

Neoliberal governmentality, strategies and their effects: problematizations around stem cell biobanks

Governamentalidade neoliberal, estratégias e seus efeitos: problematizações em torno dos biobancos de células-tronco

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ABSTRACT | The article aims to approach an analysis, in the form of an analytical essay regarding the practices of guarding stem cells. The so-called personalized and regenerative medicine emerges linked to neoliberal capitalism and to a modality of conduct based on biomedicine and a life management policy focused on the neoliberal insurance market. Health was transformed into a trade in cells and sustained by the tactics of bioeconomics, biovalue and biotechnologies, articulated in a governmental device that regulates healthy being, based on the purchase and sale of biomolecular and genetic materials. In conclusion, we seek to question the way of organizing and functioning of public and private umbilical cord stem cell banks and the effects of these biopolitical mechanisms.

KEYWORDS: Stem cells. Bioeconomy. Regenerative Medicine. Government. Neoliberalism.

RESUMO | O artigo visa abordar uma análise, em formato de ensaio analítico a respeito das práticas de guarda de células-tronco. A chamada medicina personalizada e regenerativa emerge ligada ao capitalismo neoliberal e a uma modalidade de governo das condutas baseada na biomedicina e em uma política de gestão da vida focada no mercado neoliberal securitário. A saúde foi transformada em um comércio de células e sustentada nas táticas da bioeconomia, do biovalor e das biotecnologias, articuladas em um dispositivo de governamentalidade reguladora do ser saudável, a partir da compra e venda de materiais biomoleculares e genéticos. Concluindo, busca-se interrogar o modo de organizar e funcionar dos biobancos públicos e privados de células-tronco do cordão umbilical e os efeitos destes mecanismos biopolíticos.

PALAVRAS-CHAVE: Células-tronco. Bioeconomia. Medicina Regenerativa. Governo. Neoliberalismo.

Introduction

This article is an analytical essay aiming to problematize the practice of building Brazilian public umbilical cord banks aiming to capture the largest possible number of stem cells from the donation of material during delivery. Campaigns are launched to defend universal access to the so-called Brazilian genetic heritage. The defense of access to regenerative therapies is part of the demands in a context marked by biological governmentalities of the somatic type. The defense of access is unequivocal, after all, why would only some people have access to therapies and others not when what divides them are economic barriers? The question thus posed seems to be a naive answer, but it is necessary to problematize it.

The defense of the increase in the volume of stem cells and access to regenerative medicine therapies mobilizes a discursive game that highlights strategies and effects of neoliberal governmentality that must be questioned. Even with strategies to increase the number of umbilical cord stem cells available by the public sector, services in Regenerative Medicine in Brazil aggravate, albeit, subtly, the social, cultural and economic situation of the population. Cardoso and Castiel (2003), at the conclusion of a work on genetics and collective health, underline a concern about the efforts of biotechnologies in mapping and sequencing “genetic problems” do not succumb to determinism and to deification, fetishization and / or dogmatization of genetic risks.

Waldby and Mitchell (2006) remind us that the clinical value of public stem cell banks lies in their redistribution as a gift in the market economy, which focuses on the need to accumulate as much biological material as possible. While, in storage for individual use of umbilical cells, that is, autologous, the economy revolves around the regenerative capacity of cells for their own use, in public banks, capital is withdrawn as a form of gift from the donor to the recipient, aiming at maximum cell accumulation. Santoro (2009) points out that this type of economy of public stem cell banks is flawed, given that, when reaching the maximum number of stored cells, their maintenance would become very expensive for the State.

Some contributions by Foucault to think about Neoliberal Governmentality

In the class of January 17, 1979, in the course Nascimento da Biopolítica, Foucault (2008) provides us with some fundamental clarifications to think about a critique of the unity of his work in the face of the dispersion caused by the investigation of apparently disparate or unrelated themes such as sexuality, criminal institutions and, in the case of the seminar in question, the market. It would deal with the genealogy of veridictional regimes, that is, with the analysis of the constitution of a certain right of truth based on a situation of law, since with the relationship between right and truth there is a privileged relationship in the discourse. The verification regime is not a certain law of truth, but the set of rules that allow to establish, regarding a given discourse, which statements can be characterized, in it, as true or false. Now, the political criticism of knowledge that I have proposed to you does not consist, precisely, in denouncing what would be continuously oppressive under reason, because after all, believe me, unreason is equally oppressive. The criticism proposed by Foucault (2008) is to determine under what conditions and with what effects a veridiction is exercised.

