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Cosmopolitan conceptions in global Dubai? The emiratization of IVF and its consequences

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Abstract IVF in the United Arab Emirates (UAE) is decidedly cosmopolitan, catering to an international clientele who are attracted to Dubai as a booming global city and an emerging medical tourism hub. Yet this Emirati state-sponsored project of medical cosmopolitanism exists in tension with another state-sponsored project, called emiratization. Emiratization is an attempt by the UAE government to prioritize the needs of Emiratis. In this article, the emiratization of the UAE's IVF sector is explored. Since the mid-2000s, the Emirati IVF sector has undergone a series of profound transformations, involving the indigenization-qua-emiratization of IVF services in the country. Two main aspects of IVF emiratization are examined. The first involves the Emirati government's brief experiment with IVF public financing, which started off as a generous IVF subsidization programme for all infertile couples, but ended up solidifying preferential treatment for local Emiratis. The second is the 2010 passage of UAE Federal Law No. 11, which now stands as one of the world's most restrictive pieces of assisted reproduction legislation. Which now stands as one of the world's most restrictive pieces of assisted reproduction legislation and has fundamentally altered the landscape of IVF in the country.

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Introduction

Since the beginning of the new millennium, and particularly since the 2011 revolutionary uprisings, the Arab world has experienced unprecedented levels of political violence and disruption. However, against this bloody backdrop, a high-

tech reproductive revolution has quietly unfolded. Namely, by the mid-2000s, the Arab world had developed one of the most robust IVF sectors in the world (Inhorn and Patrizio, 2015; Jones et al., 2010). To be more specific, among the 48 countries performing the most assisted reproductive technology cycles per million inhabitants, eight Arab nations –

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including Lebanon, Jordan, Tunisia, Bahrain, Saudi Arabia, Egypt, Libya and the United Arab Emirates (UAE), in that order – could be counted (Adamson, 2009).

Egypt, Jordan and Saudi Arabia were the first Arab countries to introduce IVF, each opening a clinic in 1986. The first Egyptian IVF baby was born a year later, in 1987. By the mid-1990s, the Arab world was in the midst of an IVF 'boom period' (Inhorn, 2003), with private IVF clinics opening from Casablanca to Cairo. By 1995, IVF was available in all of the major Arab cities, including places such as Beirut, Damascus, Riyadh and Tunis.

As one of the seven Arab Gulf countries, located on the Arabian Peninsula immediately to the east of Saudi Arabia, the UAE (also known as the Emirates) was an early entrant into this burgeoning field of IVF globalization (Inhorn, 2004). The UAE opened its first IVF clinic in a government hospital in 1991, only 5 years after Saudi Arabia introduced the technology to the Arab Gulf. By 2005, the UAE hosted seven IVF clinics, five of them private facilities. By 2012, that number had doubled to 14, 12 of them privately owned.

Today, the Emirati IVF sector serves a global population of expatriate foreign workers in the country, as well as thousands of medical travellers seeking IVF services in Dubai (Inhorn, 2015). IVF in the UAE is decidedly cosmopolitan, catering to an international clientele who are attracted to Dubai as a booming global city and an emerging medical tourism hub. Yet this Emirati state-sponsored project of 'medical cosmopolitanism' (Inhorn, 2016) exists in tension with another state-sponsored project called 'emiratization'. Emiratization is an attempt by the UAE government to prioritize the needs of Emiratis, particularly through a formal government mandate intended to increase the participation of Emiratis in key positions in the UAE private-sector workforce (Toledo, 2013). On a broader societal level, however, emiratization is about putting Emiratis first – prioritizing the needs of the *muwatinun*, or 'nationals', over foreigners. This is partly because Emiratis now constitute a tiny fraction of the overall populace in their own country – less than one million out of a total of nine million, approximately eight million of whom are expatriate foreign workers (Davidson, 2005, 2008; Kanna, 2011; Mahdavi, 2011, 2016; Vora, 2013).

