

VIEWPOINT

Reproductive technology and social justice: a view from Brazil



Marilena Correa¹, Ilana Löwy^{2,*}

Debates on the practical and ethical dilemmas produced by the rapid changes in assisted reproductive technology (ART) are frequently focused on the consequences of new developments in Western Europe and North America. Discussions about ART in developing and middle-income countries tend to be centred on the use – and for some, the possible exploitation – of women's bodies as sources of biological materials and providers of services. They more rarely examine patterns of implementation of ART in these countries. Brazil is a middle-income country which, unlike many other similar countries, has not only high-level medical and biomedical research institutions but also excellent (mostly private sector) hospitals, but also a national health service, Sistema Unico de Saude, (SUS), implemented in 1988 following the promulgation of the new Federal Constitution that defined the right to health as a basic universal right. Nevertheless, despite the existence of SUS, large sectors of the Brazilian population do not have access to adequate healthcare. About 25% of the population have private health insurance plans ('planos de saude') which widen their access to health services, but the quality of these plans is unequal: some provide good supplementary coverage, and some only basic coverage. One of the areas strongly affected by structural inequalities is reproductive health: sexual health, contraception, abortion, monitoring of pregnancy and childbirth. Moreover, since abortion is illegal, only

affluent Brazilian women have access to safe termination of pregnancy, while poor women's fertility is often compromised by unsafe abortions (*Diniz et al., 2009*).

ART was introduced into Brazil in the mid-1980s in a small number of private-sector laboratories (Reis, 1987; *Scavone, 1996; Correa, 2001; Correa and Loyola, 2005*). It continued to be provided almost exclusively outside the SUS (*Souza 2014*). Training in ART techniques was also mainly conducted in the private medical sector. Small specialized clinics financed courses and seminars in this area (*Correa, 2001*). In the 1990s, ART acquired high visibility in the Brazilian media. It was even included in plots of highly popular TV soap operas ('telenovelas'). This in turn created a gap between a widespread awareness of the existence of test-tube babies through ART in the country, and the impossibility for the majority of Brazilian women to use it. In theory SUS users have access to medically-assisted reproduction, since fertility treatments are included in the 'right to health' granted by the Brazilian constitution. In practice, such access is very limited. Only a small number of SUS-dependent centres, mainly in southeastern and southern Brazil, specialize in diagnosis and treatment with less complex technologies, and in only five of them can users obtain treatment completely free of charge; in other SUS-affiliated centres users have to cover at least part of the costs. (*Correa and Loyola, 2005; Souza, 2014*).

A small number of enterprising low-income women have found 'creative' ways to overcome the formal barriers to access to ART through the SUS ('jeitinho brasileiro'); these may include gaining access to clinical trials; to programs of training of specialists; or occasionally finding a way to present fertility treatment as part of another treatment, covered by SUS (*Alfano, 2014*). These women, however, represent a tiny fraction of lower-class women who would like to benefit from treatment for infertility. Moreover, since the majority of private insurance plans do not cover IVF, only affluent women/couples can benefit from medically-assisted reproduction. Other women/couples, including couples at high risk of giving birth to a child with a severe hereditary condition, have no access to ART. Lack of access to IVF and prenatal genetic testing (PGT) techniques, coupled with the criminalization of abortion, obliges the majority of couples at high risk of transmitting a hereditary pathology to their offspring to choose between refraining from procreation and playing a kind of genetic lottery, a situation defined by some experts as a restriction of their rights as citizens (*Damian et al. 2015, p. 32*).

From 1992 onwards, ART has been regulated in Brazil through a series of professional resolutions. The first resolution, no.1358, was issued in 1992 by the Federal Council of Medicine (Conselho Federal de Medicina, CFM). It was revised in 2013 to include the right

¹ Institute of Social Medicine, Federal University of the State of Rio de Janeiro, Brazil

² CERME3 (INSERM, CNRS, EHESS, Paris V University), Paris, France

of homosexual couples to access ART. This was, however, mainly a symbolic step, because private clinics were already providing fertility services to homosexual women and gay men who could afford it. The resolution was revised again in 2017 (CFM, 2017). ART is also framed by the Brazilian biotechnology law – Law 11105, of 2005 – that regulates the conservation and use of human biological tissue, including gametes and frozen embryos. The law explicitly prohibits commercial transactions involving such materials. Brazil performs more ART procedures than any other Latin-American country, but the number of children born following these procedures is not very high. There are no nationwide data on children born due to ART, but in 2017 Brazilian clinics performed 39,142 ART procedures, mainly IVF (20,064) and frozen embryo transfers (12, 282). A study in the state of Pelotas in southern Brazil, discovered that in 2015 0.4% of children born in that state were conceived through ART, mostly (70%) through IVF. One might add that 66% of ART clinics in Brazil are in the affluent south, and only 1% are in the much poorer north (the rest are in the middle section of the country). (Silva et al., 2019; Zeagers-Hochschild et al., 2020).

