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DOI: https://doi.org/10.30749/2594-8261.v8n2p77-97

USING BEHAVIORAL ECONOMICS IN PUBLIC POLICIES TO INCREASE ORGAN DONATION

UTILIZANDO LA ECONOMÍA CONDUCTUAL EN LAS POLÍTICAS PÚBLICAS PARA AUMENTAR LA DONACIÓN DE ÓRGANOS

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Abstract: In recent decades, scientific advancements and investments in the healthcare system have reduced biological rejection in organ transplants and enabled more efficient logistics to support these procedures. However, while there has been an expansion in the infrastructure for transplant services, it is observed that organ donation rates in Brazil have not kept pace with this growth, resulting in a deficit of available organs and longer waiting lists. This article aims to address whether it's possible to increase the number of organ donors through the use of insights from behavioral economics, also known as nudges. To achieve this, a statistical survey of transplants in Brazil based on official records will be conducted, along with a compilation of existing legal frameworks in the country. Subsequently, a literature review of behavioral economics concepts will be presented, alongside an analytical examination of their practical contributions in implementing public policies. The conclusion suggests the feasibility of using opt-out and mandatory choice systems, as these interventions can increase the number of organ donors and contribute to saving lives without affecting the donor's or their family's freedom of choice.

Keywords: Economic Law; Behavioral Economics; Public Policies; Nudges; Organ Donation.

Resumen: En las últimas décadas, los avances científicos y las inversiones en el sistema de salud han reducido el rechazo biológico a los trasplantes de órganos y han hecho posible una logística más eficiente para respaldar estos procedimientos. Sin embargo, si por un lado se observa la expansión de la estructura al servicio de los trasplantes, por otro lado, se constata que las tasas de donación en Brasil no han seguido este crecimiento, lo que genera un déficit de órganos disponibles y aumenta las listas de espera. Este artículo tiene como objetivo responder si es posible aumentar el número de donantes de órganos mediante el uso de percepciones de la economía conductual, también conocidas como 'Nudges'. Para ello, se realizará un análisis estadístico de los trasplantes en Brasil basado en registros oficiales, así como una recopilación de los marcos jurídicos existentes en el país. Luego, se presenta una revisión bibliográfica de los conceptos de la economía conductual y un

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examen analítico de sus contribuciones prácticas en la implementación de políticas públicas. Se concluye sobre la viabilidad del uso de sistemas de 'opt-out' y 'mandatory choice', ya que dichas intervenciones pueden aumentar el número de donantes de órganos y contribuir a salvar vidas sin afectar la libertad de elección del donante o de su familia.

Palabras clave: Derecho Económico; Economía conductual; Políticas públicas; Nudges; Donación de órganos.

Recebido em: 27/11/2023
Aceito para publicação em: 15/04/2024

1 INTRODUCTION

In recent years, medical advancements have enabled new surgical techniques and reduced rejection rates in transplants. Meanwhile, national transplant networks have expanded transportation, communication, and integration solutions among medical centers and transplant banks, increasing the speed and success of these procedures. However, specialists diagnose that the quantity of organs and tissues hasn't been sufficient to meet medical needs, a demand exacerbated by the increase in the population's life expectancy. Waiting lists grow worldwide, and many patients suffer and die while awaiting an organ that could save their lives (SEINER, 2004).

According to statistics from the Brazilian Transplant Registry (RBT[2]), as of March 2019, Brazil had 33,984 active patients on the waiting list for organs. The report also indicates that among several possible causes for non-donation, the most significant is the refusal of the potential donor's families. In about 40% of cases, organs or tissues from potential donors are not utilized due to lack of consent, either from the patients during their lifetime or from their relatives or guardians after death.

In response to the need to increase the supply of organs for transplants, researchers began to suggest the design and implementation of public policies based on behavioral economics—an area dedicated to understanding the human decision-making process—as a means to raise donor rates and address the transplant déficit (ANDRADE, 2020).

