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# ATTITUDE OF THE YOUTH IN THE REPUBLIC OF TATARSTAN TOWARDS ORGAN DONATION

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**Objective:** to study the views of the youth in the Republic of Tatarstan on organ donation and transplantation, to analyze their awareness and ideas about donor transplants and potential their willingness to become organ donors. **Materials and methods.** An anonymous sociological survey of 880 respondents aged 18 to 35 from the Republic of Tatarstan was conducted in the period from January 1 to July 1, 2021. An 11-question questionnaire was developed using online service Google Forms. Participation in the survey was voluntary. **Results.** Female and male respondents accounted for 79.0% and 21.0%, respectively; 34.2% of the respondents have or are receiving medical education. Among the respondents, 71.5% have a clear understanding of the term “organ donation”, 27.4% are not sure of their understanding, 1.1% do not have a clear understanding. 56.8% consider the issue of organ donation for transplantation in the Republic of Tatarstan as a pressing matter, 3.5% do not see it so, while 39.7% found it difficult to answer. After death, 35.9% would agree to become donors, 39.5% probably would agree, 9.3% probably would disagree, 5.6% strongly disagrees, 9.7% found it difficult to answer. The most common associations with organ donation were positive: 34.5% associate it with “life”, 25.1% with “help”, and 22.0% with “lifeline”. **Conclusion.** Young people in the Republic of Tatarstan are ready for a healthy debate of the problem of organ donation and most of them see it as a noble course. Given the interest in the problem and lack of awareness by the target audience, it is advisable to include independent academic disciplines on transplantology and organ donation in the curriculums of medical universities in the country. It is necessary to attract modern interdisciplinary information and educational resources to promote organ donation among the Russian public.

*Keywords:* organ donation, transplantation, public opinion, sociology, public attitude.

## INTRODUCTION

At the turn of the 21st century, amid an unprecedented growth in scientific and technological progress, organ transplantation, having accumulated the latest achievements in surgery, resuscitation, immunology, pharmacology and other medical and biological sciences, has become part of the arsenal of many medical institutions, opening a new era in modern medicine. This is due to the fact that transplantation, on one hand, is the only radical treatment for a number of end-stage diseases of vital organs (kidneys, liver, heart, lungs, pancreas), allowing most patients to return to full activity. On the other hand, transplantology in medicine, as a multidisciplinary science that raises practical healthcare to a new level, can be compared without exaggeration to astronautics in engineering. The level of development of transplantology reflects the level of development of medicine in a country or region and is an important indicator of a country's economic well-being. In the Russian Federation, despite the annual positive dynamics in higher number of organ transplant surgeries, the need for donor organs dwarfs available transplant care [1]. In 2019, the number of de-

ceased donors in Russia was 5.14 per million population. This is the 48th deceased organ donation rate among all countries where organ transplant surgeries are officially allowed [2].

In the Republic of Tatarstan with a 3 million population, 900,000 people annually require 206 kidney transplantations, 76 liver transplantations and 40 heart transplantations. Today, there are two organ transplant centers in the region, one (Republican Clinical Hospital) of which performs kidney and liver transplantation, and the other (Interregional Clinical and Diagnostic Center) performs heart transplantation. In 2018, 32 organ transplants (8.2 per million population) were performed in Tatarstan. In 2019, there were 57 organ transplants (14.6 per million population). In 2020, 64 organ transplants (16.4 per million population) were performed. For comparison, in the Russian Federation with a population of 146.8 million people in 2019, a total of 2,427 organ transplants (16.5 per million population) were performed [1]. Donor activity per population was 5.7 (23), 6.2 (24), and 6.9 (27) in 2018, 2019 and 2020 respectively. In 2019 in Russia, it was 7.2 per million population (1062) [1].

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In 2018, 27 kidney transplants (6.9 per million) were performed. In 2019, we had 39 (10.0 per million). In 2020, there were 40 (10.3 per million). In the Russian Federation in 2019 – 1,473 (10.0 per million population) [1]. The number of cadaveric kidney transplants and living-related donor transplants in 2018 were 8 and 19, respectively; it was 30 and 9 in 2019, 34 and 6 in 2020, respectively. In 2018, 4 liver transplants were performed (1.0 per million). In 2019, 14 (3.6 per million). In 2020, there were 20 (5.1 per million). In the Russian Federation in 2019, we had 584 (4.0 per million population) [1]. In 2018, 1 heart transplant was performed (0.3 per million); 4 (1.0 per million) in 2019 and 4 (1.0 per million) in 2020. In the Russian Federation in 2019, there were 335 (2.3 per million population) [1]. So, results from the last three years demonstrate that organ transplants in the Republic of Tatarstan are increasing, despite the severe epidemiological situation in 2020 due to the new coronavirus infection (COVID-19). However, the need for organ transplantation still exceeds the available transplant care. The number of waitlisted candidates for organ transplantation continues to grow due to organ shortage.