Brazilian fertility experts and clinics, aware of the severe financial limitation on access to their services, genuinely wish to increase the number of women/couples who can benefit from ART. In the mid 2000s two arrangements – Programa Acesso and several egg-sharing programs (managed locally by individual private clinics) – were set up, aimed at facilitating access to infertility treatments for women/couples who could not pay the full cost. Programa Acesso, set up around 2005, was first sponsored by the pharmaceutical firm Merck; Merck was then rapidly joined by a consortium of numerous other pharmaceutical firms, among them Bayer, Novartis, Organon, Boehringer, Pfizer, Eurofarma, Schering-Plough Eli Lilly and Wyeth. The resulting programme, called Vidalink, operated in association with IVF clinics accredited by the consortium itself. Beneficiaries, recruited directly via the Vidalink website, were selected according to economic criteria. This primarily benefited middle-class women, sufficiently poor to be unable to afford the full price of ART drugs, but sufficiently well-off to be able to buy them at a reduced price. While this arrangement helped these women,

it also resulted in pharmaceutical firms (mainly North American) increasing sales of their products in Brazil while circumventing the need to negotiate their prices with the SUS (Correa, 2016). This programme has recently been discontinued.

In the same period, the development of egg-sharing programmes has provided a way for women who have surplus eggs to finance at least a part of their ART treatment through the sharing of gametes. The sharing arrangement has been an effective way to bypass the strict interdiction of the commercialization of body parts (Correa, 2000). Typically, egg-sharing involves a younger woman with tubal disease but good ovarian reserve and an a more affluent older woman, infertile because of her age. The older woman 'purchases' the younger woman's eggs, and the money transfers within the clinic to cover or reduce the cost of the younger woman's infertility treatment. Since 95% of egg-sharing arrangements take place in private clinics, they remain a mostly unregulated procedure. It is reasonable to assume that in majority of the cases the agreement between the 'buyer' and the 'seller' is an honest one, and benefits both sides of the transaction, but because it is not transparent or regulated it may not offer sufficient protection to the egg-provider. (Correa, 2016). The main problem of the egg-sharing program is as elsewhere: it helps only a small number of women who are otherwise unable to afford access to ART.

The Zika epidemic in Brazil (2015–2019) increased ART-related risks. Infection with the Zika virus (ZIKV) during pregnancy can induce severe fetal anomalies. Moreover, this virus can be transmitted sexually, mainly via infected sperm. The sexual transmission of ZIKV has, however, seldom been discussed in Brazil. (Löwy, 2020). Intriguingly, one of the rare sites where the sexual transmission of ZIKV has had a high visibility is in debates on ART. In the early stages of the Zika epidemic, the Brazilian Health Regulatory Agency (ANVISA) announced a change in the regulation of blood donation and assisted reproduction processes. Because of the risk of virus persistence in gametes, especially in sperm, and the danger of the Zika virus for the fetus, ANVISA declared that patients involved in fertility treatments must be tested for Zika prior to insemination, or embryo

transfer. This position was also supported by the Brazilian Society of Assisted Reproduction (ANVISA, 2016; Carvalho et al, 2016). The decision whether to risk ART treatment during an epidemic of a sexually transmitted disease that affects the fetus was nevertheless left to the discretion of individual couples and their doctors. On the basis of observation of women who decided to go ahead with their pregnancy in spite of the epidemic, experts concluded that the risk of transmission of ZIKV through ART was low (Borges et al, 2017; Prisant, 2019). However, women included in this study were treated in private clinics and thus belonged to a social group more likely to protect themselves from Zika. The observation that these women did not contract ZIKV may mainly reflect the social stratification of Zika risk in Brazil (Prado 2018; Löwy, 2020).

The relative paucity of publicly-funded ART services in Brazil may be seen as self-evident in a middle-income country. This is, however, a debatable claim. The COVID-19 pandemic has radically altered the established divisions between countries with 'more advanced' and 'less advanced' healthcare systems, and interrogates the hierarchy of prioritization of medical and public health interventions (Dalglis, 2020). In spite of its futuristic aura, stimulated by persisting speculation about the use of new biomedical approaches to engineer 'designer babies', ART is not a high-tech area of medical intervention. This technology is neither very expensive nor very difficult to implement. The inability of poor Brazilians to gain access to fertility services may be legitimised by the claim that in a country with numerous severe health problems, treatment of infertility, especially through ART, is a luxury and not a basic need. But such an argument fails to recognize the strong links between poverty and the presence of conditions that affect fertility, such as sexually transmitted infections and chronic pathologies; the dilemmas of families at risk of having a child (or, not infrequently, another child) with a severe hereditary disease; and finally the disastrous consequences of the – highly prevalent – unsafe abortions on the reproductive health of lower-class women (Diniz et al., 2009). Regulation of access to ART through money aggravates the plight of numerous Brazilian women/couples. It is not surprising that some poor women feel frustrated and angry

because they do not have the same access to facilities that rich people have (Souza, 2014: 47). This situation is not however irredeemable. Brazil has the facilities, manpower, and know-how necessary to extend the country's capacity to deal with fertility-related problems. It can greatly increase the number of SUS units which provide ART services. It can also extend free or low-cost access to already existing fertility clinics, for example through the development of public-private partnerships. Such partnerships exist in other domains in Brazil, such as the manufacture of pharmaceuticals, where they have contributed to the enlargement of access of all Brazilian citizens to cutting-edge therapies for diseases such as HIV and hepatitis C. It is not impossible, we believe, to elaborate similar approaches which will reduce injustice in the reproductive arena in Brazil.