In this article, the emiratization of the IVF sector will be explored. Indeed, since the mid-2000s, the Emirati IVF sector has undergone a series of profound transformations, involving the indigenization-qua-emiratization of IVF services in the country. Two main aspects of IVF emiratization will be examined. The first involves the Emirati government's brief experiment with IVF public financing, which started off as a generous IVF subsidization programme for all infertile couples, but ended up solidifying preferential treatment for local Emiratis. The second is the 2010 passage of UAE Federal Law No. 11, which now stands as one of the world's most restrictive pieces of assisted reproduction legislation. Passage of this law resulted from a very fractious period of IVF history in the Emirates, which resulted in a clinic war and led to legal changes that have fundamentally altered the landscape of IVF in the country.

In short, within the UAE's 25-year-old IVF sector, competing discourses of cosmopolitanism and emiratization have played out, leading to an increasingly restrictive and distinctive Emirati biopolitical and legal regime. The

particular form of Emirati reprobationalism – which is characterized in this paper as the emiratization of IVF – is at odds with the UAE's distinct desire to serve as a medically cosmopolitan technohub for the rest of the world. A beacon of high-tech modernity on the one hand, and a bastion of Emirati privilege on the other, the UAE is trying to have it both ways – leading to significant paradoxes and complexities, as well as new forms of reproductive privilege and discrimination.

Cosmopolitanism in the Emirates: a brief history

Cosmopolitanism – or the bringing together of diverse constituencies from around the world (Skrbis et al., 2004) – has a long and fabled history in the UAE. Formerly called the 'Trucial States', and made up of distinct, tribally-based emirates located on the eastern shore of Saudi Arabia, the UAE existed throughout the 19th and early 20th centuries as a loose confederation of seven neighbouring provinces, including Abu Dhabi, Ajman, Dubai, Fujairah, Ras al-Khaimah, Sharjah and Umm al-Quwain. Dubai, in particular, was known as a cosmopolitan trading hub, and a place of Arab, Persian and Indian hybridity (Davidson, 2008). During its colonial period as a British protectorate – which began in 1892 and ended in 1971 – the coastal town of Dubai was the most thriving, trade-friendly, premiere free port of the lower Arab Gulf (Davidson, 2008). As a result of this early openness, large populations of South Asians and Iranians settled in Dubai, many of them middle-class and wealthy merchants.

With the founding of the Emirati nation-state on 2 December 1971, the influx of foreigners into the country was heightened by a period of hyper-development – particularly in Dubai, but also in Abu Dhabi, the largest and most petro-rich emirate, and the nation's new capital. Early infrastructural development projects in the UAE relied on the importation of 'experts' (Mitchell, 2002), as well as thousands of day labourers, mostly imported from South Asia (Ali, 2010). Since then, the UAE has become known as one of the largest migrant-receiving countries in the world (Mahdavi, 2011, 2016). Today, the nation of seven confederated emirates is decidedly multinational and multicultural. Of the 9.44 million people living in the country, according to official reports (United Nations, 2014), only 13% are Emirati (and this may be an overestimate, based on under-reporting of other nationalities). The largest single group is South Asians (Kanna, 2011; Vora, 2013) who, at 58% of the total population, are nearly equally divided between Indians and Pakistanis (the former slightly outnumbering the latter). Other Asians and Arabs from many nations make up about 17% of the country's population. The remaining 8.5% are primarily Western expatriates ('expats'), as well as a growing number of migrants from various parts of Africa (Barrett, 2010). The only continent not well represented in the Emirates today is South America.

Dubai is the largest city in the Emirates, with a population of nearly 2 million and more than 70 nationalities represented (Mahdavi, 2011). According to most commentators, Dubai has emerged in the 21st century as the Middle East's only cosmopolitan metropolis – or, as anthropologist Ahmed Kanna (2011) has described it, as a 'fashionable global city.' No longer reliant on the oil industry, Dubai's economy has significantly diversified, with main revenues coming from

three interrelated sources: the global financial services industry, a luxury real estate sector, and the international tourist industry.

