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**Fertility and Inequality across Borders: Assisted Reproductive
Technology and Globalization**

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Abstract

Globalization is affecting even the most private decisions people make in their lives including how to start a family. Many residents of higher income countries are beginning families later in life, as many couples commit and/or marry later and many women choose to establish themselves in careers first. Since infertility issues increase with age, these couples therefore are more likely to experience infertility issues. In addition, an increasing number of single parents and gay and lesbian couples desire to begin families. Today in higher income nations, Assisted Reproductive Technology (ART) is available which allows most couples or singles wishing to start their own family to find success with their own genetic materials or with donor sperm and/or donor egg. The price of ART in higher income nations, however, is often not fully covered (or not covered at all) by insurance; and if it is covered, waiting lists can be lengthy. As a result, ART clinics have sprung up across the globe, particularly in middle income countries, and patients often travel thousands of miles from their homes to seek success at lower costs. This article surveys academic and popular literature to examine the societal, ethical, medical, and familial implications that arise with this relatively new concept of "Travel ART."

Globalization is affecting even the most private decisions people make in their lives including how to start or to expand their families. Assisted Reproductive Technology (ART) is when fertility-challenged couples or single individuals utilize scientific methods to help them start a family. These

methods may range from artificial insemination of sperm to in vitro fertilization (IVF) to the use of donated fertilized embryos to surrogacy (use of gestational carriers). Thousands of people each year make some of the most intimate decisions of their reproductive lives, then cross international borders to undergo fertility-related medical procedures in other countries. This trend of "Travel ART" has many implications for all participants from the medical to the legal to the cultural to the economic to the ethical. This article surveys academic and popular literature to examine the societal, ethical, medical, and familial implications that arise with this relatively new concept of "Travel ART" particularly for, but not limited to, residents of the countries to which patients travel for reproductive services. In this article, countries that provide Travel ART services to out-of-country visitors will be referred to as "host countries."

Language in relation to Travel ART has been politicized and debated. Travelling to procure medical reproductive assistance is classified by many authors as a form of "medical tourism." Jones and Keith (2006, 251) note that this travel for medical services can be split into the two categories of "obligatory or elective" procedures, depending on whether or not the treatments are available and/or legal in the patients' home country. They also note that formal regulation of medical tourism is a new province for many countries. Some have taken to describing patients who travel for ART as engaging in a more specific form of "medical tourism" known as "reproductive tourism." Language is powerful and this phrase paints the procedures as "effortless" and possessing an element of "escapism" and even "relaxation." The term seems inappropriate at best given the cost, seriousness, and emotional and physical risk of the procedures. Pennings (2005) comments that "the term [tourism] is very much preferred by journalists and opponents of liberal legislations when presenting what are considered as 'bizarre' cases" (p. 3571). Inhorn and Patrizio (2009 in press) suggest it is more like 'reproductive exile' than "tourism." Indeed, rather than the relaxation associated with "tourists," it is far more likely that patients feel pressured to travel for reproductive services due to laws in their home country, waiting times for procedures, or exorbitant and unaffordable fees. Use of the term "exile," however, presents a distinctly negative view of the activity in every circumstance, which is debatable. Such travel is perhaps best referred to as "Travel ART" or "Travel IVF." Although the origins of both terms appear unknown, each is a neutral description of the two activities involved: "travel" and "ART."

Why is Travel ART considered as a sign of globalization? The term "globalization" is often used to refer to the increasing interdependence of worldwide economies. However, some theorists have rightly emphasized

that it is more than that. Croucher (2004) explains that the global interconnectedness also encompasses the technological, the political, and the cultural and she notes that “the focus is on identity and belonging, and, specifically, on how citizenship, nationhood, ethnicity and gender are being affected by processes of globalization” (p. 2). This is especially evident in the intertwining and often conflicting issues related to Travel ART. When a private issue like fertility becomes a cross-border issue, and when laws, customs, technologies, and provider service prices in relation to it vary widely, complications arise.