Looking at the past only to denounce a form of irrationality in it would not, for Foucault, have any political importance. Recall that 19th century doctors said sexuality-producing statements as the object of knowledge and power over bodies, and other speeches that constitute madness, only acquire political importance if we can determine the verification regime that allowed them to forge knowledge and activate powers locally in a politics of truth.

It is with this objective in mind that Foucault (2008) invites us to look at Liberalism as an 18th century art of governing. The reason of the minimal state or in the expression of Benjamin Franklin, the “frugal state”, outlined a whole series of reflections on the liberal art of governing that are born from the overlapping of the reason of State with a Political Economy.

The market and this, since the end of the Middle Ages, was considered a place of justice, a place endowed with regulation as to the objects to be taken to that same market, as to the origin of the product, as to the right to be paid, as to the procedures and, more fundamentally, regarding the prices charged. Here, Foucault points out that there is a certain juxtaposition

between the thought of law and economics in establishing the notion of fair price.

Foucault shows us that there is a wide reflection among economists and jurists on the theory of fair price. In fact, by pointing to this juxtaposition of public law and economics in the work of thinkers like Adam Smith and Jeremy Bentham, Foucault circumscribes the original pertinence of the problem of political economy and the limitation of public power. In other words, the set of problems in the 19th and 20th centuries that prompted the production of economic legislation would be sustained by an alleged separation between government and administration. The market, as a system of price regulation and sanction of fraud against the consumer, started to function as a place of justice and not just jurisdiction.

The reflection on the fair price is one of the central problems involved in the practices of creating an economic legislation in the new reason of government that sees in the market the place of justice. It resumes medieval scholasticism from the Aristotelian doctrine of commutative justice, about what should be the right price, which should maintain a certain relationship with the work done, the needs of the traders and the needs and possibilities of the consumers.

It is interesting to note that, in reflecting on the fair price, market regulation is necessary so that it can be the place of distributive justice, because, for a certain number of fundamental products, such as food, the rules of the market, in the reflection of liberal theorists, made it possible to reach an arrangement in which at least some of the poorest could buy like the rich. However, it is necessary to take into account, from the thinking of these same liberal theorists, some points widely demonstrated by Foucault in neoliberal rationality. First, it is the various actors involved in price regulation that point to the construction of the market as the intersection of multiple interests. Second, the justice obtained by the market is due to the conservation of a certain framework of economic differences that would be useful to the State (Foucault, 2008).

Such a state of conservation of differences is justified by a naturalizing mystification of the market and the social order, since the role of the State in this framework of reflections is to establish laws

and prices do nothing more than maintain "social homeostasis". In short, the role of the state is to maintain laws that are "useful" to society. From that point on, all the rationality of government will be subsumed to a notion of "utility" whose character is absolutely tautological and conservative. For the question of why there is a particular picture of social inequalities, this rationality will answer that these inequalities exist because they are useful to some extent. And the question of why they are useful will be answered using the simple fact that they exist. It is at this point that, for Foucault, utilitarianism "appears as something different from a philosophy, something quite different from an" ideology ". (Foucault, 2008: 56) and becomes a government technology.

Therefore, the market becomes an entity that obeys natural laws, spontaneous mechanisms - a view that will later recapture the current of thought that became known as Social Darwinism, the motto "the most adapted survives" - and at the same time, as a place of verifiability for government practice, that is, good government is one capable of maintaining a good market like this, it was a mere evolution of market forces.

Neoliberal Governance Strategies in Biobanks

In Brazil, a large portion of the population uses the private health system even though it is a country that has full health coverage through the Unified Health System (SUS), which intends to offer free services to all those in need. Immersed in this logic, public and private banks of stem cells from the Brazilian umbilical cord end up reinforcing health privatization, segmentation and social inequalities (Galindo, Lemos, Rodrigues, 2014).