Scientists such as Richard Thaler, awarded the Nobel Prize in Economics in 2017, and Cass Sunstein, a professor at Harvard University, have openly advocated for the use of these alternative approaches, called "nudges," to increase consent rates for organ donations without interfering with citizens' freedom of choice.

Thus, our research problem arises: to analyze the feasibility of using insights from behavioral economics in formulating public policies to increase organ and tissue

[2] Brazilian Transplant Registry (BTR). Brazilian Association of Organ Transplants. Numerical data on organ donation and transplants performed by state and institution from January to March 2019. Available at: http://www.abto.org.br/abtov03/Upload/file/RBT/2019/RBT-2019-1%20trim%20-%20Pop.pdf"

donation in Brazil, surpassing the major hurdle for conducting transplants in the country.

The stages of this research can be outlined as follows: 1) synthesize the history of transplants in Brazil, supported by official records on organ donation, to subsequently examine the most relevant legal frameworks in the nation and diagnose the major problems to be faced at the national level; 2) conduct a literature review on Behavioral Economics (BE) to identify the most studied cognitive biases in this field and the primary foundations of behavioral incentives; and 3) examine how concepts from BE—especially presumed consent and mandatory choice—can be applied in the practice of public policies, based on previously implemented experiences, answering whether government actions based on nudges could alleviate the organ and tissue deficit in Brazil.

This article aims to contribute to the debate on public policies aimed at increasing the number of donors for transplants. Therefore, its results have practical, social, and economic implications, as transplants save lives, cure diseases, and alleviate the burden on the public healthcare system.

2 LANDSCAPE OF TRANSPLANTS IN BRAZIL

2.1 BRIEF HISTORY

The first human organ transplant was officially performed in 1954 in Boston, United States. Dr. Joseph Murray and his team replaced a sick patient's kidney with a healthy one donated by his twin brother. Both brothers survived the procedure and died years later from causes unrelated to the surgery, demonstrating the success of the operation (MURRAY et al. 1955; BARKER & MARKMANN, 2013).

In Brazil, organ and tissue transplants began in the 1960s with the country's first kidney transplants. The first heart transplant in Brazil (and the second worldwide) was performed in 1968 in São Paulo by Dr. Euryclides de Jesus Zerbini's team (LIMA & NETO, 2012, p. 2).

Since then, scientific innovations have increased the success rates of these procedures. A historic milestone was the approval of the drug cyclosporine in 1983 by the Food and Drug Administration (FDA). LASMAR (2003, p. 1) explains that this

medication can reduce the immune response to implanted organs and is still used today to treat transplant rejection.

Another notable medical advancement has been extending the time between organ removal and its installation in the recipient's body. In early transplants, donor and recipient had to be as close as possible for immediate transfer, avoiding the deterioration of donated organs. Nowadays, this time interval has significantly increased through technological innovations capable of maintaining cell function during transportation, increasing the operation's success rate (NASRALLA et al., 2018; SCHLEGEL et al., 2014).

The structure and resources available for transplants have also expanded. According to official data from the Ministry of Health, in 2017, Brazil had 27 Organ Notification, Capturing, and Distribution Centers; 14 national technical chambers; 506 Transplant Centers; 825 accredited services; 1,265 transplant teams; 63 Tissue Banks; 13 Public Umbilical Cord Blood Banks; 574 Intra-hospital Donation and Transplantation Committees; and 72 Organ Procurement Organizations.

In terms of investment, the Federal Government estimated that over 1 billion reais were allocated to the transplant field in 2017.

2.2 LEGAL FRAMEWORK IN BRAZIL

Law No. 4,280/1963 was the first to allow organ donation in Brazil. The text provided for "the removal of parts from a corpse for transplantation purposes" (art. 1[3]), subject to prior authorization from the donor or in the absence of opposition from their family. There was no explicit objection regarding non-gratuitous donation, a gap that might have allowed for organ commercialization (MAYNARD et al, 2015, p. 126).