The United States Centers for Disease Control and Prevention estimate that 8% of women of reproductive age will visit a doctor about infertility-related issues at some point in their life (CDC 2009). Many residents of upper income countries are beginning families later in life, as many couples commit and/or marry later and many women choose to establish themselves in careers first. Since infertility issues increase with age, these couples therefore are more likely to experience infertility issues. In addition, a rising number of single parents and gay and lesbian couples desire to begin families. At the same time, adoption sources, both international and domestic, present increasing challenges for couples and singles. Contraception and abortion in the West have led to fewer infants available for domestic adoptions and “there has been growing hostility to international adoption in many countries that have previously been willing” (Bartholet 1993, 89) to adopt children to would-be parents from other nations. There are increasing restrictions, limitations, and costs due both to this high demand for young adoptees and requirements enacted by the 1993 Hague Convention on Intercountry Adoption, designed to protect adopted children. All of these factors lead to many individuals who are unwillingly childless. Miall (1986) cites studies which estimate that between 1 in 5 to 1 in 10 couples experience involuntary childlessness.

Today in upper income nations, Assisted Reproductive Technology is widely available which could allow most (but not all) couples or singles wishing to start their own family to be treated if they have sufficient funds and no aversion to technological methods. Treatments include methods using either the patients’ own genetic materials (egg fertilized outside of the body and re-implanted) or using donor genetic materials of egg and/or sperm. In the latter scenario, eggs are “harvested” from an egg donor, fertilized, and placed in the body of the ART female patient or a surrogate. Scenarios to achieve parenthood that were once impossible are made a possibility. A postmenopausal woman is therefore capable of carrying and bearing a child using a younger woman’s donated eggs and homosexual males can make use of a surrogate and her eggs and/or donor eggs along with their own sperm.

Women who ultimately cannot carry a child, even with donor eggs, can utilize a surrogate with a partner's sperm or donor sperm.

Why travel for ART? Those requiring the aforementioned advanced technology find that success often comes at an extraordinary price. For example, in vitro fertilization with donor eggs may cost upwards of \$30,000 at quality clinics in the United States. Infertility drugs necessary to stimulate ovulation and prepare the uterine lining can cost \$5,000 per attempt. Several ART procedures may be necessary. The price of ART in higher income nations, however, is often not fully covered (or not covered at all) by insurance; and if it is covered, waiting lists can be lengthy. Price is not the only reason to engage in Travel ART. ART is illegal in some countries or governed by extremely restrictive regulations. Some religions refute select, or even all, ART procedures. Even countries that provide ART services to their citizens often do so selectively, sometimes only to married women, to heterosexual women, or to women who are under a certain age or premenopausal. ART procedures, therefore, are out of reach for many in upper income nations for various reasons. On one hand, this seems like an example of Jones' and Keith's "elective" versus "obligatory" medical travel procedures. It could be argued that women and men are forced to travel by the restrictive laws. Those who undertake Travel ART because it is more expensive in their own countries might be deemed "elective" travellers by some. However, it could also be argued that there are few truly "elective" Travel ART patients. Those who undertake ART travel based on cost might make the persuasive argument that they too are forced to travel by prices that make ART in their home country as impossible for them as if it were prohibited by law. There is no current research on how many people who use Travel ART would be unable to afford the procedure at home, but the number is likely high. As a result of these many impediments to ART for so many individuals, ART clinics have sprung up across the globe, particularly in middle-income countries, and patients often travel thousands of miles from their home countries to seek success at lower costs and with fewer or no legal restrictions.

While some couples travel for in vitro fertilization using their own eggs and sperm, many couples and singles travel to utilize the eggs of residents of the clinic/host country, and others travel for surrogacy-related services using a mix of their own genetic materials and donor eggs and/or sperm. The cost of donor sperm at sperm banks in upper income countries is much lower than the cost of donated eggs, therefore it is not a motivator for Travel ART. Although some single women travelling for IVF utilize host country sperm, many have it shipped from sperm banks in their home country.

There are no accurate figures available that reflect the number of individuals who travel for reproductive services. However, in India, a country with aggressive website advertisements for Travel ART and a government that has supported Travel ART through extended Visas for clients and tourism campaigns, researchers suggest that there has been “phenomenal growth” in the industry (Mulay and Gibson 2006, 84).

Who travels for ART? Only scattered and selective data is available as there is no standard reporting mechanism across countries and few published studies. In the United States, with few states mandating ART coverage and most health insurance policies covering diagnosis of but not treatment of infertility, it is probable that most citizens travel for ART primarily for financial reasons. In other upper income countries, this may not be the case. In England, for example, where IVF is free for many citizens, thousands still travel out of the country for IVF. Two thirds of the travellers appear to be over 40 years of age as this age group is not entitled to free IVF under national health policy (Henderson 2009).

