

<http://doi.org/10.32603/2412-8562-2019-5-3-5-11>
УДК 130.2

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SOCIAL AND CULTURAL ASPECTS OF RUSSIAN EXPERIMENTAL MEDICINE DURING THE REIGN OF PETER I

Introduction. The aim of the article is to show medicine as a multifaceted science influenced by social and cultural aspects that determine its structure and national features.

Materials and methods. Historical, fiction and intellectual prose are chosen instruments of historical and literary discourses which determine its social and cultural aspects. The pathographic features of a medical discourse are taken from numerous examples of medical practices described in the fiction and scientific literature.

Results. By focusing on the doctrine of double effect this study aims to show the historical path of Russian state medicine formation since the XVI century and understand it by modern approaches of the contemporary science, biomedical ethics.

Discussion. One of the tasks is to show why modern medicine has such distinctive aspects and why Russian people demonstrate a specific attitude towards medicine and doctors. The special attention dedicated to one of the most popular Russian historical figures, Peter the Great, who had many skills and professions. The article shows him not only as a monarch, but also as a person with a keen interest in practical and experimental medicine, so he can be called an anatomist, surgeon, physician, dentist and intelligent collector.

Conclusion. The work analyzes social and cultural aspects which influenced the state medicine formation according to Peter I vision.

Key words: Peter I, history, Russian literature, Russian culture, education, medicine.

For citation: Kovaleva T. V. Social and Cultural Aspects of Russian Experimental Medicine During the Reign of Peter I. DISCOURSE. 2019, vol. 5, no. 3, pp. 5–11. DOI: 10.32603/2412-8562-2019-5-3-5-11

Source of financing. The work was supported by a grant from the Russian Foundation for Basic Research (project № 18-011-00673 “Methodology of ethical expertise in the field of culture”).

Conflict of interest. Authors declare no conflict of interest.

Received 25.12.2018; revised 22.03.2019; published online 25.06.2019

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СОЦИАЛЬНЫЕ И КУЛЬТУРНЫЕ ОСОБЕННОСТИ РУССКОЙ ЭКСПЕРИМЕНТАЛЬНОЙ МЕДИЦИНЫ В ЭПОХУ ПРАВЛЕНИЯ ПЕТРА I

Введение. Цель данной статьи показать медицину как многогранную науку, на которую влияют социально-культурные маркеры, определяющие ее структуру и национальные особенности.

Материалы и методы. Инструментами исторического и литературного дискурса в определении ее социально-культурных особенностей выбраны историческая, художественная и интел-

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лектуальная проза. Выявленные особенности патографического характера медицинского дискурса были взяты из многочисленных примеров медицинской практики, описанных в художественной и интеллектуальной литературе.

Результаты исследования. Фокусируясь на доктрине двойного эффекта, ставилась задача показать исторический путь формирования российской государственной медицины, начиная с XVI в., и осмыслить ее с помощью современных подходов, выработанных в современной науке – биомедицинской этике.

Обсуждение. Одна из задач – показать, почему современная медицина имеет такие специфические аспекты и почему русские люди имеют специфическое отношение к медицине и врачам. Особое внимание уделено одной из самых популярных исторических личностей России – Петру Великому, который обладал многими навыками и профессиями. Он показан не только как монарх, но и как человек, увлеченный практической медициной и экспериментальной медицинской наукой, поскольку его в полной мере можно было назвать анатомистом, хирургом, врачом, стоматологом и интеллектуальным коллекционером.

Заключение. Проанализированы социально-культурные особенности, повлиявшие на становление официальной медицины согласно видению ее идеолога Петра I.

Ключевые слова: Петр I, русская литература, история, культура, медицина, образование.

Для цитирования: Ковалева Т. В. Социальные и культурные особенности русской экспериментальной медицины в эпоху правления Петра I // ДИСКУРС. 2019. Т. 5, № 1. С. 5–11. DOI: 10.32603/2412-8562-2019-5-3-5-11

Источник финансирования. Работа выполнена при финансовой поддержке гранта РФФИ (проект № 18-011-00673 «Методология этической экспертизы в сфере культуры»).