To correct these and other misconceptions, Law No. 5,479/1968 was formulated, which repealed the previous law. This new text prohibited onerous disposal of the body (art. 1[4]) and removed the controversial terms "remove" and

[3] Article 1 - The removal of parts from a cadaver for transplant purposes is permitted, provided that the deceased has left written authorization or there is no opposition from the spouse or relatives up to the second degree, or from religious or civil institutions responsible for the disposal of the remains

[4] Article 1 - The free disposal of one or more parts of the body post mortem for therapeutic purposes is allowed under the terms of this Law." Law No. 5,479/1968

"deceased person," criticized at the time. Like the initial legislation, it required explicit consent from the donor and, in omitted cases, family consent (MAYNARD et al, 2015, p. 127).

The Federal Constitution of 1988 expressly prohibited the commercialization of organs in its art. 199, § 4[5], also providing for the advent of ordinary legislation to regulate transplants.

In 1997, important innovations occurred: the advent of the "Transplant Law" and the creation of the National Transplant System (SNT) and the Organ Notification, Capture, and Distribution Centers (CNCDOs). The SNT and CNCDOs were conceived by Presidential Decree No. 2,268/1997, aiming to develop the process of collecting and distributing tissues, organs, and body parts removed from humans for therapeutic purposes.

The Law No. 9,434/1997, also known as the "Transplant Law," replaced the 1968 regulation. This new text ratified the "free disposal of tissues, organs, and body parts (...) for treatment or transplant purposes" (art. 1) and established the need to prove the donor's brain death (art. 3).

The Transplant Law of 1997, in its article 4, also brought about a significant change by introducing the institute of presumed consent. Let's see article 4 in its original form:

> Art. 4. Unless otherwise expressed, as per this Law, it is presumed authorized the donation of tissues, organs, or body parts, for transplant or post-mortem therapy purposes. (Law No. 9,434/1997 - original wording of article 4, subsequently revoked)

According to this consent model, anyone who did not state their condition as a "non-donor" in their official identity documents was considered a presumed donor. The norm aimed to increase organ donations in the country but did not receive good reception in Brazilian society. Contrary to expectations, "the new legal context did not achieve the purpose of increasing organ supply; on the contrary, thousands or

[5] Article 199, Paragraph 4. The law shall provide for the conditions and requirements that facilitate the removal of organs, tissues, and human substances for transplantation, research, and treatment, as well as the collection, processing, and transfusion of blood and its derivatives, prohibiting all forms of commercialization." Federal Constitution of 1988

millions registered themselves as 'non-donors' in official documents" (ALMEIDA, 2012).

The measure was called, in the media and public debate, "compulsory donation" and "coercive donation," causing a lot of confusion. Dr. José Roberto Goldim reports:

> The law established that the individual's denial should be recorded on the ID Card or the National Driver's License. However, a large part of the population, especially those from the poorer classes, do not possess these documents. (...) [There was] fear that organs could be removed from a patient still alive, based on the possibility of using the prerogative of presumed consent. With the enforcement of the new law since January 1, 1998, many people sought the responsible authorities for issuing the documents mentioned in order to change them. There were even confusions that it would not be possible to register as a non-donor after December 31, 1997 (GOLDIM, 2012).

Although the law was clear and preserved the freedom of choice of all citizens, the topic generated controversy. Thus, in 1998 and 2000, the original text of Law No. 9,434/1997 underwent changes[6], leading to the edition of Law No. 10,211/2001, which removed the possibility of presumed consent through the amendment of article 4, as follows:

> Art. 4. The removal of tissues, organs, and body parts from deceased individuals for transplants or other therapeutic purposes will depend on the authorization of the spouse or relative, of legal age, following the straight or collateral, up to the second degree inclusive, subscribed in a document signed by two witnesses present at the death verification. (Law No. 9,434/1997, wording given by Law No. 10,211/2001)

Despite the exclusion of presumed consent, Law No. 9,434/1997 remains in force to this day and constitutes one of the fundamental parts of the transplant legislation in the national legal system.