What countries do patients travel to for ART? Sometimes, countries offering Travel ART are upper income nations like Spain and Belgium. In the latter, the majority of recipients of procedures in the past decades have actually been from outside of the country (Pennings 2009). Many of the countries involved as medical providers and hosts in large-scale Travel ART, however, are those with citizens struggling to earn a living, including some lower- and middle-income countries in the European Union. Some of the popular worldwide destinations for foreign patients looking for IVF include India, Mexico, Argentina, Hungary, Slovenia, South Africa, Greece, and the Czech Republic.

How do patients arrange Travel ART? Some patients contact international clinics on their own via webpages and make arrangements online or by telephone. Other patients use services sometimes based in their home countries that provide connections to overseas clinics. Some of these services assist, for a specified fee, with air reservations, lodging and even meals while patients are in the host country for IVF. York (2008, 101) refers to agencies that arrange travel for medical procedures as “medical concierge companies.” Challenges abound in making arrangements for Travel ART. Since many countries do not have official monitored reporting of ART statistics in terms of success or failures, claims from international clinics and websites can’t be confirmed (Mulay and Gibson 2006) and the commercialism mixed with medicine surrounding Travel ART remains potentially problematic.

The growth of infertility technology in upper income nations coupled with inequality of access to these expensive services may have far-reaching implications on the lives of financially-challenged women and men in the host countries who participate in ART programs serving international clients across the world. Potential donors in the clinic/host countries are faced with decisions about whether to share their genetic materials (eggs and/or sperm) with others for potential financial gain. And potential donors are faced with health and safety questions. Egg donors must also take injections of medications and hormones to make this process possible. Side effects from infertility treatment can include possible ovarian hyperstimulation (OHSS) (Delvigne and Rozenbery 2002). If an egg donor in a host country is hyperstimulated, will she be medically taken care of and who pays for this? Does the donor understand that in rare cases this OHSS condition can be life-threatening? There are other questions about the ovarian stimulation medication necessary for some ART procedures and the potential, yet unproven, longer-term effects of some of these drugs. Medical doctors have a responsibility to make sure women are fully informed about potential risks before they consent to procedures. A recent study (Jensen et al. 2008) of women receiving infertility treatment found what appeared to be increased rates of breast and ovarian cancers. However, the increased risk may be associated with the condition of infertility itself, rather than the treatment for the infertility. Another study of infertile women who underwent infertility treatment (Gauthier et al. 2004) found no statistically significant correlation between infertility treatment and breast cancer among most women. However, a slight increase of breast cancer appeared to be found among those with a family history of breast cancer who had also received infertility treatment. The question arises as to whether informed consent of donors can be confirmed when women, in particular those in economically challenged host countries, are paid to donate eggs or serve as surrogates. Pennings (2004, 2691) suggests that in poorer countries, the procedure to ensure informed consent may not be as exacting as it should be.

Other ethical issues have been raised in lower income countries where international visitors seek ART services. In India, for example, Sen (2002, 1185) reports the Indian Council of Medical Research (ICMR) relating “repulsive tales” of illegal trade of medicine and stolen oocytes and embryos related to clinics providing Travel ART services. A current and controversial investigation is underway related to alleged practices by Israeli doctors treating mainly Travel ART patients at the Sabyc Fertility Clinic in Budapest where alleged sales of donor eggs (illegal in Hungary) and other activities are being examined (Wrobel 2009).

An even wider ethical question might be directed at the position women in poorer countries are put into by the very existence of Travel ART. Some women make more for their ART-related services (egg donation and/or surrogacy) than they can make in a year of full-time work. What amount of pressure does this put on women who might feel it is the only viable economic choice for them? In countries where hunger and safe living conditions are dire problems for many, such as India, do women turn to surrogacy and egg donation by choice and through the proper channels of informed consent, or out of desperation and lack of information and choices? What are the social ramifications for local women who become donors or surrogates for foreign patients in host countries with traditional familial roles or religious sentiment that is contentious toward ART procedures? Are donors and/or surrogates ostracized in any way for breaking social norms? Can their anonymity be preserved if necessary, especially in a small-clinic setting? In the long-term, do these choices to participate in Travel ART result in a better or worse life for women in the host countries? Research on these ramifications of Travel ART is sorely needed.

The ways Travel ART affects bodies and pocketbooks of travellers and host countries

seems to be another natural area for research. One area not mentioned yet in the research is the role of the mind. In upper income nations, there are often psychological services for intended parents, surrogates, and egg donors. In some countries and at some clinics, this is mandated for egg donors and recipients alike to ensure that the complex effects ART can have on family (of egg recipients and donors, for example) are explored. The idea of psychological counselling for ART patients and donors is not universally accepted as necessary. Nonetheless, it seems absent even from discussion in most places providing Travel ART services.

