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## Chapter 10

# NEW ARAB FATHERHOOD

## MALE INFERTILITY, ASSISTED REPRODUCTION, AND EMERGENT MASCULINITIES

Marcia C. Inhorn

### Introduction

Male infertility is one of the world's best-kept secrets. Few people realize that male infertility contributes to more than half of all cases of childlessness worldwide (Greil et al. 2010; Vayena et al. 2002). In the Middle Eastern region, the rates of male infertility are even higher—generally contributing to 60 to 70 percent of all cases—with very severe forms that may be genetic in origin (Inhorn 2012; Inhorn et al. 2009).

Since 2003, I have been studying male infertility in the Middle East, interviewing more than 330 men from a variety of Arab countries (including Lebanon, Syria, Palestine, Egypt, Iraq, Yemen, and the United Arab Emirates).<sup>1</sup> In all of these cases, men were undergoing assisted reproduction, particularly intracytoplasmic sperm injection (ICSI), a variant of in vitro fertilization (IVF) designed to overcome male infertility (see Kahn and Chavkin, this volume). Since 1994, when ICSI first arrived in Egypt, demand for this assisted reproductive technology (ART) has skyrocketed across the Arab world (Inhorn 2003; 2012).

This chapter seeks to shed light on Arab men's twenty-first-century engagements with this rapidly globalizing reproductive technology. On the one hand, Middle Eastern men today are active seekers of ARTs and are generally invested in many aspects of the reproductive process, from high-tech conception to hands-on parenting. Such commitments are a manifestation of changing notions of manhood and fatherhood across the region—what I call “emergent masculinities” in my recent book, *The New Arab Man: Emergent Masculinities, Technologies, and Islam in the Middle East* (Inhorn 2012).<sup>2</sup> Inspired by the work of Raymond Williams (1978) on “emergence” and R. W. Connell (1995) on “hegemonic masculinity,” I offer the new trope of “emergent masculinities” to capture changing practices of masculinity in the Middle East, as elsewhere (Inhorn and Wentzell 2011). Emergent masculinities encapsulate change over the male life course as men age, change over the generations as male youth grow to adulthood, and changes in social history that involve men in transformative social processes such as the Arab Spring. In the Middle East today, many men are engaged in a self-conscious critique of local gender norms, unseating patriarchy in the process. Part of this critique involves the desire to share the responsibility for reproduction and parenting with wives and to utilize the full panoply of reproductive technologies, from contraception to assisted conception. Indeed, Middle Eastern IVF clinics are full of men seeking ICSI to overcome their male infertility, as well as men supporting the IVF-seeking of their infertile wives.

As this chapter outlines, however, Arab men's attempts to become fathers via assisted conception may enact significant tolls on their bodies, their wallets, and their emotions. The “male quest for conception” (Inhorn 1994) may entail endless rounds of ICSI repetition and failure, costly transnational travel, moral anxieties and dilemmas, and questions concerning both wives' and children's future well-being. In other words, ICSI may be considered a breakthrough technology to overcome male infertility, but it is never a panacea, particularly in a region of the world where male infertility is a highly prevalent and often intractable condition.

### Male Infertility in the Middle East

It is important to outline, at least briefly, the scope of the male infertility problem in the Middle East and the history of ICSI there. On a

global level, infertility affects more than 10 percent of all reproductive-aged couples, and male infertility contributes to more than half of all of these cases (Vayena et al. 2002). Male infertility involves four major categories of sperm defects, any one of which leads to a diagnosis of male infertility. These include low sperm count (*oligozoospermia*), poor sperm motility (*asthenozoospermia*), defects of sperm morphology (*teratozoospermia*), and total absence of sperm in the ejaculate (*azoospermia*). Azoospermia may be due to lack of sperm production (*non-obstructive azoospermia*) or blockages in sperm transport (*obstructive azoospermia*). These four types of male infertility account for about 40 percent of all cases of infertility in the Western countries (Vayena et al. 2002). However, as noted earlier, 60 to 70 percent of all cases presenting to Middle Eastern IVF centers may involve a diagnosis of male infertility, according to most physicians' estimates. Moreover, non-obstructive azoospermia is highly prevalent in the Middle East, as are cases of severe oligoasthenozoospermia (i.e., very low sperm count and poor motility).