Конфликт интересов. Автор заявляет об отсутствии конфликта интересов.

Поступила 25.12.2018; принята к публикации 22.03.2018; опубликована онлайн 25.06.2019

Introduction. Biomedical ethics is a multifaceted science allowing not only to study actual problems and predict events but also to analyse facts of the world history as study cases providing patterns for future specialists. Real cases from medical practice are subjects of various novellas, thus fiction and scientific literature is a part of bioethics.

Many US and European medical universities have a humanities course in “literature and medicine”. Historically, this course was also taught to medical students at Russian universities until 1917. The main purpose of this course was to increase the general cultural level of a practitioner and make medical education more humanitarian. For that reason all medical students were involved into a process of learning and understanding of fiction, philosophical and religious literature. Usually this course was divided into two parts, namely medical literature analysis and literary analysis adaptation to the therapeutic values of medical profession. There were represented by descriptions of doctor's lifestyles and operations, literary and medical discussions on psychology, history of ideas emergence, audiovisual culture and etc. The discussion topics covered not only the fiction literature, but also scientific, non-fiction literature, memoirs and even the folklore.

Results and Discussion. The healing and speaking are etymologically connected in Russian language. Russian word “vrach” (doctor) derived from the verb to lie or to speak untruth [1, p. 315]. However, a modern interpretation of this word simplifies its meaning. The mystery of medical profession was the doctor's ability to enchant and deceive a disease. The healing is always associated with the art of persuasion and it is connected with speaking, fiction ideas and rhetoric. The sacrality of Russian traditional medicine was interrupted by an influence of foreign doctors. At that time, European medical direction took the place of Russian medicine due to doctors arriving from Europe. Traditional folk medicine was used to treat common people, and Russian nobility preferred the European medical treatment methods. The common Russian

people were hostile to a medical profession because of the predominance of foreigners in this field. Foreign doctors paid dearly for any unsuccessful treatment.

The first mention of a foreign doctor is found in the Chronicles of the XI century. The later Chronicles mentioned a foreign physician named Anton Nemchin, who treated a Tatar tsarevich on the order of Moscow Tsar Ivan III in 1483. Anton is the name of the physician, and Nemchin is his nickname [2, p. 235], which derived from German “mute, voiceless”. Usually, all foreigners were called Germans, because they did not speak Russian, meaning they were mute. They were often executed for the unsuccessful treatment. The typical foreign doctor in Russian folklore and theatrical plays of XVII–XIX centuries, oddly enough, appears as badly speaking, drinking alcohol and leading dissolute life. Russian Patriarch Joachim expelled from his house foreign doctors, which were sent to him by Tsar. He explained this action by saying that he would not allow to treat himself by doctors of another religion [3, p. 74]. Despite the fact that by the end of XVII century Russians had many medical professionals who studied Medicine from foreign teachers, Russian students were still afraid to deal with them (according to official records). Russians thought foreigners could desecrate them.

Russian official medicine as a state institute still did not exist even by the end of the XVII century. Creation of this state institute, search for students willing to study medicine from the foreign physicians, and development of the medicine as a science was a decision of Peter the Great. Peter I went to his first foreign journey in 1697. The anatomy was very popular in Europe at that time. The big cities used to have anatomical theaters where everybody could see the public autopsy. In Amsterdam Peter was introduced to the famous European scientist and anatomist Frederik Ruysch (1638–1731).

Ruysch had a large collection of 600 anatomical specimens. He was interested in corpses preservation practical tasks and blood vessels structure studies. He developed the first balsamic liquor to fill the blood vessels, which recipe was later redeemed by Peter and stored in the strictest secret. The objects of the particular anatomical interest of Ruysch were dead children and newborns. He created the anatomical installations, which enraptured spectators by their beauty and aesthetics. He liked to use cambric short sleeves and lace sleeves in his installations. Aesthetic installations in a form of body parts and materials enraptured spectators by their beauty and allegorical nature. For example, there was one where the hand of a child held the heart of an adult. Thus, not only the denial of death was present here, but also its beauty and imperishability, and phantasmagoria of the body. Ruysch was at the forefront of creating the “anatomical art” direction, which is popular in modern world. In this regard, it is possible to recall the famous German anatomist Gunther von Hagens [4], who invented the method of corpses preservation known as chemical plastination, which allows for their further sculptural processing. At the end of the XVII century a new type of tourism, anatomic tourism, came to Europe. Many people wanted to see the Ruysch's collection.

