnitude and quantitative changes of events occurring in society in certain regions over a specific period of time, linking them to the laws of their origin.

The science of "statistics" is called by the name of the field of social life in which it studies phenomena: industry, agriculture, construction, trade, utilities, medicine, forensic statistics, and so on.

In addition to social sciences, statistical methods are also used in biology, chemistry, and physics, and are referred to as biological, chemical, and physical statistics. Statistics that study issues related to medicine, hygiene, and health care are called medical or sanitary statistics.

Medical statistics considers human health as a product of his social life and studies all phenomena in human activity in connection with his social life. No process in the human body occurs without the influence of the social environment. This applies not only to such indicators as illness, death, injury, disability, physical development, which are directly related to the biological and social environment, but also to all reactions in the human body that occur through the positive and negative influence of the external environment. Thus, statistics is a social science, and its main subject is social phenomena.

The main tasks of medical statistics are those in the q house:

1. Studying the health of the population: the number, structure, natural movement of the population (birth, death, natural reproduction) , physical development, and the spread of various diseases among the population and their course , average life and death rates.

the relationship between general morbidity, disability and mortality rates or individual diseases and causes of death among certain groups of the population and their lifestyle, external environment , socio-economic , historical conditions, and , based on the results of the research conducted , to develop and implement specific scientifically based measures to further improve the health of the population .

3. To properly plan health care , to properly organize the work of sanitary-epidemiological and treatment-prophylactic institutions, to study their activities, the quality and effectiveness of medical services provided to the population , the type of medical institutions , the number, the number of employees working in them, the number of beds in important hospitals , and their to conduct a thorough analysis .

4. To evaluate the treatment and prevention works used in the experiment, to study their effectiveness.

Planning, organizing and conducting scientific research in clinical and laboratory settings, assessing the accuracy of the results obtained, determining the laws of various phenomena and processes in the healthy and sick human body, and assessing the effectiveness of new treatment and prevention methods.

is considered the main part of the science " Public health and health care management " and it , in turn, is divided into two parts : population health statistics and health save statistics .

**Conclusion:** Common statistical analysis methods in medical biology include correlation, regression,

standard deviation, and mean. Researchers use statistical analysis to answer important, often experimental, questions in biology.

of medical biological statistics is to obtain reliable statistical data and organize statistical accounting. The data of the medical statistical enterprise allow us to learn the following:

- composition of patients;
- taking into account economic losses in production;
- taking into account non-epidemic diseases (cancer, tuberculosis, diabetes) .

Statistics in medicine is one of the tools for analyzing experimental data and clinical observations, as well as a language for reporting mathematical results. However, this is not the only task of statistics in medicine, since the mathematical apparatus is widely used for diagnostic purposes, in solving classification problems and in searching for new patterns, in establishing new scientific hypotheses. The use of statistical programs implies knowledge of the basic methods and stages of statistical analysis. Their sequence shows the necessity and sufficiency. Statistical processing of medical studies is based on the principle that for a random sample, this sample is also true for the population from which it was taken.