[6] A Medida Provisória (MP) nº 1718/1998 previa que a família poderia se manifestar contra o consentimento presumido, obstando-o. Já a MP nº 1.959-26/2000 praticamente anulou o consentimento presumido, restabelecendo, em seu art. 4º, a autorização expressa da família como condição para a retirada de órgãos.

The Civil Code of 2002 introduced two provisions regarding organ donation. Article 13[7] prohibits the act of disposing of one's own body while alive, and article 14[8] allows the free disposal of one's own body after death. In practice, these norms did not bring substantial modification to the legal treatment given to the subject, as both the prohibition in article 13 and the possibility allowed by article 14 were already provided in the 1997 Transplant Law.

More recently, in 2016, former President Michel Temer signed Decree No. 8,783/2016[9], allowing the Ministry of Health to request support from the Brazilian Air Force (FAB) for the "transportation of organs, tissues, and body parts to the location where the transplant will take place or, when indicated by specialized teams, for the recipient's transportation to the transplant site." In 2017, another decree[10] by Michel Temer extended the prerogative of deciding on the destination of a potential donor's organs to the deceased's partner as well.

2.3 CURRENT NUMBERS AND CHALLENGES

Data from the 2017 International Registry on Donation and Transplantation of Organs show that Brazil ranks second globally in absolute numbers of kidney (5,929) and liver (2,113) transplants, behind only the United States. However, when considering the relative number, i.e., proportional to the population, Brazil ranks only 25th (among 44 countries) in kidney transplants and holds the 21st position (among 50 countries) concerning liver transplants. These figures indicate that, despite having one of the largest transplant systems globally, Brazil has a relatively low donor percentage compared to other nations.

In March 2019, the Brazilian Transplant Registry (RBT) released a report showing that there were 33,984 people on the transplant waiting list in Brazil, including 660 children. Only in the first quarter of 2019, 806 people died while waiting

[7] Article 13 - Except when medically required, the act of disposing of one's own body, when it involves a permanent decrease in physical integrity or contravenes good customs, is forbidden. Sole paragraph. The act foreseen in this article will be allowed for transplant purposes, in the manner established by special law."

[8] Article 14 - It is valid, for scientific or altruistic purposes, to dispose of one's own body, in whole or in part, for after death. Sole paragraph. The act of disposal can be freely revoked at any time."

[9] Decree No. 8,783/2016, amending Decree No. 2,268/1997.

[10] Decree No. 9,175/2017, regulating Law No. 9,434.

for an organ, indicating that by the end of this year, the transplant queue could accumulate more than 3,000 deaths. The partial report of 2019 brings another concerning data: there was a decline both in the number of donors and in the percentage of utilized donated organs.

The situation, deemed "very difficult" by the Brazilian Organ Transplant Agency (ABTO), involves a lack of donors. This can be partly explained because a significant portion of families refuses to donate. According to the RBT's annual report of 2018, the rate of family non-authorization was 43%, being less than 35% only in Paraná (27%) and Santa Catarina (33%), exceeding 70% in Roraima (73%), Piauí (74%), and Mato Grosso (80%). The most recent bulletin, from 2019, shows that there was family refusal in 39% of cases.

Resistance to donation, therefore, is the biggest problem to be faced. Among the reasons that dissuade people from registering as donors are: religious issues; distrust in medical teams and hospitals; lack of understanding about brain death; belief in a black market for organs; issues of deservingness (for example: fear that the organ or tissue will go to a "bad" person, for instance, someone who has committed a heinous crime). Finally, many people in life do not register as donors due to discomfort in discussing their own death, and others, out of distraction: they simply forget to address this issue while alive (WEN, 2014).

Behavioral scientists attribute part of these omissions from potential donors to rationality failures. Therefore, they suggest changes in public policies as a way to circumvent these failures and increase organ donation, which will be demonstrated in the following chapters.