The specific effects of travel for reproductive services on the healthcare system of the host country also remains essentially unknown. However, researchers have looked at some possible effects of the more general category of so-called medical tourism. Travel IVF is sometimes touted by the commercial agencies who orchestrate trips as a win-win situation in which travellers receive services they desire at reduced prices and in which host countries and women who serve as donors and surrogate reap monetary gains. The situation is more complicated, however, than a straight economic cost-benefit analysis. Ramirez de Arellano (2007) comments that the increasing number of upper income patients seeking medical care in poorer countries "is not innocuous" (193). She suggests that medical tourism may cause the healthcare systems of the host countries to concentrate on visitors'

needs first and may lure talented physicians seeking higher pay to this burgeoning private sector. There is also the potential that it could result in higher fees for the procedure within the host country, and therefore limited availability of the ART procedures to the citizens of that host country. Since there is a limited supply of women willing to be egg donors and relatively few physicians who specialize in ART treatments, it seems logical that in-country services could indeed be stretched by patients from abroad. More research is needed to see if this is the case in countries where Travel ART is popular.

Medical concerns for the travelling patients are another element that has lacked examination. Because Travel ART stretches across borders, it is not regulated by a single body and in some cases, it remains quite unregulated overall. Patients can check out physicians' certifications within the host countries, easier in some areas of the world than others, but in most cases there is no mechanism to compare these credentials to those of physicians and clinics in patients' home countries. York (2008) also notes that follow-up care for a procedure done overseas may be challenging to find once the patient returns home. There are few protection mechanisms, other than their own research, for the travelling patients, who often depend on references from the clinic's prior patients. Even most travel insurance policies commonly purchased by vacationers will not cover so-called medical tourists should complications arise from the procedure.

Travel ART can be viewed as taking advantage of inequalities across borders such as cheaper healthcare services offered by doctors and egg donors willing to accept low fees (by the standards of upper income nations). In the United States, a young, healthy, educated donor may be paid \$10,000 for what are considered "high quality" eggs. In the Czech Republic, a young university graduate may receive less than \$1,000. Is it a clear-cut case of global inequality and exploitation? Or is the Czech student making a personal and private decision that empowers her economically? Some argue that there is another side to this inequality debate. For example, the majority of residents in upper income countries are not part of the upper class within their own society and IVF, particularly multiple attempts or IVF with donor egg, is completely out of reach for many middle and lower income individuals and couples in the United States. Would-be parents may be denied a very realistic chance of having a child (success rates for donor egg go as high as 80% and more after several cycles) due solely to cost. Pennings (2004) reminds that Travel ART may actually mitigate unfairness at some levels since it reduces inequality for financially challenged residents of upper income nations who would be unable to afford procedures at home.

Another important area of examination is potential effects that Travel ART could have on reproductive services in the home countries from which patients travel. There has been no published research on whether the increasing popularity of travel for IVF may be affecting the way clinics operate in the United States, England, Germany, France, or any of the other upper income nations from which most Travel ART consumers originate. York (2008) does discuss some possible ramifications of the more general medical tourism industry. She comments that travel by U.S. citizens for a wide range of medical procedures from hip replacement to open heart surgery is growing and that it could eventually result in pressure to decrease prices for some procedures in the U.S. In addition, she notes that more medical travellers might also cause a closer examination of quality in host country medical facilities. Could ART clinics in upper income countries eventually decide to price their services more competitively to keep in line with businesses overseas? So far there is no sign this is happening, but it is worth examining in the future if Travel ART continues to expand and draws more customers away from their local clinics.

The present state of the burgeoning Travel ART industry has been seldom studied and data is scarce with most information being extrapolated from research on the more general arena of medical tourism. The future of Travel ART is even more of an unknown. What is certain is that Travel ART is unlikely to decrease in popularity as upper income nations without nationalized healthcare continue to cope with skyrocketing healthcare costs and countries with state-supported healthcare deal with increasing demands for ART services. If travelling for reproductive services becomes more commonplace, governments are more likely to get involved in the process. The current rules and laws regarding Travel ART have been labelled a "regulatory patchwork" by Spar (2006, 531). She advocates bringing cohesion to the current chaos of international ART through public policy. This would undoubtedly place some further restrictive practices on reproductive services in host countries or on the travellers themselves. On the other hand, Pennings (2002) counsels against heavy-handed reactions and sees Travel ART as a potential fragile axis of compromise in a time of globalization fraught with cultural and ethical clashes. Travel ART may serve to bridge the space between those who would deny fertility procedures in Country A, and the ready availability of those procedures in Country B to citizens of Country A. Pennings (2002) comments, "Reproductive tourism is a form of tolerance that prevents the frontal clash between the majority who impose its view and the minority who claim to have a moral right to some medical service" (341).