People are divided into two groups: those who only have access to public health services and those who can afford and have private services, but who are constitutionally assisted by public health (Cordeiro, Conill, Santos, Bressan, 2010). Mendes (2012) emphasizes that the various spaces considered public, or even the field of affective, social and cultural relationships that cross society, become the object of economic investment and, in some cases, are managed by private companies, producing the following effects:

a) the “public space” moves to the financial market, which now represents the multiple subjects and their assets; b) what remains of the “public”, linked to the State (sovereignty), serves to guarantee the necessary conditions for this wide generalization of company-form, man-enterprise and society, extracting from there its source of legitimacy and capacity for action politics (Mendes, 2012: 74).

A neoliberal security governmentality based on agencies of bioeconomic calculation, production of enunciative games of truth and the formation of control networks for the circulation of biological capital is placed. We witness a neoliberal market economy that is characterized by the predominance of transnational companies. Let us see, below, the three strategies of neoliberal governmentality that we enunciate:

Calculate in bioeconomic terms

Public umbilical cord stem cell banks are units financially maintained by the public sector and are constituents of the BrasilCord Network, which aims to coordinate and manage the expansion of the public network, financial resources and bring together public banks. This network was created in 2004, through Ministerial Ordinance No. 2381 of 10/29/2004 and is coordinated by the director of the Bone Marrow Transplant Center, of the National Cancer Institute (INCA).

When donation to a public bank occurs, stem cells are available for use by anyone, as long as there is HLA compatibility, including those who donated, if they are still available. In these banks, some strategies are created so that adults can also benefit from the use of stem cells from the umbilical cord, such as, for example, combining two umbilical cords; direct injection of stem cells in the bone marrow or in another area of the human body, depending on the disease to be treated, and the expansion of the umbilical cord stem cells in laboratories (Massumoto, Massumoto, Ayoub, 2011; Silva Júnior, Odongo, Dulley, 2009).

According to research by Brown, Machin and McLeod (2011), the countries that most export stem cells are Germany, Belgium, Australia and the United States. For the import / export market economy to work, there must be a balance between both actions.

In Canada, for example, in 2008, the 86 imported units cost \$ 20,000, while imports cost \$ 1,700, which generates a deficit in the national economy, as the country spends more than it earns. This situation is similar to that found elsewhere, for example, Mexico, Israel, Poland and Finland, which has raised discussions regarding greater investments in national public banks, instead of resorting to therapies for the transnationalization of stem cells .

In addition, several countries are trying to protect domestic supplies from exports of biological material. Spain, for example, authorizes exports, provided that it is proven that stem cells will have no current use for the country (Brown, Machin, McLeod, 2011). In Brazil, the security rationality is materialized in a different way, being directed to the risks of leakage of genetic heritage and biopiracy, with stem cells not being directly attached to these problems (at least, they are not currently).

Produce a discursive plot around donation

The donation of the umbilical cord is linked to political-social discourses around community values such as altruism, generosity and social solidarity. The act of giving leads to considering public banks and the international networks that connect them as social goods (Sullivan, 2008). It is argued, however, that despite charging gratuity in their speeches, public banks, as well as private ones, mobilize intense capital flows and mobilize practices of inequality in terms of donation and therapies.

In Brazil, each public unit has cost the federal government around R \$ 3.5 million when it was created. In 2008, R \$ 31.5 million was invested by the National Bank for Economic and Social Development (BNDS) in the BrasilCord network for the expansion of public banks, and it is estimated that more units will be installed. The document released by Anvisa in 2016, entitled Evaluation Report of production data from umbilical cord and placental blood banks: Data from 2015, shows that there are only 1,804 stem cells from the umbilical cord stored in public banks. Of the stored cells, two were used for transplants during 2015, 66 were made available for research and 414 for teaching and process validation. It is worth noting the high rate of discarded cells.