Because of advances in the field of genetics, it is now realized that a significant percentage of these kinds of severe cases are due to genetic abnormalities affecting sperm production (Maduro and Lamb 2002). Probably the most frequent genetic cause of infertility in men involves microdeletions of the long arm of the Y chromosome, which are associated with spermatogenic failure. In men with such Y microdeletions, the spermatozoa will always be infertile, because these genetic alterations are incurable and will be present throughout a man's lifetime. Thus, genetic forms of male infertility are recalcitrant to prevention and represent a chronic reproductive health problem for thousands upon thousands of Middle Eastern men (Inhorn and Birenbaum-Carmeli 2010).

Furthermore, in the Middle East, male infertility tends to run in families, and is probably related to intergenerational patterns of consanguineous, or cousin marriage. Cousin marriage is found in societies around the world, with more than 1.1 billion people estimated to be in consanguineous unions worldwide (Bittles 2012). Consanguineous marriage may be preferred for a variety of social, economic, religious, and practical reasons. In the Middle East, for example, cousin marriage receives support within the Islamic scriptures, given that the Prophet Muhammad married his daughter, Fatima, to his first cousin, Ali (Inhorn et al. 2009). According to a variety of recent studies, cousin marriage continues to be practiced widely across the Middle Eastern region, with the lowest levels found in Lebanon (16

percent) and the highest found in parts of Iran (78 percent); between 8 and 30 percent of these marriages are first-cousin marriages, or the closest form (Inhorn et al. 2009; Shavazi et al. 2006).

A growing literature suggests that genetically based sperm defects cluster in families and may be linked to consanguineous unions. For example, recent studies conducted in Italy show that consanguineous unions highly correlate with rare genetic sperm defects (Baccetti et al. 2001; Latini et al. 2004). These include a range of syndromes that impact sperm morphology (shape) and motility (movement) and may be transmissible to male offspring. Studies strongly suggest that male infertility may be heritable and may cluster in families and communities, depending upon the level of consanguineous marriage in the general population.

In my own study of both fertile and infertile men attending IVF clinics in Lebanon, significantly more of the infertile men than the fertile ones were the offspring of prior consanguineous unions, suggesting that cousin marriage may produce infertile male offspring (Inhorn et al. 2009). Many infertile men in my study also had infertile brothers, and some had other infertile male relatives as well. Indeed, more than 40 percent of infertile men in my study could identify other known cases of male infertility in the immediate family, particularly among brothers, first cousins, uncles, and, in some cases, fathers. In addition, infertile men with the most severe cases of oligozoospermia and azoospermia were significantly more likely to be the offspring of first- (parents') and second-generation (grandparents') consanguineous unions. Among this "most infertile" subset, nearly half of all men were born from consanguineous marriages among parents, grandparents, or both. Clearly, these findings suggest that consanguineous marriage over generations may lead to familial patterns of male infertility. Given the high prevalence of cousin marriage in the Middle East, male infertility represents a significant reproductive health problem there.

Until the early 1990s, the only known solution to male infertility was sperm donation, which, although practiced in the West (Becker 2002), is widely prohibited in most Muslim-majority countries (Inhorn and Tremayne 2012). Most Arab men refuse to consider sperm donation, equating it with mistaken paternity, genealogical confusion, and illicit sexuality (Inhorn 2012). Similarly, legal adoption as it is practiced in the West—where a child takes the adoptive parents' surname, can legally inherit from them, and is treated "as if" he or she is a biological child—is prohibited in Islam for reasons of patri-

lineal purity.<sup>3</sup> In the absence of sperm donation and child adoption, infertile men are left with few avenues to fatherhood.