3 BEHAVIORAL ECONOMICS AND NUDGES

Starting from the 1960s, economists and psychologists began to delve deep into the process of human decision-making. These efforts were led by Herbert Simon[11], Amos Tversky, and Daniel Kahneman, who identified rationality failures and

[11] Herbert Simon (1916-2001) was the winner of the Nobel Prize in Economics in 1978. Among other contributions, Simon proposed the existence of cognitive limits in individual behavior, developing the theory of 'bounded rationality.' The term, which first appeared in 'Models of Man' (1959), was one of the starting points for behavioral economists and psychologists to challenge the homo economicus, the classical model of an agent that prevailed until then in neoclassical economics.

cognitive biases[12] as influences in an individual's decision-making process. The development of this research culminated in Prospect Theory, published by Kahneman and Tversky in 1979. In this work, scientists challenged concepts from neoclassical economics, such as expected utility theory, which posits that a decision-maker, faced with various choice possibilities, would behave to maximize their well-being. In this regard, the researchers concluded that:

> The decision weight associated with an event will depend primarily on the perceived likelihood of that event, which could be subject to major biases. In addition, decision weights may be affected by other considerations, such as ambiguity or vagueness. (KAHNEMAN & TVERSY, 1979, p. 269)

Behavioral scientists argue that humans are subject to cognitive biases, i.e., judgment errors capable of distorting the decision-making process (KAHNEMAN & TVERSY, 1974, p. 1124). They also point out that, from a rationality perspective, individuals often fail in their choices, for example: not saving for the future, persisting in proven harmful habits, such as smoking, and failing to pay taxes simply due to forgetfulness, but end up paying them later with fines and penalties (ANDRADE, 2021).

Based on these rationality failures, a stream of behavioral economists began advocating for interventions that could guide individuals to make more rational decisions, improving their own well-being and that of the society they live in (ANDRADE, 2020). These interventions should be formulated with the aim of bypassing biases, i.e., the rationality failures that would lead the individual to make poor choices and persist in errors.

Therefore, this stream conceived "libertarian paternalism," that is, the idea that it is permissible to "guide" the individual decision-making process through behavioral interventions, as long as these practices are not coercive and respect the citizen's autonomy. These scientists argue that libertarian paternalism is an

[12] Cognitive biases are unconscious mental processes capable of influencing the decisions and judgments people make. Among the numerous biases that exist, we can mention: anchoring bias (the tendency to disproportionately fixate on a first impression when analyzing a subject), status quo bias (the preference for things to remain relatively the same), and loss aversion (the tendency for an individual to be more emotionally impacted by the loss of a value X than by an equivalent gain).

"approach that preserves freedom of choice but authorizes both public and private institutions to guide people in directions that will promote their well-being" (THALER & SUNSTEIN, 2003, p. 179).

Cass Sunstein and Richard Thaler maintain that there are no truly neutral policies because choices always have to be made. To demonstrate this point, they provide the example of a cafeteria, where a manager has to organize products on the shelves. They would have the following options: a) arrange the products so that their customers make the most of them; b) make random choices; c) organize the items maliciously to make their customers as obese as possible. The scientists argue that while option A may seem "paternalistic", options B and C make little sense (ibid, p. 175).

The aim of the example is to show that there are two common misconceptions about libertarian paternalism. The first is to imagine that there are viable alternatives to it. As demonstrated in the cafeteria case, there will always be someone responsible for designing a choice context in which other people make decisions. This person will be in the position of "choice architect" and will inevitably organize them according to some criteria and restriction. The second misconception is to suspect that organizing choices involves coercion. The scientists counter this claim, arguing that libertarian paternalism preserves the individual's choice. In the cafeteria case, for example, organizing the products on the shelves does not force the customer into anything, does not interfere with their freedom of decision, and is not coercive (ibid, p. 176).

If there is no coercion, the authors say, it would be possible and viable to apply libertarian paternalism, both in the public and private spheres, as a way to overcome cognitive biases, guiding the individual's decision-making towards more desirable decisions.

Since the emergence of libertarian paternalism, the influence techniques studied and disseminated by behavioral experts have been called by different names in the scientific literature: "approaches," "incentives," "suggestions," "nudges," etc. Years later, in describing these behavioral approach models, Sunstein and Thaler (2008) adopted the term Nudge to refer to these interventions.