Also according to the same report, 3,833 umbilical blood stem cells were collected by Brazilian banks, 1,926 of which were discarded for reasons mainly of low pre-storage cellularity (Brazil, 2016). Thus, even if the main objective of the public network is to have the largest possible number of stem cells, without an expressive number of donations, therapies with these cells cannot become a routine procedure in Brazil.

According to the data report on the production of Brazilian umbilical cell banks, published by Anvisa, in 2015, 29 units for related allogeneic use were stored in the BrasilCord Network, of which one was used for transplantation (Brazil, 2016). This type of service is performed upon medical advice, and the child's umbilical cord is now destined for the exclusive use of a family member who is in need of transplantation. In these cases, the services are offered free of charge and the umbilical cells are for the exclusive use of the person indicated for therapy.

In this direction, the statements about altruism and access that surround Brazilian public services with stem cells from the umbilical cord are reaffirmed.

Network with other banks

The public network of stem cell biobanks operates in a network with other national and international organizations, of which the argument is made that, thus, national failures and shortages would be supplied. In the national territory, BrasilCord works together with the public network dedicated to the regulation of bone marrow stem cells, the Brazilian Registry of Voluntary Bone Marrow Donors (REDOME), whose objective is to make Brazil self-sufficient in stem cell transplants. The network also counts on the support of the Brazilian Association of Hematology, Hemotherapy and Cell Therapy (ABHH), which regularly issues official explanatory notes on the donation of the umbilical cord and alerts on the low incidence of autologous use of these cells.

Similar networks to BrasilCord exist in other locations: in the United States, the Cord Blood Registry of the National Marrow Donors Association, a non-profit organization, has existed for 25 years, to help people find cancer therapies through a database with transplant information and stem cells available.

In 1995, the Eurocord registration was created in the European Union, which financially supports public banks in Europe and promotes national and international collaboration in research with cord blood cells (Brown, Machin, McLeod, 2011).

In 2009, the BrasilCord network entered into an agreement with the Bone Marrow Donors Worldwide group, a program that offers databases on worldwide bone marrow and umbilical cord donors. Currently, there are, according to data from Bone Marrow Worldwide, 611,285 umbilical cord stem cells available for transplantation in public banks worldwide. Through these partnerships, the BrasilCord Network is able to find a compatible donor for about 50% of the national population and another 20% abroad (Ribeiro, 2010).

These associations help Brazilian public banks to enter the network for the export and import of stem cells from the umbilical cord. Brown, Machin and McLeod (2011) highlight a transnationalization of transplants made with stem cells collected in public units, in which stored stem cells can be made available to other countries, if necessary. In countries where this market logic has been around for a long time, international cell trade has been a strong incentive for creating campaigns to increase the number of cells collected, becoming a political, economic and health issue, mainly due to costs with imports and exports of these products.

Centralization and concentration: effects of neoliberal governmentality

Until 2007, only INCA and Hospital Israelita Albert Einstein acted as public banks, which means that only deliveries performed at Maternidade Municipal Carmela Dutra and Pró Matre, in Rio de Janeiro, and at Hospital Albert Einstein, in São Paulo, were liable to donate the umbilical cord to the BrasilCord Network (Pereira, 2008). Despite initiatives, such as the creation of the BrasilCord Network and its link with other international networks, the economic investments that drive the development of specific technologies, for the realization of scientific research in the field of human genetics, provoke the need for a deep reflection on the process of capitalist appropriation of elements of the human body (Carneiro, Emerick, Rocha, 2000).

The issues raised by Regenerative Medicine in molecular genetics demand an inevitable reflection on the formation of competences in collective health in Brazil, which will increasingly have to deal with these problems, to which must be added the dimension of the political economy of capital distribution in health policies in Brazil. In health economics management, today, public services can be offered in hospitals and private companies and vice versa. Thus, in addition to the privatization of public services in the BrasilCord network, there is still a lack of availability of trained and trained professionals to perform the collection and storage of the umbilical cord, which can restrict the expansion and offer of this service (Neves, Schneider Junior, Baldanzi, 2012).