Given these prohibitions, the introduction of ICSI, which overcomes male infertility using a man's own sperm, was a watershed event within the Arab world. As a variant of IVF, ICSI solves the problem of male infertility in a way that IVF cannot. With standard IVF, spermatozoa are removed from a man's body through masturbation, and oocytes (eggs) are surgically removed from a woman's ovaries following hormonal stimulation. Once these male and female gametes are retrieved, they are introduced to each other in a petri dish in an IVF laboratory, in the hopes of fertilization. However, "weak" sperm (i.e., low numbers, poor movement, misshapen) are poor fertilizers. Through "micromanipulation" of otherwise infertile sperm under a high-powered microscope, they can be injected directly into human oocytes, effectively aiding fertilization. As long as one viable spermatozoon can be extracted from an infertile man's body, it can be "ICSI-injected" into an oocyte, leading to the potential creation of a human embryo. With ICSI, then, otherwise sterile men can father biogenetic offspring. This includes azoospermic men, who produce no sperm in their ejaculate and must therefore have their testicles painfully aspirated or biopsied in the search for sperm. In short, ICSI gives even the most infertile men a chance of producing a "test-tube baby."

First invented in Belgium in 1991–92, and then introduced in Egypt in 1994, ICSI has led to a virtual "coming out" of male infertility across the Middle East, as men acknowledge their infertility and seek the ICSI solution (Inhorn 2003; 2012). The coming of this new "hope technology" (Franklin 1997) has repaired diminished masculinity in men who were once silently suffering from their infertility. Furthermore, ICSI is being used in the Middle East and elsewhere as the preferred assisted reproductive technology, effectively replacing its predecessor, IVF. Basically, IVF leaves fertilization up to chance, whereas ICSI does not. Thus, ICSI provides a more guaranteed way of creating "the elusive embryo" (Becker 2000). With ICSI, human fertilization is increasingly aided and abetted by human embryologists working in IVF laboratories around the world.

ICSI may be a revolutionary technology, but it also entails many challenges for infertile men and their wives. For one, the precisely timed collection of semen can produce deep anxiety and even impotence, but is imperative for all ICSI procedures (Inhorn 2012). Some men may produce no spermatozoa whatsoever, even within

their testicles, eliminating ICSI as an option. Furthermore, ICSI may not succeed, leading to endless rounds of fruitless repetition among some couples. For women, ICSI involves a grueling surgical procedure, which is highly dependent upon the complicated hormonal stimulation and extraction of healthy oocytes from women's bodies. Whereas the fecundity of older men can often be enhanced through ICSI, women's fertility is highly age sensitive, with oocyte quality declining at later stages of the reproductive life cycle. In short, older women may "age out" of ICSI, causing highly gendered, life-course disruptions surrounding women's "biological clocks" (Inhorn 2003; 2012). In addition, men may arrive at ICSI after years of other failed treatment options. ICSI is expensive, usually costing U.S. \$2,000 to \$6,000 per cycle in the Middle East. Thus, it is often deemed a "last resort," especially for men without adequate financial resources. Finally, when it does succeed, ICSI may perpetuate genetic defects into future generations, through the sperm defects and other inherited disorders that may be passed by infertile men via ICSI to their male offspring. The ethics of passing genetic mutations to children has been an increasing cause for concern (Bittles and Matson 2000).

Despite these challenges, nearly 5 million "test-tube babies" have now been born around the world (Franklin 2012), nearly half a million of whom are the result of ICSI. As suggested earlier, ICSI is a "hope technology" (Franklin 1997), creating the "only hope" for most infertile men, especially those with serious infertility problems. The emergence of ICSI in the Middle Eastern region has led to a boom in demand for this technology—a demand that has never waned. ICSI is by far the most common ART now undertaken in the Middle East, and IVF clinics today are filled with ICSI-seeking men and their wives. For many of these men, the search for ICSI success is relentless. As one infertile Lebanese man put it, "I will try again and again and again. I will never lose hope." Or, as another concluded, "I will try until I die."