In its original sense, *Nudge* represents a kind of subtle "poke," usually with the elbow, to draw attention to something. Thus, Nudge is just one way of naming

these small incentives that seek to reverse or mitigate the effects of cognitive biases, directing individuals' choices in a more rational direction (ibid, p. 13).

Recent economic literature has demonstrated the success of behavioral economics-based approaches. For example, through the Save More Tomorrow Plan[13] (SCHOLMO & THALER, 2004, pp. 164-187), scientists used Nudges to overcome biases such as status quo and loss aversion, encouraging employees to invest more in savings funds.

In the UK, government economists were able to increase federal revenue by sending emphatic letters and text messages to delinquent taxpayers. Intentionally and well-crafted, these Nudges drew the debtors' attention to the strict criminal penalties associated with tax evasion. The approaches also included other impactful resources, such as the slogan "The good citizen pays their taxes." According to a government report (2015, p. 35), this set of "nudges" stimulated the payment of 210 million euros in the 2012/2013 period, avoiding enforcement actions and reducing expenses on court officials and tax demands.

Finally, one of the major studies in behavioral economics focuses precisely on modifying the choice context in organ donation to stimulate an increase in the number of donors.

The idea of interfering with the choice context to boost donations isn't exactly new. In fact, some European countries, like Austria, have been adopting it with notable success since the 1980s.

However, framing donation public policies through the lens of behavioral economics can bring several advantages, including: a) describing and explaining the phenomenon of opt-out systems, adding theoretical underpinnings such as the study of biases involved; b) empirically verifying the success of these policies through research that highlights their outcomes; and c) contributing, based on theories,

[13] "Save More Tomorrow" (THALER & BENARTZI, 2004, pp. 164-187) is an intervention designed to encourage individuals to engage in retirement plans, aiming to help overcome biases and maintain a stable savings plan. Initially, researchers asked people to commit to saving more in the future, avoiding the bias of the present—a sort of mental weakness for immediate gratification. Subsequently, increases in savings rates were linked to salary raises. This minimized the bias of loss aversion because when receiving a raise, the employee allocated it to the plan, continuing to receive the same net salary as before. Lastly, a significant portion of enrolled savers stayed in the program due to the status quo bias, meaning they remained in it out of inertia. The project recorded a substantial increase in average savings rates (from 3.5% to 13.6% over 40 months), demonstrating that behavioral interventions can be effective in helping individuals correct decision-making errors.

experiments, and evidence, to the creation and refinement of Nudges for organ donation.

The next chapter contains an analysis of presumed consent systems, also known as opt-out, from the perspective of behavioral economics. It will also examine mandatory choice, an interesting way to consult citizens, while still alive, about the fate of their organs after their death.

4 USING NUDGES TO INCREASE ORGAN DONATION

4.1 PRESUMED CONSENT AND THE OPT-OUT SYSTEM

Presumed consent has been proposed as a means to boost organ donations. This idea stems from the fact that throughout life, humans tend to avoid making public impact decisions out of inertia, due to the status quo bias (THALER, 2009).

In the case of organ donation, an individual's omission about the destiny of their organs typically leads them to default to the standard rule, or default, in many countries like Brazil and the United States, where they are presumed non-donors (THALER & SUNSTEIN, 2008, p. 175).

In this regard, JOHNSON & GOLDSTEIN (2003, pp. 1338-1339) conducted an online survey asking people if they were willing to be donors. They organized three different choice scenarios and found that when individuals had to actively opt-in to be donors, only 42% did so. In a presumed consent context, where those who didn't want to donate had to actively refuse (opt-out) donor status, there were 82% donors. In a neutral scenario without a default condition, 79% declared themselves as donors. It was concluded that although most Americans are willing to donate their organs, the requirement for explicit and active consent has prevented many donations from materializing.

A study by KURTZ & SAKS (1996) confirms this trend. The researchers showed that among all respondents who declared themselves as organ donors, 64% had included this information on their driver's license, while only 36% had signed an organ donor card.