Although currently, hospitals and maternity hospitals accredited in the BrasilCord Network for the collection of umbilical cells are mostly public, with the exception of the Santa Casa de Misericórdia do Pará Foundation (FSCMP), which only carried out a process in 2006 of contracting with SUS, the maternity hospital of IMIP (Institute of Integral Medicine Professor Fernando Figueira), in Pernambuco, of philanthropic character, the Naval Hospital Marcílio Dias, in Rio de Janeiro, also philanthropic, the private Hospital Albert Einstein the Maternidade Amparo Maternal, in São Paulo, of philanthropic nature, the increase in public collection of umbilical cells has not yet occurred.

It is worth noting that, in addition to the centralization of services in the Southwest region for six years after the creation of the first Brazilian public bank, the Albert Einstein Hospital is a private unit that serves an economic minority that can pay the high costs of childbirth in this institution. In this direction, as Pereira (2008) points out, in terms of public health, we found an inefficiency of the BrasilCord Network. According to the author, in order for the network to contemplate the ethnic and genetic diversity of the Brazilian population, it is necessary not only to increase the collection points of stem cells, but accredited maternity hospitals must meet the economic diversities of our country. In this way, biobanks also end up acting as racialization technologies that say which bodies are worthwhile and which are not worthwhile in a neoliberal technology that is supported by the State as a form of legitimation.

Public banks located at Hospital Albert Einstein and Sírio-Libanês, in São Paulo, are members of the international foundation NetCord, a transnational network that aims to encourage transplants with umbilical cord blood, to balance the global supply and demand of umbilical cells and promote standardization and regulation of cord blood collection and storage services, through accreditation in the network's member banks. With thirty-five public banks registered, NetCord has 211 thousand umbilical cord stem cells available for transplantation. Of the units stored in this network, 10,434 were used for transplants in adults and children, in several countries, among which Brazil is not the one that occupies a prominent position.

Final remarks

The questioning about the governance strategies of the umbilical cord stem cell banks leads us to question the capitalization of human biological resources. Faulkner, Geesink, Kent and Fitzpatrick. (2008), in an analysis of the European context, observe that the economic concerns in the sector in Regenerative Medicine are associated with the high cost for the commercial enterprise of biological products, when compared with the conventional therapies that already exist. In this sense, the economy around the umbilical cord stem cells extends to the internationalization of these cells, allowing an economic value to be added to the human body (Brown, Machin, Mcleod, 2011).

What is observed in the Brazilian cord stem cell banks are speeches that revolve around the transformation of the scarcity of cell therapies in abundance and the development of new forms of healthy body. As resources for the production of body apparatus less vulnerable to time and aging, cells become economic potentials of knowledge and practice, with forms of self-government articulated in the search for health and longevity. It appears that the power that was previously attributed to medical agents is now also accompanied by technologies and regulated by other commercial and profitable authorities (Rabinow & Rose, 2006). Technological interventions do not suspend or improve social relations of exclusion and inclusion, in which we are immersed historically, nor, therefore, the increase in access to them.

In conclusion, we point out that investment in health is a facet of the financialization of life - of which biobanks are branches. Each new investment in umbilical stem cells predicts that we understand ourselves as subjects whose lives, to be extended, find in the body the objectification of volatile capital and, therefore, require technologies for that what is defined as the core of the living be extracted from it - cells that multiply under certain conditions and a life that regenerates. Along with the discussion about the need to increase the collection of stem cells from the umbilical cord, it is necessary to discuss the knowledge-power networks that generate and are generated by biobanks.

Author contributions

Galindo DCG, Lemos FCS, Lee HO, Rodrigues RV, Sousa KD were responsible for writing the manuscript. Galindo DCG, Lemos FCS, Rodrigues RV were responsible for data collection. Galindo DCG, Lemos FCS, Lee HO, Rodrigues RV were responsible for revising and approving the final version of the manuscript.

Competing interests

No financial, legal or political competing interests with third parties (government, commercial, private foundation, etc.) were disclosed for any aspect of the submitted work (including but not limited to grants, data monitoring board, study design, manuscript preparation, statistical analysis, etc.).

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