In order to exemplify the emergence of ICSI and all that it entails in the Middle East, I turn here to the story of a man who I shall call Ibrahim,<sup>4</sup> whose ardent desire for fatherhood propels him on a valiant and transnational ICSI quest. Ibrahim's story exemplifies many aspects of new Arab manhood as it is emerging in the twenty-first century. In Ibrahim's case, he engages creatively and persistently with a variety of new medical possibilities in his hope of becoming a new Arab father. Ibrahim was one of several Middle Eastern men who volunteered for my ethnographic study, eager to tell his story and to relay his treatment quest to me. I met Ibrahim and his wife

Nura in January 2007 outside an ultrasound scanning suite in an IVF clinic on the outskirts of Dubai, United Arab Emirates (UAE). I was packing my bag to leave for the day when Ibrahim approached me, having read my study advertisement placed on the waiting room tables. We made a tentative appointment to meet later in the month. But as soon as I stepped into a waiting taxi, I received a call from Ibrahim on my cell phone, asking if we could meet sooner, ideally at his home. I agreed, and two days later, on Ibrahim's way home from work, he picked me up at the clinic for the short ride to his and Nura's spacious, high-rise apartment, overlooking an inland lake. I commented on the beauty of the couple's home and its view, and Ibrahim proceeded to give me a tour, showing me the second bedroom where he hoped there would soon be a child. We then sat down on the ornate, Louis XIV-style furniture in the living room to talk about Ibrahim's infertility problem and the couple's ICSI quest.

### Ibrahim and His ICSI Quest

Married for thirteen years, Ibrahim and Nura were first cousins, the children of two Palestinian sisters. Ibrahim had grown up in a Palestinian family in Kuwait, but when he visited his mother's family in Jenin (on the West Bank), he met his beautiful cousin Nura, falling madly in love with her. They married "for love" in 1993, and by 1994, the questioning began about why Nura was not yet pregnant. "You know our traditions in the Middle East," Ibrahim said to me. "We get married, and after one year, everybody starts asking what's going on. If you go for more than one year [without a pregnancy], this comes to be seen as a problem."

Nura began the treatment quest by visiting a doctor in 1995. When the doctor told her that she was able to become pregnant, Ibrahim did his first "checkup," a semen analysis that proved to be "very bad." The physician advised Ibrahim to go to a "specialist." Ibrahim consulted a urologist and, per Middle Eastern medical tradition, ended up undergoing a varicocelectomy (to remove varicose veins on the scrotum) in 1995. As is generally the case, the varicocelectomy did nothing to improve Ibrahim's sperm count. "After that, I did many tests," Ibrahim explained. "And still, the results turned out to be very bad." He then volunteered, "I have a copy of all my medical reports. I could show them to you on Sunday. Always, the semen count was 400,000 to 500,000, very, very weak. And after one-half hour, everything died. There was fragmentation, also."



"Our journey starts here," Ibrahim told me, immediately launching into a story of thirteen failed ICSI attempts between 1995 and 2007, the last one conducted during the sacred month of Ramadan the year before. In the early days of their ICSI quest, Ibrahim and Nura focused on Jordan, a country with a Palestinian majority, Palestinian-run IVF clinics, and a "famous" IVF hospital in Amman, one of the first to perform IVF in the Middle East. Traveling from their home in Kuwait to Jordan was both taxing and expensive. Nonetheless, Ibrahim and Nura attempted ICSI seven times in Jordan at three different IVF centers. At that time, the cost of one ICSI cycle was 1,500 to 2,000 Jordanian dinars (approximately \$2,100 to \$2,800), but Ibrahim's monthly salary was only 200 Jordanian dinars, or one-tenth the amount of one ICSI procedure. In desperation, Nura contemplated selling her bridal gold. Fortunately, however, Ibrahim secured a good job in Dubai as an accountant, and the couple moved there in 1999. Within their first year in Dubai, Ibrahim and Nura underwent two ICSI procedures in Emirati government hospitals, where ARTs were partially state-subsidized. However, both cycles failed, and the couple became concerned about standards of cleanliness, having seen cockroaches on the hospital walls.