The tourist industry bears special mention here. Tourism is the main engine of Dubai's economy, thereby distinguishing Dubai from the other Emirates. In 2012, Dubai was the eighth most visited city in the world (thereby displacing Rome), and top of the top ten 'destination cities' in the Middle East and Africa, according to a *Forbes* survey (Forbes, 2012). As a tourist destination, Dubai is famous for its iconic architecture – including the sail-boat-shaped Burj al-Arab, which is the world's only seven-star hotel, and the sparkling, stalagmite-shaped Burj Khalifa, which is now the tallest building in the world. However, what attracts most tourists to Dubai is the shopping. With more than 70 malls, Dubai has been called the 'shopping capital of the Middle East', a veritable mecca of consumption.

This well-developed tourist infrastructure is the basis of the 'lure of Dubai' for medical travellers (Inhorn, 2015). Medical travellers receive month-long visitors' visas, extendable for up to 3 months, in order to undertake medical treatments before exiting the country. Of all the cities in the Middle East, Dubai is the only one to have cultivated a reputation as a high-tech, global hub for medical treatment and consumption. Indeed, Dubai is now considered one of eight medical tourism destinations in Asia, and is home to the Middle East's only 'medi-city' (Horowitz and Rosensweig, 2007). Called Dubai Healthcare City (DHCC), this medi-city is registered as one of 36 tax-exempt 'free zones' in the UAE, and is said to contain more than 100 medical facilities and more than 3000 healthcare professionals. The mission of DHCC is to 'compete for foreign patients' (Ismail, 2012), as well as to staunch the flow of wealthy Gulf Arabs, who for many years have travelled abroad *en masse* for medical treatment in places like Thailand (Whittaker, 2015).

The birth of Emirati IVF and the public financing experiment

Before the UAE's first IVF clinic opened in 1991, infertile Emiratis were medical travellers, leaving the country, primarily for London, to undertake IVF under UAE state largesse. Although there are no official infertility rates available for the UAE, given that nearly 10% of couples of reproductive age throughout the world are infertile (Inhorn and Patrizio, 2015), sending all infertile Emirati couples to London was difficult for the UAE Ministry of Health (MOH) to sustain financially over time. Thus, around 1990, the Dubai Health Authority (DHA) decided to start its own IVF unit in a local government hospital. Given the UAE's former status as a British protectorate, the DHA turned to the UK for expertise in setting up the nation's first IVF clinic. British-trained gynaecologists began travelling to Dubai as 'IVF troubadours' (Simpson, 2016), taking the art of assisted conception with them from its birthplace in England (Franklin, & Inhorn, 2016). In May 1991, the Dubai Gynaecology & Fertility Centre was opened with great fanfare in Dubai's main government hospital.

From its inception, Dubai's government clinic was a British import, practising assisted reproduction according to British standards. As a 'sister' programme to a well-known

private IVF clinic in London, the Dubai IVF clinic was headed by a senior British IVF physician, who travelled back and forth until other staff could be hired and his contract ended. Given the clinic's location in Dubai, the new IVF centre served a cosmopolitan clientele, including many British and other European expatriate couples living in the Emirates, and given its British standard of care, the UAE clinic offered a full range of IVF services, including third-party reproductive assistance. For example, infertile male patients could import donor spermatozoa via international couriers from sperm banks in London, Scandinavia or India. Infertile women – including many professional women in Dubai of advanced reproductive age – were allowed to bring their own 'known donors' to the clinic, either family members or friends who were willing to undergo egg harvesting. Although surrogacy was rare, the Dubai government IVF clinic was otherwise the equivalent of a London IVF centre. It served an international clientele, and it enjoyed a monopoly in Dubai because the DHA, in an early manifestation of emiratization, refused to grant licences for non-Emirati IVF practitioners to open private clinics in the Emirate.

With an effective monopoly on IVF in the UAE, the new Dubai government IVF clinic was able to charge high prices for its services, with a pricing structure equivalent to the most exclusive private IVF clinics on London's Harley Street. Thus, for the first decade of IVF in the Emirates, infertile couples were paying among the highest prices for IVF in the world (Collins, 2002), at a going rate of between \$5000 and \$6000 per IVF cycle. The stature of both Dubai and Abu Dhabi as growing cosmopolitan hubs, with many Western expatriate foreign workers, seemed to sustain these high fees, outstripping even petro-rich Saudi Arabia, where a single IVF cycle could be obtained for less than \$5000 (Collins, 2002).