REFERENCES

- Alfano, B. 2014 **Reprodução Assistida: organização da atenção às infertilidades e o acesso às técnicas reprodutivas em dois serviços público-universitários no Estado do Rio de Janeiro**. Universidade do Estado do Rio de Janeiro, Instituto de Medicina Social
- ANVISA. 2016. "Critérios técnicos para o gerenciamento do risco sanitário de células, tecidos germinativos e embriões humanos para uso terapêutico frente aos casos de infecção por vírus Zika no Brasil. Nota Técnica nº008/2016/GSTCO/GGMED/DIARE/ANVISA
- Borges, E., Braga, D.P.F., Zanetti, B.F., Setti, A.S., Provenza, R.R., Iaconelli, A. **Zika Virus Outbreak - Should Assisted Reproduction Patients Avoid Pregnancy?** JBRA Assisted Reproduction 2017; 21: 208–211
- Carvalho, B.R.D., Taitson, P.F., Brandão, K.S.A.G., Ferriani, R.A., Nakagawa, H.M., Silva, A.A., Lopes, J.R.C. **Reproductive planning in times of Zika: getting pregnant or delaying plans? The opinion of the Brazilian Society of Assisted Reproduction Committee – a basis for a bioethical discussion**. JBRA Assisted Reproduction 2016; 21: 159–164
- CFM (Conselho Federal de Medicina) 2017. Resolução 2.168/ 2017, Normas Éticas para Utilização das técnicas de reprodução assistida. Brasília. <http://www.imprensa nacional.gov.br/>
- Corrêa, M.C.D.V. **Novas tecnologias reprodutivas: doação de óvulos. O que pode ser novo nesse campo?** *Cadernos de Saúde Pública*. Rio de Janeiro July/Sept 2000; 16: 863–870
- Correa, M.C.D.V. **ARTs in Brazil: Public and private arrangements in the name of access and reproductive rights**. Gomez Virginie Rozée, Unisa Sayeed Assisted Reproductive Technologies in the Global South and North Routledge London 2016
- Corrêa, MCDV, Loyola, M-A **Reprodução e Bioética. A regulação da reprodução assistida no Brasil**. *Cadernos CRH Salvador* 2005; 18: 103–112
- Correa, M.C.D.V. 2001 **Novas Tecnologias Reprodutivas: limites da biologia ou biologia sem limites?** EDUERJ Rio de Janeiro
- Daglish, S.L. **COVID-19 gives the lie to global health expertise**. *The Lancet* 2020; 11: 1189
- Damian, B.B, Bonetti, T.C.S., Horovitz, D.D.G **Practices and ethical concerns regarding preimplantation diagnosis in Brazil? Who regulates preimplantation genetic diagnosis in Brazil?** *Brazilian Journal of Medical and Biological Research* 2015; 48: 25–33
- Diniz, D, Corrêa, M, Squinca, F, Braga, K **Abortion: 20 years of Brazilian research**. *Cadernos de Saúde Pública*. Rio de Janeiro 2009; 25: 939–942
- Löwy, I. 2020 **Zika no Brasil: Historia recente de uma epidemia**. Editora Fiocruz Rio de Janeiro
- Prado, H. **Ce que l'épidémie du virus Zika dévoile des droits reproductifs et sexuels au Brésil**. *Cahiers des Amériques Latines* 2018; 88: 79–96
- Prisant, N. **Upper and lower genital tract Zika virus screening in a large cohort of reproductive-age women during the Americas epidemic**. *Reproductive Biomedicine Online* 2019; 39: 624–631
- Scavone, L. 1996 **Tecnologias reprodutivas. Gênero e ciência**. UNESP São Paulo
- Silva, S.G., Bertoldi, A.G., da Silveira, M.R., Domingues, M.R., Evenson, K., dos Santos, I.S. **Assisted reproductive technology: prevalence and associated factors in Southern Brazil**. *Revista de Saude Publica* 2019; 53: 13. doi:10.11606/S1518-8787.2019053000737
- Souza, M.C.B. **Latin America and access to Assisted Reproductive Techniques: a Brazilian Perspective**. *JBRA Assisted Reproduction* 2014; 18: 47–51
- Souza, M.C.de **Latin America and access to Assisted Reproductive Techniques: A Brazilian perspective**. *JBRA Assisted Reproduction* 2014; 18: 47–51
- Zegers-Hochschild, F., Crosby, J., da Souza, M.C.B., Martinez, A.G., Silva, A.A., Mojara, J.M., Masoli, D., Posada, N. **Latin American Network of Assisted Reproduction (REDLARA). Assisted reproductive techniques in Latin America: the Latin American Registry, 2017**. *Reproductive Biomedicine Online* 2020; 41: 44–54