Based on these and other studies, behavioral economists propose changing this default rule, instituting presumed consent as the default. Thus, non-donor individuals would need to register a document with the government opting out of the default rule (THALER & SUNSTEIN, 2008, p. 175).

Presumed consent can be divided into "strong" opt-out or "soft" opt-out. In the former, in the event of a deceased individual who did not express a preference in life regarding donation, consent is presumed regardless of family wishes. In the case of "soft" opt-out, presumed consent remains the default, but the family has the right to prevent donation, having the final say on organ retrieval (BRAMHALL, 2011).

Since 1982, Austria has adopted a policy of tacit consent, presuming permission for donation in patients with diagnosed brain death unless they have specifically registered this refusal through opt-out, which involves submitting a form called the "Opposition Register" to the authorities.

In addition to the "Opposition Register," any form of expression of will (e.g., an informal document found among the deceased's identification papers or a verbal statement made in the presence of family members) has been respected.

LI & NIKOLKA (2016, p. 91) suggest that the opt-out system may have contributed to increased organ donations in Austria and to the success of its transplant system. They show that in 2014, Austria had a rate of 24.94 deceased donors per million inhabitants, whereas Germany, a culturally similar country, had a rate of 10.45 donors. In the same year, Denmark (which uses opt-in) had 14.29 deceased donors per million inhabitants compared to Finland, which adopts presumed consent and had 22.41 donors.

JOHNSON & GOLDSTEIN (2003, p. 1338) observed a similar trend when comparing various countries with different default rules. For instance, the consent rates in nations like Austria (99.98%), Belgium (98%), and Sweden (85.9%), which adopt opt-out, are much higher than rates in countries with similar cultures such as Germany (12%), Netherlands (27.5%), and Denmark (4.25%), where consent for donation is not presumed (opt-in system).

4.1.1 Critiques of Presumed Consent and the Resumption of the Debate in Brazil

The presumed consent system faces some objections in the scientific literature (FABRE, 2014; BRAMHALL, 2011). Its opponents argue, for example, that Spain, the country with the highest organ donation rate globally, does not[14] use the opt-out system. Instead of altering legislation, these scholars suggest an enhancement in how families are approached by social and healthcare agents to address doubts, clarify misunderstandings, and reduce refusals in donations (FABRE, MURPHY & MATESANZ, 2010; FABRE, 2014).

Although proposing other ways to increase organ donation without instituting the opt-out system, opponents of presumed consent themselves acknowledge that it can have a positive effect on donation, especially if the implemented model is of "strong presumed consent," meaning it cannot be prevented by the family (FABRE, 2014).

As seen before, the Transplant Law of 1997 failed in its attempt to introduce presumed consent in the national legal system through its Article 4, which allowed organ donation unless there was an opposing expression.

In our view, this failure should not hinder a new discussion attempt. Firstly, because there's evidence[15] of poor communication from the government and significant confusion about the topic (GOLDIM, 2012). As observed, the institute was mistakenly labeled as "compulsory donation" and "coercive donation," even though it is not because Law No. 9,434/1997, in its original text, always ensured the individual's freedom of choice regarding the destiny of their organs.

In a new debate, improved communication from legislative and governmental agents could play a fundamental role in informing society about the importance of presumed consent for the transplant sector as a means to save lives and alleviate the suffering of families and patients in need of an organ. Simultaneously, it's necessary to combat misinformation and prejudices, substantiated in reports that presumed consent would be "compulsory" and "inhumane."

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[14] Indeed, although Spain has presumed consent legislation, implemented in 1979, it is currently inactive (FABRE, MURPHY & MATESANZ, 2010, p. 3).

[15] According to Ben-Hur Ferraz Neto, president of the Brazilian Association of Organ Transplants (ABTO) during the 2014-2015 term, as at that time the government did not conduct an intensive awareness campaign about presumed donation, people interpreted the law as being compulsory, which sparked negative reactions. Available at https://veja.abril.com.br/saude/projeto-quer-reimplantar-doacao-presumida-de-orgaos/

Another reason to reopen the discussion is that, more than 20 years after the controversy, there are better conditions to debate the issue. The importance of transplants is more recognized, and even traditionally conservative sectors, such as the Catholic Church, have positioned themselves in favor of organ donation (CNBB, 2008). Moreover, the widespread access to the internet and high interactivity on social media could contribute to fostering a more transparent and democratic debate.