Interestingly, Emiratis themselves were not exempt from these high fees. Like the foreigners flocking to Dubai's IVF clinic, Emiratis were expected to pay the full rate. Furthermore, due to demand pressure on the nation's sole clinic, both Emirati and foreign couples began to experience long waiting lists. Increasingly disgruntled, infertile Emirati couples put pressure on the government, resulting in two decisive actions. First, the UAE MOH allowed private IVF clinics to open outside of Dubai, primarily in the neighbouring Emirates of Abu Dhabi and Sharjah. Such private clinics – run by non-Emirati IVF clinicians for both Emirati and foreign couples – were allowed to operate as long as they were 'sponsored' by a *kafil*, or a local Emirati 'silent partner', who would invest in a clinic's infrastructure, but would also reap at least 51% of the ongoing profits. This so-called *kafala*, or sponsorship system, which is standard practice for most business ventures in the UAE, allowed several wealthy Emirati businessmen to become even richer as benefactors – and beneficiaries – of the resulting privatization of IVF in the Emirates.

In addition, the UAE MOH decided to relieve demand pressure by opening a second government IVF clinic. Rather than placing it in glitzy Dubai, the MOH underwrote clinic construction in Al Ain, Abu Dhabi, a relatively remote desert enclave, and home to the Emirates' major public university, the University of the United Arab Emirates (UAEU). The IVF clinic was thus placed in UAEU's government teaching hospital, where IVF cycles would be offered free of charge to both Emiratis and non-Emiratis alike.

This marked the beginning of the UAE's brief experiment in IVF public financing. 'Public financing' is the term used by health economists to describe the funding of assisted reproduction, either through direct payment by the state to local IVF clinics, or through state-funded health insurance schemes that offer reimbursement for IVF to infertile couples seeking care in these local clinics (Brigham et al., 2013). In the Emirates, the new government IVF clinic in Al Ain adopted the second system, offering reimbursable IVF cycles to both Emirati and foreign couples through the state's national health insurance system, or *daman*.

However, the UAE government did not anticipate that this would result in a flood of patients seeking treatment for infertility. Foreign workers – ranging from the most elite European expatriates to the poorest South Asian construction workers – began clamouring to get to the new government IVF clinic in Al Ain. Soon, long waiting lists formed with local Emirati couples receiving scheduling priority in an early manifestation of emiratization. In some cases, foreign couples living in the country were left to wait months, even years, to be granted an appointment.

Such foreign flooding of the sole 'free' government IVF clinic quickly became unsustainable. By the mid-2000s, less than 5 years after the clinic opened, this brief experimental moment of 'IVF for all' vis-a-vis Emirati state largesse had ended. The state returned to reimbursing IVF cycles only for local Emiratis, providing them with everything – from the costly IVF medications to the expenses involved in the IVF procedures – so long as they were willing to travel to Al Ain (as opposed to Dubai or London) to access this state-subsidized care.

In retrospect, this brief experiment in Emirati public financing of IVF was an early manifestation of emiratization. Namely, UAE state subsidization of IVF is a citizenship right – and expressly not a right for foreign workers, who are rarely naturalized as Emirati citizens (Vora, 2013). Thus, state-subsidized health insurance and access to free IVF applies only to the 'locals', or Emirati nationals. Foreign residents can access IVF at government clinics in the Emirates, but they must pay prices that, as already noted, are among the highest in the world.

In hindsight, the UAE government's retrogressive measures to publicly fund, and then de-fund, IVF services are not surprising. Even though the UAE is a comparatively rich nation, IVF is an expensive health technology, one that usually requires costly repetition because of low success rates. Thus, the UAE made a strategic decision to fund IVF on a very limited basis for its citizens. In this respect, it is not alone. Only a handful of Arab countries provide public funding of IVF services, and only on a partial basis. According to the 2010 International Federation of Fertility Societies (IFFS) surveillance report (Jones et al., 2010), the UAE is the only nation in the Arab world to report full government funding of IVF for all Emirati citizens – but for Emirati citizens alone – in a distinct reprobational form of fiscal emiratization.

