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Editorial

Science and pseudoscience during the COVID-19 pandemic

COVID-19 pandemisi sırasında bilim ve yalancı bilim

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Since the emergence of humankind on the stage of history, activities occurring in parallel with the process of the fight between human and nature, humanization of nature and uncovering of the mystery of nature, have been examined under the title of science. Communication and confrontation of humanity with science started with the discovery of fire, and extended up to the present amazing technological and scientific advancements. The aim of scientific disciplines emerging with the efforts of scientists, who are engaged in science, is to reach the truth, find the truth, and change and humanize current life. The starting point in the search of scientific truth is the hypothesis proposed, and the specificity that is found and hidden in this hypothesis. The scientist primarily produces a specific hypothesis related to the research subject, and subsequently makes an all-out effort to prove, and at the same time, to disprove this hypothesis with utmost strength and honesty. The hypothesis produced, springs from inside of life. The problem for which an answer is searched is inside life itself, and its solution will facilitate the life of humanity. Only when the hypothesis is successfully proven or disproven, the scientific truth is reached. Trying to disprove one's own data or ideas requires extraordinary honesty. This honesty also requires an extraordinary commitment to ethical rules, which have been established in years with humanity's experiences (1, 2).

Scientists do not owe anybody. Developed, humanized, cultured, and transformed humans owe only humanity. Therefore, each practice performed should have a humanitarian meaning, and this rule should never be forgotten while conducting scientific studies. All studies in positive sciences should involve factuality, internal and external consistency, criticism and self-criticism, universality, prediction, social necessity and belief in utopia, and these should create a source of inspiration. All these are regulated by scientific and ethical rules that have been established over centuries (1, 2).

The preparation stages of a scientific design involve a considerably long process. The researchers involved in this process should ask themselves many different questions and go through many phases. In each stage, the most important foundation of researchers should be the scientific and ethical rules established priorily based on humanity's experiences. These stages can be listed as follows: Primarily, it is obligatory to ask a specific scientific and logical question. Afterwards, preliminary investigations related to the subject should be conducted, and relevant medical literature should be screened. After completion of this screening, hypotheses and predictions related to the subject should be specified. Before specifying hypotheses and predictions, all present resources and documents related to the subject that can be reached should be read carefully. Subsequently, the stages such as finding necessary monetary resources and obtaining approvals, conducting experiments, collecting data, evaluating data and making conclusions, and demonstrating validity inside life, should be performed respectively. The important points in a scientific study include searching for the truth, providing evidence, proving trueness, and being unbiased and objective (1, 2).

One of the most important disciplines, which reveals and actualizes science and scientific data in detail, is

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MEDICINE (1, 2). We have recently been confronted by the most important evidence that has proven this proposal. In December 2019, humanity faced a very important danger that threatened itself and its future. This danger was the COVID-19 infection as we all know. It was not known what COVID-19 was, how this infection proceeded, and how it could be prevented and treated (2, 3). Humanity was in a great fright and anxiety. Many mysteries of this infection were resolved with studies that were conducted at an unprecedented pace. We will even resolve the issue of prevention with preventive vaccines, which will be on the market in 1–2 months (2, 3). In the meantime, however, we have faced a very important problem in terms of reliability of science and scientific data, and commitment to ethical rules. This problem was the data presented by pseudoscience against science (4–8). In particular, various studies conducted without abiding by scientific research ethics committees had to be withdrawn. At this point, the scientific setting was attempted to be misguided, especially with data that were produced based on pseudoscience. The efficiency of the scientific world was attempted to be reduced. The evidence levels of the relevant studies were not sufficient (4–8). These studies included excessive discordant and distorted data. One of the most important problems was the fact that researchers who had expertise other than the relevant area of expertise, were added to these studies. For example, one of the largest treatment studies was conducted by a cardiovascular surgeon. After a while, the deficits in this study, which was published in a very important journal, were revealed, and the study was withdrawn (9). Many pseudoscience products were revealed and withdrawn from the scientific world due to the very high sensitivity of true scientists (4). I think this fight between science and pseudoscience will never end, but the existence of true science will persist for centuries as one of the greatest foundations of humanity.

In conclusion, humanity's efforts to reach the truth and find true information, which has continued for centuries, will persist with an increasing speed by way of medical studies conducted with a steady commitment to scientific, ethical and universal rules, and probably, the process of humanization rather than extinction of nature will be completed.

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