As the new millennium was fast approaching and their nine ICSI cycles had all failed, Ibrahim became convinced to "stop searching in Arab countries." A Palestinian friend in France made an appointment for Ibrahim and Nura at an IVF clinic in Rouen. There, a chromosome test of Ibrahim's sperm showed "fragmentation," an indication of a chromosomal defect. Reviewing Ibrahim's case, the French doctors told him bluntly, "We can't do anything for you. And since you did ICSI more than nine to ten times, we cannot do it again, because the French rules say that we cannot do ICSI after four times." They then suggested adoption, which shocked Ibrahim. "That's fine for you," Ibrahim told the French doctors. "But for us, as Muslims, we have a different tradition."

Demoralized but not destroyed, Ibrahim began his "research," drawing upon his global network of relatives and acquaintances in the Palestinian diaspora. Fortunately, one of Ibrahim's Palestinian friends in Los Angeles told him that he would be willing to help with the ICSI quest. Despite the difficulty of obtaining visas for travel to the post-9/11 United States, Ibrahim and Nura's patience paid off. They were eventually allowed to seek medical care in America. There, they visited IVF centers in both Las Vegas and Los Angeles, agreeing that their best chances for ICSI success were at the Uni-

versity of California, Los Angeles, where, in the words of Ibrahim, a "master doctor" was in charge of the IVF clinic.

For the first time in a decade of ICSI-seeking, Ibrahim and Nura were offered preimplantation genetic diagnosis (PGD). In Ibrahim and Nura's case, the UCLA physician wanted to determine whether the couple's ICSI embryos were carrying genetic defects, causing repeated ICSI failures. After verifying that PGD was religiously acceptable, Ibrahim and Nura agreed to PGD, and learned that eight of their twenty embryos were free from obvious genetic disease. As Ibrahim recalled, "He [the IVF doctor] told me something funny then. He said, 'You have seven girls and one boy.' I said, 'I don't give a damn shit for girls or boys, Doctor! All I want is a child!' So he returned back [to Nura's uterus] three girls and one boy."

Ibrahim and Nura were scheduled to return to Dubai a week after the embryo transfer, and Ibrahim carefully changed their tickets from economy to business class, so that Nura and the four ICSI embryos could "recline" in transit. After their return to Dubai, Nura underwent a pregnancy test—again negative. "My God, you cannot imagine how disappointed we were," Ibrahim exclaimed. Calling me by my first name, he continued:

In the U.S., Marcia, the trip cost me, with the travel, with everything, around \$35,000. Maybe I've spent more than \$100,000 in total for all of the [ICSI] trials. If somebody else had done this to Nura, I'm sure she couldn't stand it. Sometimes, I come back home, and I find her crying. The environment here in the Arab countries, I mean, her sister is getting pregnant, my brother's wife is getting pregnant, and sometimes they cannot stop it [their fertility]! Our family is not interfering, and it's a love marriage. But sometimes, you know, I told her, "All of the problem is because of me, not you. It's from my side. If you want, we can divorce." But she refused. She told me, "If there is going to be a baby, it has to come from you."<sup>5</sup>

He then asked me, "It's so frustrating; I have to do ICSI. But how and where?" At this point, I broached the delicate topic of sperm donation. Ibrahim responded:

Somebody suggested sperm donation, but we totally refused. For both of us, it's not in consideration. [*Inhorn*: Why?] Because I refuse it. If the sperm comes from somebody else, you know, inside your heart, you will know it is not yours. Not our color, not our eyes, different things will come out. That's why we refuse. He will not be my son. But maybe I will go for the other one, cloning, or how they did Dolly the sheep. This cloning I have no problem with. [*Inhorn*: Even if Islam

doesn't allow it?] I'm sure they *will* allow it eventually. IVF started in the 1980s, and at first, the Islamic authorities didn't accept, but now they accept. Maybe after five years, they will accept cloning.<sup>6</sup> But using a donor, no. It's not from your back [where sperm are thought to be made]. It's not from you."

Nura, who had been quietly following the conversation added, "It's like adoption. I wouldn't do it because I don't like the idea."