The clinic war

At the same time that the UAE government was rolling back its IVF public financing scheme, trouble was brewing in the IVF sector itself. On 26 December 2005, an Emirati IVF physician appeared as a guest on a local Arabic talk radio

show. In response to a caller's question, the IVF physician encouraged infertile Arab couples to attend only government IVF clinics, because the private sector, the physician claimed, was engaged in 'foul play'. Soon thereafter, the government's English-language newspaper published an interview with the same physician, who accused one of the UAE's private IVF clinics of engaging in the unscrupulous 'freezing and mixing' of gametes and embryos. The newspaper claimed that the aforementioned private clinic had been shut down by the Abu Dhabi-based MOH. Infertile couples were thus encouraged to seek IVF elsewhere, ideally in the government sector.

None of these allegations were true, but the impact on the accused clinic – run a non-Emirati IVF physician with a multinational staff – was immediate. Worried patients began phoning to cancel their appointments, while others simply wanted reassurance that the clinic was still open for business. The clinic never shut its doors, but it was prevented from accepting new patients until the MOH had come to assess the situation. On 8 March 2006, a team of MOH personnel showed up on the clinic's doorstep. For an entire day, they investigated the clinic, inspecting the ways in which gametes and embryos were handled in the IVF laboratory, and scanning patients' medical files to look for signs of illicit gamete or embryo donation practices. Because no evidence of 'foul play' could be detected, the government inspectors cleared the private clinic of any wrongdoing, and eventually allowed the clinic to take on new patients.

The multinational clinic staff were badly shaken by what they perceived as a vicious and premeditated attack on their professional ethics. One of the embryologists, a practicing Sunni Muslim but from another Arab country, described the chain of events as 'the war that was waged against us'. This 2006 clinic war had multiple motivations. On the one hand, public allegations made by one doctor against another are suggestive of a lack of professional medical ethics in a country where competition between clinics can become aggressive, even malicious. Several IVF physicians, both Emirati and non-Emirati, blamed the clinic war on a prevailing lack of medical ethics and 'fear-mongering' in the country. As one of them stated, 'I think powerful people in the country are misleading the authorities. "We don't know what's happening in private clinics. We don't know if they're using donor sperm and donor eggs". That sort of rubbish. People in positions who are not medically qualified to know, but have a vested interest, are spreading these kinds of rumours.'

These rumours, however, also involved deep-seated cultural mores, emanating from the UAE's Sunni Islamic religious background. Indeed, the clinic war of 2006 involved an implicit moral accusation that something *haram* – religiously forbidden and unlawful – was taking place in private IVF clinics in the country. Suggestions of 'foul play' and 'illegal practice' – especially the 'freezing and mixing' of couples' gametes and embryos – were serious moral allegations. This is because IVF is allowed within the Sunni Islamic tradition insofar as it occurs only between a husband and wife, using their own gametes. 'Mixing' of gametes and embryos – either intentionally or by mistake – has thus been a major moral anxiety ever since the first IVF clinics opened in the Sunni-dominant countries of Egypt, Jordan and Saudi Arabia (Inhorn, 2003). An explicit religious prohibition against third-party reproductive assistance of any kind has been carefully spelled out in numerous Sunni Muslim *fatwas*, or religious decrees, on IVF,

including the initial highly authoritative *fatwa* issued from Egypt's renowned religious university, Al Azhar, in 1980. Since then, this anti-donation religious stance has been upheld repeatedly over the ensuing decades (Moosa, 2003), effectively instantiating a powerful ban on third-party reproductive assistance across the Sunni Islamic world, from Morocco to Turkey (Gurtin, this issue). As a result, the vast majority of Sunni Muslims – who account for approximately 80–90% of the world's 1.6 billion Muslims – will never consider undertaking such third-party reproductive assistance, because they regard these practices as *haram*, or deeply immoral (Inhorn, 2003, 2012).

Given the strength of this religious ban, the accusation that frozen embryos and gametes were being 'illegally mixed' at private IVF clinics in the UAE was a particularly grave moral accusation. Furthermore, such mixing was allegedly premeditated, occurring without the prior knowledge or consent of patients. Children conceived through such ethical malfeasance would be 'biotechnological bastards' of a sort – offspring of unknown parentage, conceived through technological misconduct. Intentional medical malpractice of this kind would be considered unethical in any part of the world, not only the UAE. This helps to explain why, during the midst of the clinic war, patients from many countries called the accused clinic, worrying that something 'wrong' had taken place in its IVF laboratory.