Organ shortage in Russia is man-made. Low public awareness on the principles of how organ transplantation authorities function, lack of organized educational work and portrayal of transplant surgeons in a negative light by mass media have led to the fact that potential donor reserves are used extremely inefficiently [3, 4]. Despite the fact that “presumption of consent” is proclaimed in the country, 78% of Russians are not ready to become donors after death [5]. Analyzing the results obtained from different age groups, the authors note a more “benevolent” willingness to become a donor among the younger generation as opposed to older respondents. In this context, the young generation of citizens who grew up in an era of easy access to information and brought up on the principles of voluntary activity may become potential target audience for promotion of organ donation as a socio-humanitarian phenomenon.

Proceeding from the foregoing, the **objective** of the present report is to study the position of young citizens of the Republic of Tatarstan concerning organ donation

and transplantation, analyze their awareness and perception of donor transplants and potential willingness to become organ donors.

## MATERIALS AND METHODS

An anonymous sociological survey of 880 respondents aged 18 to 35 years old in the Republic of Tatarstan was conducted in the period from January 1 till July 1, 2021. An 11-question questionnaire was developed with the use of online service Google Forms. The survey was voluntary in nature and dealt with the issues of understanding the terminology, awareness and perception of donor transplants and potential willingness to become organ donors.

## RESULTS

Among the respondents, 79.0% were females, and 21.0% were males. With respect to Religious affiliation, 33.5% were Muslims, 31.4% were Christians, 4.8% were supporters of Buddhism, Judaism and other religions, 25.1% were atheists, while 5.2% were agnostics, who do not deny the existence of God, but are not adherents of any religion. Theoretically, having a medical education should probably have a positive effect on a citizen's attitude towards transplantation. In this regard, we decided to find out the nature of the respondents' education. It turned out that 65.8% were not related to medicine, 8.5% had higher medical education, and 25.7% were studying at a medical university or college.

Among the respondents, 71.5% had a clear understanding of the term “organ donation”, 27.4% were not sure of their understanding, 1.1% did not have a clear understanding. About 56.8% considered the issue of organ donation for transplantation in the Republic of Tatarstan as a pressing matter, 3.5% did not see it that way, while 39.7% found it difficult to answer.

From our point of view, it is especially interesting that the overwhelming majority of respondents support post-mortem organ donation. After death, 35.9% would agree to become donors, 39.5% probably would agree, 9.3% probably would disagree, 5.6% strongly disagrees, 9.7% found it difficult to answer (Fig. 1).

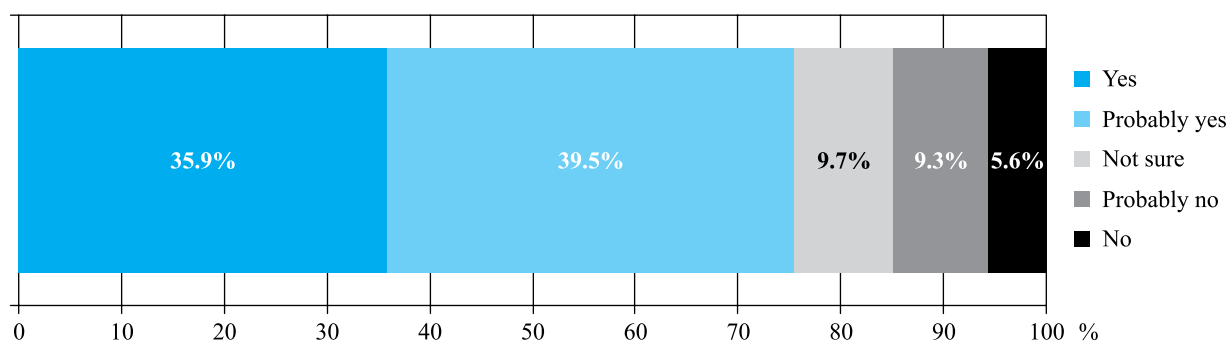


Fig. 1. Distribution of responses to the question: “Do you agree to become a posthumous organ donor (donate your organs to patients in need when you die)?” (in %, N = 880 people)