Finally, understanding the opt-out system as a Nudge, that is, in the light of behavioral economics, allows this idea to be supported by existing theoretical foundations and evidence, providing robust scientific support for the development of public policies for organ donation based on presumed consent.

4.2 MANDATORY CHOICE

Another behavioral approach to increase organ donation is the so-called mandatory choice (HERZ, 1999), where people are legally required to express their preference on public policy issues. Mandatory choice utilizes the same behavioral basis as the default option, as it aims to stimulate desirable choices that are often not made due to agent inertia.

However, the application of mandatory choice as a Nudge may, depending on the context, receive greater acceptance than presumed consent because it does not assign a default choice to the individual but only compels them to make a decision.

Richard Thaler (2009) reports that mandatory choice was successfully implemented in the U.S. state of Illinois. Starting in 2006, all citizens applying for or renewing their driver's licenses in the state must compulsorily state their choice regarding the donation of their organs. According to the scientist, after the introduction of this measure, the donor rates in the state reached 60%, contrasting with the national average of 38%.

In a similar vein, mandatory choice was adopted in 2011 as a Nudge to encourage organ donations in the UK, at the suggestion of the Behavioural Insights Team. At the time, there was no public consensus around adopting opt-out, which was rejected by local Muslim minorities.

The positive results of mandatory choice and the impact of the Max and Keira case[16] increased the number of donors and intensified debates about presumed consent in the country, culminating in the approval of the "Max's Law," which institutionalized the opt-out system for organ donation in March 2020. Thus, those who do not wish to donate their organs can register their decision on the NHS Organ Donation Register website.

Before implementing the measure, the government launched a public awareness campaign to ensure that people understood the new system and the options to be chosen. Minors under 18 and people lacking the mental capacity to understand changes for a significant period before their death were excluded from the new system.

5 CONCLUSION

This study showcased the historical origins of transplantation and the legal landmarks concerning organ and tissue donation in Brazil. It also provided an overview of the transplant system in the country, presenting updated statistics and relevant information for understanding the current scenario.

The analyzed data highlight a concerning situation, depicting a sustained increase in demand and a deficit in the number of organs and tissues available for transplantation. The deaths and suffering of tens of thousands of people on Brazilian transplant waiting lists demand a consistent response from the Public Authorities.

In the context of public policies, the use of approaches formulated in light of behavioral economics (Nudges) presents itself as a viable, efficient, and low-cost solution, given that scientific literature confirms that these Nudges, by bypassing the influence of cognitive biases, end up increasing the number of donors. Among these approaches are included altering the default rule, defining presumed consent as the default, and mandatory choice, a system that requires citizens to decide, even in life, regarding the fate of their organs.

[16] In 2017, following a campaign by The Mirror newspaper, British boy Max Johnson received a transplanted heart that saved his life, sparking an intense debate in the United Kingdom about the opt-out system. The heart came from the girl Keira Ball, who died in a traffic accident and donated organs that helped save three other lives. Available at: https://www.mirror.co.uk/news/uk-news/i-know-its-what-shed-12048832

It's true that policies like presumed consent have been implemented in Europe since 1980. However, recent studies in behavioral economics offer the possibility of understanding these policies and developing them based on scientific methods, thereby expanding their potential, legitimizing their implementation, and optimizing results.

The failure of attempting to introduce presumed consent into the Brazilian legal system under Law No. 9,434/1997 was also reported. However, it was considered that the emphatic popular rejection occurred in a context of strategy errors and government communication failures. Reopening the debate, in a more open and informative manner, was suggested so that presumed consent could be reconsidered and eventually implemented, with the aim of alleviating the organ deficit and reducing the suffering of thousands of people.

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