### **Literature:**

1. Abdullayeva S., Maxmudova Z., Xujakulov S. TIBBIY TA'LIMDA VR TEXNOLOGIYA //Eurasian Journal of Academic Research. – 2022. – T. 2. – №. 11. – C. 1140-1144.
2. Berdiyevna, A. S., & Olimjonovna, T. F. (2022). INNOVATIVE APPROACHES IN THE EDUCATION SYSTEM TO INCREASE YOUTH PARTICIPATION. Web of Scientist: International Scientific Research Journal, 3(3), 674-677.
3. Toxirova, F. O., Malikov, M. R., Abdullayeva, S. B., Ne'matov, N. I., & Rustamov, A. A. (2021). Reflective Approach In Organization Of Pedagogical Processes. European Journal of Molecular & Clinical Medicine, 7(03), 2020.
4. Berdiyevna, A. S., Fazliddinovich, S. R., & Uralovich, R. N. (2022). Use of Information Technology in Improving the Quality of Education. Eurasian Research Bulletin, 14, 134-138. Abdullayeva, S. B., & Dosmurodova, S. S. (2022). THE ROLE OF THE FAMILY IN THE FORMATION OF VALUE DIRECTIONS IN YOUTH. Procedia of Theoretical and Applied Sciences, 1(1), 93-95.
5. Berdiyevna, A. S., & Shokirovich, X. S. (2023). Prospective Directions of Implementation of Modern Information Technologies in Education. Eurasian Journal of Research, Development and Innovation, 17, 7-11.
6. Berdiyevna, A. S., Akramovna, M. M., & Olmasovna, R. P. (2023). Research in the Process of Education of Medical Students Shaping Their Abilities. Eurasian Journal of Learning and Academic Teaching, 17, 95-99.
7. Berdiyevna, A. S., Ilhomovna, M. Z., & Ogli, K. S. S. (2023). Modern methods of information exchange in polyclinic conditions. Genius Repository, 25, 16-20.
8. Abdullayeva, S., Maxmudova, Z., & Xo'jaqulov, S. (2023). MODERN METHODS OF INFORMATION EXCHANGE IN POLYCLINIC CONDITIONS. Modern Science and Research, 2(10), 304-310.
9. Berdiyevna, A. S. (2024). AXBOROT KOMMUNIKATSIYA TEXNOLOGIYALARI VA VOSITALARIDAN TA'LIM JARAYONIDA FOYDALANISHNING ISTIQBOLLI YONALISHLARI VA KELAJAGI. BARQARORLIK VA YETAKCHI TADQIQOTLAR ONLAYN ILMIY JURNALI, 4(2), 152-157.
10. Абдуллаева, С. & Раупова, Р. (2024). ТАЪЛИМ ВА ТАРБИЯ МЕТОДЛАРИ ВА ВАЗИФАЛАРИНИ ЎРГАНИШ-БЎЛАЖАК ПЕДАГОГЛАР ФАОЛИЯТИНИНГ АСОСИЙ ОМИЛИДИР. Modern Science and Research, 3(1), 91-97.

11. Ilhomovna, M. Z., Berdiyevna, A. S., Shaxboz o'g'li, Y. T., & Mirkobilovna, S. R. (2023). The Importance of IT Technologies in Ultrasound Examinations. *Journal of Intellectual Property and Human Rights*, 2(12), 121-125.
12. Berdiyevna, A. S., Sobirovich, S. O., & Ibrahimovna, N. N. (2023). Distinctive Features of the Distance Learning System in Medical Education: the Opportunity to Learn at a Convenient Time, Place and Environment. *Journal of Intellectual Property and Human Rights*, 2(12), 33-38.
13. Абдуллаева, С. Б. (2023). ТИББИЁТДА ТАЛАБАЛАРГА АХБОРОТ ТЕХНОЛОГИЯЛАРИ ВА ЖАРАЁНЛАРНИ МАТЕМАТИК МОДЕЛЛАШТИРИШ ФАН МОДУЛИНИ ЎРГАТИШДА МОТИВАЦИЯЛАРНИНГ АҲАМИЯТИ. *BARQARORLIK VA YETAKSHI TADQIQOTLAR ONLAYN ILMIY JURNALI*, 3(12), 27-30.
14. Berdiyevna, A. S., Eshmamatovna, D. N., & Shukhratovna, D. S. (2023). THE ROLE OF ARTIFICIAL INTELLIGENCE IN MEDICAL DISEASE PREDICTION. *EUROPEAN JOURNAL OF MODERN MEDICINE AND PRACTICE*, 3(3), 5-9.
15. Berdiyevna, A. S., & Shokirovich, K. S. (2024). The Role of it in the Field of Medicine, Use of Computer Technology in Modern Diagnostic Methods. *Miasto Przyszłości*, 51, 162-166.