In the end, this moral battle subsided once the Abu Dhabi-based MOH cleared the accused clinic of any wrongdoing. The involvement of the MOH was critical, not only in settling the dispute, but in foreshadowing a new period of clinic regulation in the country. In the aftermath of the clinic war, the UAE slowly shifted from being the most 'permissive' to the most 'restrictive' IVF regime in the Arab Gulf, and in the Arab world as a whole. This process – which is characterized here as the legal emiratization of IVF – has resulted in the passage of one of the world's strictest assisted reproduction laws, called Federal Law No. 11.

Legal emiratization of IVF

It is important to hark back for a moment to the early history of IVF in the UAE, and the country's particular neocolonial relationship with the UK. The first IVF clinic in the UAE was clearly a British import, run by British-trained staff and offering third-party reproductive assistance according to British standards. However, these British clinical standards were unprecedented in the Arab world. Wholesale importation of a British model of IVF made the UAE the only Sunni Muslim country in the Arab world to perform third-party donation of both eggs and spermatozoa. This little-known fact about the UAE makes it a true regional aberration. Furthermore, and quite ironically, third-party reproductive assistance services were offered from the very beginning at the UAE's own government IVF clinic.

At the outset, no one seemed to question what was going on, given that the mostly British staff members offered third-party reproductive services to their non-Muslim patients. This included Christian couples from Europe, the USA and Australia, as well as many wealthy Hindu Indian couples, who were familiar with third-party reproductive services in their home country (Bharadwaj, 2003). However, by the end of the 1990s, increasing disquiet among the local Muslim population

began to take hold, concurrent with a larger questioning of the role of foreign experts in the country. Many Emiratis, as well as other Arab patients coming to the clinic, began to question the third-party gamete donation services on offer, as did some of the clinic's own Muslim staff members. By 1998, the DHA effectively suspended third-party donation services in the government clinic, insisting that the clinic's bank of donor gametes and embryos be destroyed.

This marked the end of Dubai's 7-year 'permissive' period. From that point on, IVF in the Emirates would be conducted according to Sunni Islamic guidelines. These guidelines would be enforced through a new phase of government regulation – not only in Dubai's main government IVF clinic, but also in the private IVF sector that was now booming in the neighbouring Emirates of Abu Dhabi and Sharjah.

By January 2007, the Abu Dhabi-based MOH, which was charged with overseeing IVF clinic licensing and policy in the UAE, had swung into action. A national MOH committee was formed to develop federal guidelines on IVF in the Emirates. The committee consisted of politicians from the UAE's Federal National Council (FNC); Muslim clerics from the UAE's main *fatwa*-granting institution; lawyers from the UAE Court of Justice; two IVF physicians, one local and one from another Arab country; and a representative from the DHA. By July 2007, the committee had already drafted a federal bill on IVF, which was being vociferously debated in the FNC, one of the UAE's main governing bodies.

Two key points of disagreement involved whether or not to allow embryo freezing, and whether all IVF clinics must include Muslim physicians on their staffs. In a heated debate on the FNC floor, the UAE's Minister of Health argued that science and medicine 'have no religion' (Salama, 2007, p. 2). As he put it, 'IVF centres were set up and excelled in non-Muslim countries. The UAE constitution does not discriminate against any citizen on religious grounds' (Salama, 2007, p. 2). Similarly, the UAE's Minister of State criticized the Muslim physician imperative as 'uncivilized and not keeping in line with the UAE's progress in all fields' (Salama, 2007, p. 2). This cosmopolitan viewpoint was not shared by most FNC members, who nonetheless agreed that the MOH should be left to deal with this matter during clinic licensing.