“One says Peter I saw in his cabinet the excellently prepared corpse of the child smiling to eternal life. He did not restrain and kissed it” [5, p. 9]. Scene with Peter kissing the embalmed corpse of the child will become popular in the foreign and Russian historical literature. Holland historian Jan Scheltema was the first author who described this scene. In Russia only in XIX century Peter I became the target of historical and literary research by Russian writers. Member of the Saint Petersburg Academy of Sciences Peter Pekarsky retold this narrative in his book “Science and literature under Peter the Great” (1862) which he had read in the book written by Holland writer. Recently, historians Sergey Soloviev in his famous monograph “History of Russia” and Vladimir Kliuchevsky in “Lectures” repeated it. Thanks to them, this literary scene becomes popular in historical fiction about Peter I of XX century. Jury Tynianov in his historical novel “Wax figure” and famous writer Aleksey Tolstoy in his book “Peter I” used it.

Peter was very interested in anatomy and participated in anatomical theaters. Upon returning to Russia, Peter founded lectures on anatomy with demonstrations on corpses in Moscow in 1699. Tsar required his confidant boyars (his Royal court) attend these lectures. Sometimes people fainted, but Peter was merciless. He demanded reports about forthcoming autopsy or surgical operation in order to be present and even help with the operation. He subsequently learned how to skillfully anatomize bodies, release blood, extract teeth, and he did this willingly. He established the first military hospital in Russia and surgical schools. He invited famous European doctors for delivering lectures there, and they remained in the service of the Russian Tsar. However, his enthusiasm in medicine and education was not accepted by the Orthodox Church. Medical innovations conflicted with traditional healing practices. Traditional medicine used herbs and verbal folk magic. The sacrality of Russian traditional medicine did not conflict with Orthodox ideas, since it did not pretend to know human bodies. They frequently accused the doctors practicing European medicine with a desecration of graves and corpses stealing. Medical profession itself was a challenge to social and Christian morality. For example, “German doctor Quirin von Bremborg, who practiced in Moscow in 1630, was sent out of the country because the skeleton appeared in the window of his house” [6, p. 57–58]. The innovations of Peter complicated relations with the church. This became an additional impetus for the Peter's decision to separate the church from the state.

Orthodox tradition did not practice autopsy and embalming, as it was accepted in Catholicism. Such manipulations with a corpse considered as a violation of the customs of burial and mockery of the dead body. Public punishment was assigned for this. Up to the XX century it was common to believe that autopsy deprives a posthumous rest of a dead and makes this dead person a sinner, thus, deprives the right to have grave in a cemetery. In this case, they were buried outside a cemetery fence as outcasts or criminals. The family of sinner bore this disgrace entire life. Orthodox Church demanded a principle of integrity of a man from one side, and different approach to a human body from the other side. The traditional Orthodoxy required a special respect to a human body, and a dead person was not considered the corpse as in Europe, but it was a deceased intending to rise again with this body. European theological views on the anatomy changed under the action of anthropological ideas, where important central figure was a man. Andreas Vezalius, who laid foundations of the modern anatomy, argued that the anatomical dissections allow him to comprehend the perfection of the divine concept embodied in man. He wrote in the *Epitome*: “Different studies on the body harmony, which we constantly prophesy and which are completely unknown to a person himself, are written by us in order to explore the divine inspiration of the connections of organs, as the connections of the invisible acts of the creator, about a designation of which we are surprised” [7, p. 22]. The Renaissance scientists and artists justified their interest in the anatomy with the words of the Bible “for you created my inmost being; you knit me together in my mother's womb. I praise you because I am fearfully and wonderfully made” [8]. Moreover, since the XVI century the art of healing and anatomy became branches of a moral philosophy, which gives an understanding of the physiological and moral features of a man. Now interest in the body is theologically justified.