How can the rights of individuals to have a family using new and affordable technology through Travel ART be balanced with concerns about the rights of

those in host countries? An editorial in the journal "Nature" suggest by its title that "Cheap IVF" (2006) is a solution to some facets of inequality. The reasoning behind offering inexpensive ART as a panacea is the belief that it would do away with the need to travel to host countries for reproductive medicine. Of course, if there are any economic benefits for citizens of the host country under the present system, these would vanish along with Travel ART. In addition, the editorial writers believe that low-cost ART would also serve women in lower income areas like Sub-Saharan Africa where around 30% of couples may be infertile with little or no current access to infertility-related medical services. There are complicating factors, however. The system of healthcare is in crisis in many nations, including the United States where tens of millions remain uninsured and many others underinsured. ART procedures that are accessible to all are simply not in the foreseeable future. In addition, many of those who take advantage of Travel ART today are from countries where IVF is already fully or partially covered under national healthcare plans. The travellers are still often unable to gain access to ART procedures due to factors from their sexual orientation, to their marital status, to aging out of the system (being postmenopausal), to an overstressed system with long waits complicated by a ticking female biological clock, to a deficit of home country egg donors. Inexpensive or free IVF might still be subject to the whim of in-country rules which prohibit it altogether for some within certain countries but not in others. In addition, providing inexpensive or free IVF to areas like Sub-Saharan Arica is crucial, but it is not enough. It must also be accompanied by actions to pinpoint and combat the reasons behind the high rate of infertility as well as social programs that provide food and education benefits for the entire population.

Part of the difficulty of analyzing Travel ART and its scope and impacts is the following. First, little data exists to inform researchers about the practices and their effects. In particular, the ramifications of Travel ART on the individuals involved (the travellers and those from host countries and the future children born of the procedures) is essentially non-existent. Children of Travel ART may have genetic relatives an ocean away, surrogate Indian mothers will give birth to non-genetic children they will never see. It is not that these are necessarily negative factors, but the impacts of the practices will not be known until they are studied. The economic impact of the money Travel ART brings to countries, whether or not donor of eggs or surrogates are paid "fair wages," and any economic repercussions on the healthcare industries in nations on both sides of the Travel ART equation also remain unknown. An analysis of the inherent inequality involved in the Travel ART relationships also has yet to be studied. Does Travel ART simply take advantage of existing inequities, or does it, in some ways, serve to help bridge inequality? Pennings (2002 and 2004) and Mulay and Gibson (2006) have begun the

dialogue on this, but few have joined the conversation. The second difficulty of further analysis lies in the fact that Travel IVF exists at various boundaries, some firm and others tenuous: those of nations, of cultures within nations, governmental, legal, economic, moral, religious, and social. Analysis of Travel ART eludes easy answers because of these many intersections and any discussion of them must reach to very difficult base questions. Is raising a family a human right if to do so requires highly technological medical intervention? At what point do humans have the right to sell their own genetic materials (i.e. eggs) or the use of their body (surrogacy) and at what point can or does this become exploitative? And in an international context, who decides on regulations and so-called protective measures in a world of diverse beliefs, laws, and cultures? Globalization has thrust once-private and domestic matters like reproductive issues onto a world stage. Most of these Travel ART issues deal directly with women's bodies. It is women, both travellers and those from host countries, who must decide to donate (or not donate) eggs, to take (or not to take) drugs with side effects, to participate (or not participate) in the process of IVF, or to be surrogates and give birth for others (or not to). Therefore, the conversation must be focused around women. To consider Travel ART regulations, guidelines, discussions, and ethics through feedback primarily from globally male-dominated professions (physicians, politicians, and religious leaders, for example) would do a disservice to the women who serve as egg donors, as surrogates, or who travel for assisted reproduction services. Their bodies are on the line, and their voices so far, have not been heard. In order to listen meaningfully, far more research is required on the state of Travel ART today, its history, and its future.

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