At the same time, 9.9% of the respondents argued why they were unwilling to donate their organs to another person: 6.9% were unwilling due to their religious beliefs, and 3.0% could not explain their unwillingness. Among other reasons, 0.7% cited their low awareness of the issue, and 0.7% said they were afraid of criminal death. About 0.45% of young Tatarstan respondents had not thought about death and its consequences, 0.34% were worried about their relatives.

At first sight, physicians, due to the specifics of their education, should be more confident about the problem. However, analysis shows that there is no significant qualitative difference between the answers of respondents with and without medical education.

The topic of organ donation, due to its close connection with death, is of great interest to the media, journalists, film and television show directors. On this basis, one of the questions of the questionnaire was formulated as follows: *“When you hear about organ donation, what kind of information do you most often receive?”* Neutral information was received by 49.7%, positive information by 30.3%, negative information by 15.5%, and no information on this topic by 4.5% of respondents. Among the notes, our attention was drawn to the comment: *“I don’t receive any information on Russia, only from other countries.”*

When compiling the questionnaire, we allowed respondents to suggest several options on how to raise public awareness of organ donation issues. So, 69.5% noted the need to publish cases of successful transplants in Russia; 68.4% suggested meeting real patients in need of organ transplantation, 51.1% proposed involving transplant surgeons in open discussion of the problem, 45.1% preferred engaging popular bloggers and opinion leaders, 45.1% proposed developing publishing educational video clips and materials, while 32.0% went with the view that religious leaders and religious associations should be involved in the discussion of the problem.

At the end of the questionnaire, we asked respondents to name the first 1 to 3 associations they could think of about organ donation. Analysis of the results showed that young people in most cases have positive associations with organ donation: 34.5% associate it with “life”, 25.1% with “help”, and 22.0% with “lifeline” (Fig. 2).

## DISCUSSION

Despite the fact that the majority of respondents identify themselves as belonging to a particular religious denomination, religion has almost no influence on the position regarding organ donation among today’s youth. At the same time, 32.0% of the respondents supported the idea of involving religious associations in the discussion of the problem. This indicates expediency of potential