In the field of the medicine, Peter was a reformer, surgeon and dentist. His predilection to doctoring astonished many people close to him. In the book “Authentic anecdotes about Peter the Great, which I heard from the respected people in Moscow and Petersburg” (1785) [9] Peter seems to us partly a dentist. All people around Peter feared to admit that something aches, because Peter carefully examined the patient and prescribed his treatment. Often these were operations which the patient could not refuse. The Saint Petersburg Kunstkamera still stores the full bag of teeth torn out

by the Tsar and his dentist instruments. One day, one of the Peter's valets decided to punish his dissolute wife by saying Peter that she had the toothaches. Peter torn out her tooth despite the resistance of the lady. German artist Daniel Chodowiecki painted Peter, who is tearing out a tooth from the Polish gallant lady A. O. Kornilovih. It is well known, that Peter performed successfully quite complex operations. Peter loved treating patients himself and being treated.

Peter Berkhogolts, who was a contemporary of him, wrote in his diary that “the Tsar considered himself as a great surgeon, and in the last year he successfully made a big groin surgery. He is interested not only in practice, but also a theory of medicine, methods of healing and reasons of diseases and deaths”. [10, p. 101] The foundations of the anatomical and forensic pathology were laid by the Tsar. It forced physician anatomist to record all the circumstances of death. The scientific activity of Peter also had specific nature. He was fascinated by the eugenic ideas of the creation of progeny from the short and tall people. He arranged weddings of dwarfs and giants. One day, it was a wedding of Bourjois man with height of 226,7 cm and Finnish woman, who was even higher than the husband. However, to his great regret, this marriage did not confirm his theory about a possibility of designing tall people. Children of giants were born ordinary.

Science and art tend to demonstrate external and internal harmony, including a harmony of human body, and medicine always deals with innate or acquired deformities in the form of joints deformations, breaking bones, grown tumors and cysts.

In XVIII century Russia medical interest on deviations transformed from a comprehension of the appearance of such pathologies as the decision of God or normal phenomenon to a something unique and strange. In Europe it was a tradition to have museum collections of natural wonders of organic and anatomical deformities since the Renaissance. Peter bought in 1717 from Ruysch his collection and placed it in the new museum of Petersburg named “Kunstkamera” [11]. The exhibits which demonstrate pathologies and physical deviations from the standard were unique. The entrance into the museum was free on the decree of Peter. Snacks and drinks were given to every visitor. The museum was created in the tradition of European wonder-rooms. The monsters of exhibition were displayed with intention not to scare, but to emotionally shock. A special scientific interest was in the examination of the gradual development of a baby in the intrauterine state. Frequently pathology of newborn was explained by the female fright during her pregnancy. People with innate or acquired pathology were called monsters. Among the exhibits of Kunstkamera were the living monsters which astound visitors with their appearance. For example, one man named Foma was 126 cm tall, and in addition he had only two fingers on both his hands and feet. Traditionally, Russians respected such uncommon people, since their strange appearance caused mystical feelings in people. Orthodox religion required a good attitude to these people, because the God marked them, therefore, it was a great sin to offend them.

Conclusion. Positioning himself as a doctor had an ideological value for Peter the Great. The paternal relationship model between a doctor and patient implies the distribution of roles in this interaction. Doctor is a pater, and patient is a child. The pater has many children, as well as the doctor has many patients. Pater relates to the God, and sometimes becomes the personification of God, such a Demiurge, who decides fates of people. Peter changed the life of Russian people bringing a lot of new things into their patriarchal life. The theme of the manifestation of divinity also interested Peter. Holiness of a man in Russia is determined by a good behaviour during his life and incorruptibility of his body after his death. However, Peter the Great did not want to be religious miracle, he rather wanted to be proclaimed the lord of Nature.

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