Over a 3-year period, from 2007 to 2009, the MOH worked out its comprehensive IVF legislation. Drafted in 2008 and amended through a cabinet resolution in 2009, Federal Law No. 11, 'in connection with the fertilization centres in the State', was officially passed into law in early 2010, and was signed by all seven standing *emirs* (rulers) of the confederation. Most importantly, Federal Law No. 11 is one of very few assisted reproduction laws in the Middle East. Of the 22 Middle Eastern nations, only six countries (Algeria, Iran, Israel, Tunisia, Turkey and the UAE) have enacted assisted reproduction legislation (Jones et al., 2010). Three of these countries (Iran, Israel and Turkey) are not Arab, and two of the Arab countries (Algeria and Tunisia) are in North Africa. Thus, the UAE is the sole Arab nation in the heart of the Middle East to pass an assisted reproduction law. Egypt, Jordan and Saudi Arabia – the first three Sunni Muslim countries to open IVF clinics – have never passed assisted reproduction legislation, relying instead on *fatwa* guidelines, which, although religiously authoritative, are not legally binding (Inhorn, 2003). This is because most Arab countries are decidedly less cosmopolitan than the UAE; thus, the strength of *fatwa* guidelines alone is

sufficient to define assisted reproduction clinical practice, including the widely accepted Sunni Muslim ban on third-party reproductive assistance (Inhorn, 2003, 2012).

Quite significantly then, the UAE's Federal Law No. 11 is not only singular, but can also be described as one of the most comprehensive – indeed, most draconian – assisted reproduction laws in the world. It describes how IVF clinics are to be set up, licensed and staffed. It provides details of how medical records are to be kept, lab data entered, and pregnancies monitored to determine clinical success rates. Prices are to be displayed clearly in both English and Arabic. Waiting rooms and bathrooms are to be clearly marked and gender segregated, without any pornography (which is illegal in most Arab countries) to be placed in the men's bathrooms where semen collection takes place. Couples presenting to clinics for treatment must bring valid passports or identity

cards, a marriage licence and a photo of each spouse, and must submit to both hepatitis and HIV testing.

Beyond these general requirements of clinic compartment, Federal Law No. 11 is very specific about which assisted reproduction practices are legally allowed (*halal*) and which are illegal and prohibited (*haram*) (Table 1). Of 22 potential assisted reproduction procedures, only seven, or approximately one-third, are now allowed in the Emirates. Fifteen others are prohibited, including, most notably, cryopreservation (freezing) of embryos; gamete and embryo donation; surrogacy (including by a co-wife within a polygynous union); or any kind of assisted reproduction outside of heterosexual marriage.

These many prohibitions against gamete donation, embryo donation and surrogacy, as well as the requirement of marriage among infertile couples, are completely understandable within the Emirati religious-moral environment described earlier.

Table 1 The UAE's assisted reproduction law: permissions and prohibitions^a.

<i>Procedure</i>	<i>Permitted: halal</i>	<i>Prohibited: haram</i>	<i>Comments</i>
Anonymous third-party reproductive assistance		X	
Cryopreservation (freezing) of embryos		X	Only the 'required number of eggs' are to be fertilized, but any excess embryos must be left to expire 'in a natural manner'; this law is being challenged by physicians and patients as 'anti-woman', and thus is being applied differently across the Emirates.
Cryopreservation of gametes (sperm and egg freezing)	X		With annual written consent of both husband and wife for a maximum of 5 years.
Donation of embryos		X	
Donation of gametes		X	Donation of both eggs and spermatozoa.
Embryo banks		X	In keeping with the prohibition on cryopreservation of embryos above; but being applied differently across the Emirates.
Embryo couriers		X	No delivery of frozen embryos in or out of the country.
Embryo transfer	X		Maximum of three embryos in women ≤ 35; four embryos in women > 35.
Experimentation on the embryo		X	
Gender (sex) selection	X		Purportedly only for sex-linked genetic disorders.
ICSI	X		Only using a married couple's gametes (egg and sperm).
IUI	X		Same as above.
IVF	X		Same as above.
MFPR		X	A form of selective foetal abortion not explicitly mentioned in the ART law, but not being practised in most of the UAE's Emirates, where abortion is illegal.
Polygynous gestational surrogacy		X	With a wife in a polygynous marriage serving as a surrogate for her co-wife.
Posthumous insemination		X	
PGD	X		For genetic screening and 'family balancing'.
Reproductive cloning		X	Part of a universal ban on this procedure.
Same sex couples using ART		X	Marriage of a heterosexual couple is required, with three forms of identification (passport or ID, marriage licence, photos of both spouses).
Single women using ART		X	Same as above.
Surrogacy via IVF		X	
Therapeutic stem cell cloning (from human embryos)		X	

ART = assisted reproduction; ICSI = intracytoplasmic sperm injection; IUI = intrauterine insemination; MFPR = multifetal pregnancy reduction; PGD = preimplantation genetic diagnosis.