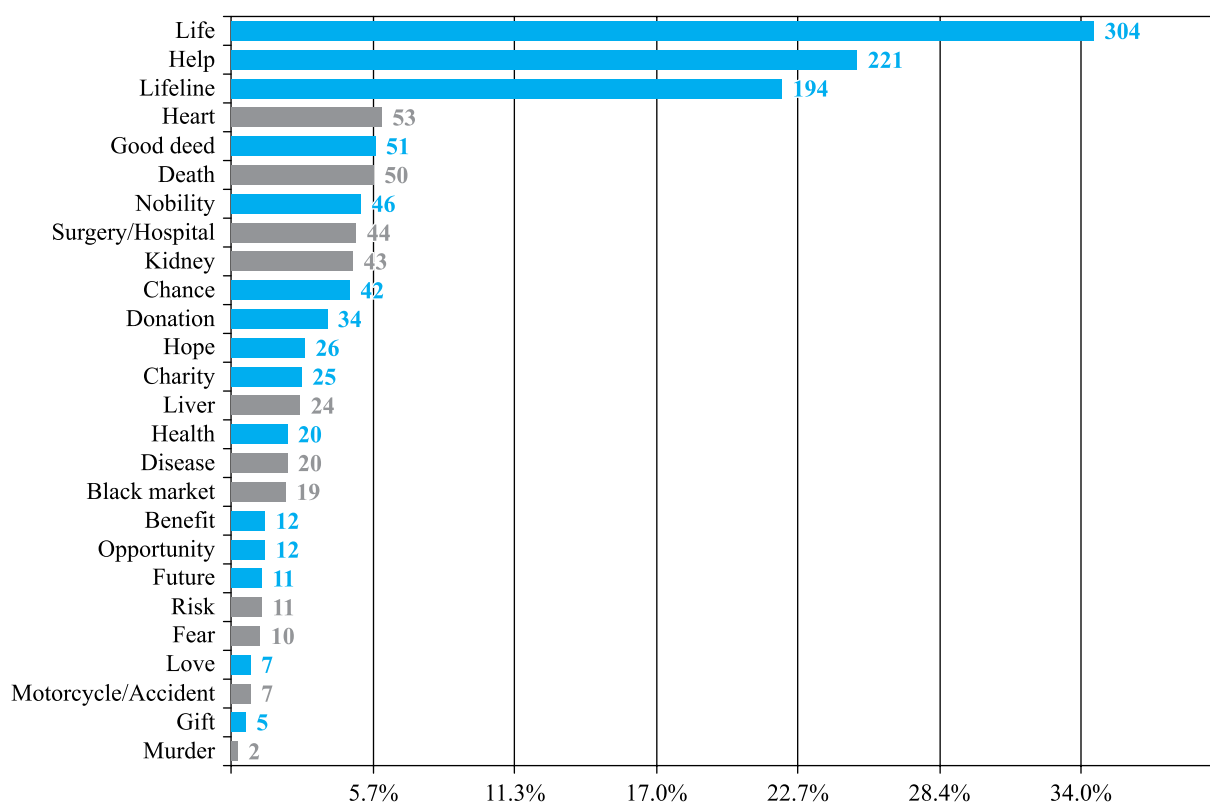


Fig. 2. Distribution of responses to the question: “Write 1 to 3 first associations that come to mind when you hear about organ donation” (up to 3 answer options, N = 880 people)

cooperation with religious organizations in the issue of popularizing organ donation.

In our opinion, the lack of increased involvement of people with medical education in the problem of donation is ambiguous. Despite the dominant positive attitude toward the problem, unfortunately, myths about the criminal nature of organ donation are widespread among “medics” as well as among “non-medics”. In our opinion, this requires modernizing medical education with compulsory inclusion of the discipline “Basics of transplantology and organ donation” in the curriculums of medical universities [6]. On one hand, this will increase the level of professional skills of the graduates, and, on the other hand, it will give impetus to the development of transplantology not only in megacities, but also in Russian regions. In this regard, elective course “*Basics of Clinical Transplantology and Organ Donation*” was introduced into the educational program for the 2021 academic year at the Department of Emergency Medical Care and Simulation Medicine, Institute of Fundamental Medicine and Biology, Kazan (Volga Region) Federal University, and a student research and practice group of transplantology, organ donation and experimental surgery was organized.

Analysis of questionnaires shows that the respondents have a general positive attitude towards organ donation. On one hand, this fact can be connected with the young age, maximalist and, in some way, frivolous approach to their life and health. However, the reasoned position, the request for specific information initiatives and the positive nature of the associative series, on the other hand, allow us to speak about the personal traits of a modern young person that fit into the generational theory [7–9]. In this regard, we consider it expedient to develop an accessible, interdisciplinary format of interaction with young people to involve them in the discussion of the problem and strategically stimulate their donor potential following the example of foreign countries [10].

On the basis of the above-mentioned, with the participation of the staff from the Department of Emergency Medical Care and Simulation Medicine, Institute of Fundamental Medicine and Biology, Kazan (Volga Region) Federal University, an organ donation development center “*Donate Life Russia*” was organized in 2020 at the Medical Law Clinic, Kazan. This is the first social project in the Republic of Tatarstan to promote organ donation. In 2020, the project received grant support from the Federal Agency for Youth Affairs (Rosmolodezh) [11]. The project raises awareness among the youth of the republic through modern and comprehensible content. Lectures and discussions are attended by specialists in the field of health care, transplantology, charity, volunteering, as well as lawyers and opinion leaders.

So, in general, the youth of the Republic of Tatarstan are ready for an open discussion of the problem of organ donation. The majority of the respondents support organ donation, associating it with noble causes. Nevertheless, there is a need to develop understandable and supportive resources to raise awareness among young people about organ donation.

## CONCLUSION

1. Young people in the Republic of Tatarstan are ready for a meaningful discussion of the problem of organ donation; they mostly associate this topic with noble causes.
2. Taking into account the interest in the problem and the insufficient awareness among the target audience, independent academic disciplines on transplantology and organ donation should be included in the curricula of medical universities in Russia.
3. Modern interdisciplinary information and educational resources should be attracted to promote organ donation among the Russian public.

*The authors declare no conflict of interest.  
Each author contributed 25% to the study.*

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