^a The categories in this table are adapted from Jones et al. (2010). The information comes directly from UAE Federal Law No. 11.

However, what is highly unusual for the Muslim world is the prohibition against embryo cryopreservation, with the concomitant ban on embryo banking. In no other part of the Sunni Muslim world is it illegal to freeze embryos, assuming that those embryos are legally created using the gametes of a married couple. Cryopreservation of embryos is considered a licit (*halal*) practice, and is clearly designated as such in a variety of Sunni *fatwas* on assisted reproduction (Serour, 1996, 2008). Hence, the UAE law prohibiting embryo freezing is uniquely restrictive, comparable only to the Vatican-inspired ban on embryo cryopreservation in Italy (Inhorn et al., 2010).

Given that embryo freezing is considered *halal* in the rest of the Muslim world, the UAE's legal prohibition on this practice seems to have arisen from the specific concerns that frozen embryos were being 'mixed', either intentionally or unintentionally, without patients' prior knowledge or consent. Given the brouhaha that had occurred over embryo mixing during the 2006 clinic war, outlawing embryo freezing represented a particular instance of legal emiratization – namely, the UAE's own reprobational attempt to prevent third-party embryo and gamete 'mixing' from occurring on Emirati soil. Although embryo freezing has been reinstated in several Emirates following legal challenges and reconsideration by the UAE's MOH, Federal Law No. 11's prohibition on embryo freezing still holds in Dubai – the Emirate where most infertile foreign couples flock for IVF, only to discover the legal ban on embryo cryopreservation and a multitude of other ART services.

Conclusion

In summary, IVF practices in the UAE have been increasingly emiratized over the past 25 years in response to government fiscal pressures and cultural sensibilities of the local Emirati population. An IVF sector that began entirely as a British import – transplanted directly into the 'womb' of the UAE's main government hospital – has gradually become indigenized in response to perceived local needs. This process of IVF emiratization can be understood as a variant of the more formal government-mandated programme of emiratization, which is designed to increase Emirati representation in the private labour force in the country. In the IVF sector, clinics have also come under increasing government pressure to cater to the needs of Emiratis over foreigners and to follow an Emirati assisted reproduction law that is uniquely restrictive. This process of IVF emiratization has sometimes been very painful, as illustrated in the account of the 2006 clinic war in this article.

As a result of this emiratization process, IVF services that were once openly practised and deeply desired by a globally diverse group of infertile couples have gradually disappeared over time. Emiratization – in its moral, medical, fiscal and legal forms – has proven extremely difficult for the millions of non-Muslim IVF patients living in, or travelling to, the Emirates in the hope of accessing high-quality, medically cosmopolitan IVF care. Once they arrive, however, they are often shocked to discover a contemporary moral-legal environment in which many potential assisted reproductive technologies are entirely unavailable, as shown in Table 1. For many of these reproductive travellers, this conservative biopolitical regime

is oddly out of sync with the Emirates' progressive image as a globally sophisticated, culturally cosmopolitan, medical tourism hub.

In the end, then, it is fair to conclude that the twin goals of Emirati statecraft – namely, a self-conscious medical cosmopolitanism coupled with a government-mandated emiratization – are existing at cross-purposes in the second decade of the new millennium. Emiratization has meant the increasing curtailment of cosmopolitan conceptions in global Dubai. How these opposing forces will play out in the future remains to be seen. Meanwhile, emiratization appears to be consolidating the privileges of an already privileged citizen-minority, leading to reproductive discrimination and disenchantment among infertile 'outsiders' living in, or travelling to, this global reprohub.

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