Given their opposition to adoption and gamete donation, both of which are prohibited in Sunni Islam, Ibrahim and Nura explained that they must use their own gametes. According to Ibrahim, their reproductive fate is ultimately in God's hands:

I believe in science, but also God. I believe in science, but if God wants to give, He will. We have the same belief, that if God wants to get us something [a baby], he will give. One of my friends, he was having the same problem as me. Every year, he was going on a vacation with his wife to Jordan and doing ICSI, and it was not happening. Then two years ago, I got back in touch with him. He said, "You'll never believe what happened! I got fed up going to clinics here and there and just spending money. So my wife and I went to Saudi Arabia on the *umra* [a form of pilgrimage], and we were staying there and praying to God. And, yes, it happened."

"So you see," Ibrahim said, "This is from God. You have to believe."

According to Ibrahim, he would be satisfied if God granted him one child. "One baby and that's it! Not more. I told Nura, 'If I get one baby, your ovary, I will remove it!' I don't want to think about it anymore! This is the only, and lonely problem in my life. I don't have any other problem."

Ibrahim told me that he had contemplated going to Belgium, where ICSI was invented, but he had decided against it. "One doctor, he advised us to go to Belgium. But after we tried ICSI in America, I feel that what we do here [in the Middle East] is the same." At the time of our meeting, Ibrahim had placed his hopes in the private IVF clinic on the edge of Dubai where I first met him. Although the IVF physician was a Hindu from India, Ibrahim found him "down to earth," a physician who had still "found hope" in Ibrahim's poor sperm profile. Ibrahim continued,

When I'm alone, I start thinking, "What's wrong with me?" I don't know how to explain it. Sometimes, I think my problem was caused by the fear I faced in Kuwait in 1991. The Kuwaiti people came back to Kuwait [from Iraq], and I was there after the [First Gulf] war finished. They came back and caught all of the Palestinians they could

find [whose leader, Yasir Arafat, had supported Saddam Hussein]. They caught me for one night and tortured me, blindfolding my eyes and beating and slapping me. They took me from my house and I didn't know where I was going because they put a blindfold over my eyes. I was blindfolded, but I felt that there were about eight people there, in a building or a basement, and they tortured me. Then after that, they threw me out, and when the blindfold was removed from my eyes, my eyes opened, but I couldn't see anything for about one-half hour. This happened two years before marriage, and the shock of that, of this happening in the place where I was born and lived for twenty-five years, I don't know, but I think this experience may have caused my problem.

After this sobering conclusion to our interview, Ibrahim and Nura drove me home, chatting amiably about how much they enjoyed the United States and the "friendliness" of Americans. I was able to show them around the pretty, American-affiliated desert campus where I lived with my family. I promised to keep in touch and to make a few inquiries on their behalf. I was heartened by the fact that Ibrahim and Nura still had three female embryos in frozen storage at UCLA. Ibrahim had told me that returning to America to try a so-called "frozen cycle" with these embryos was too difficult, financially and emotionally. "If it is guaranteed that I will 'catch' these three girls [as my children], I will go and put!" he had exclaimed during the interview. But, rightly so, Ibrahim realized that there were no such guarantees.

Several weeks after our interview, I inquired with the clinic's "embryo courier" service about whether it was possible to transport three viable embryos all the way from Los Angeles to Dubai. When the courier replied "yes," I decided to introduce him to Ibrahim, a meeting that took place after Ibrahim and Nura experienced their fourteenth failed ICSI cycle at the Dubai IVF clinic. Ibrahim was very excited about the prospect of transporting their three embryos from the United States to the UAE, but was told by the courier that this would cost approximately \$2,500. Ibrahim laughed, "What the hell! After all I've paid, this is nothing!"

I left the UAE in July 2007, after six months of fieldwork at the clinic. I learned from the clinic's embryologist—a fellow Palestinian who had taken a special interest in Ibrahim and Nura's case—that the three embryos were flown from Los Angeles in a cryopreservation tank that was hand-carried all the way from LAX through customs at Dubai International Airport. With the help of the Indian doctor, Ibrahim's and Nura's "three girl embryos," made in America

and thawed in the UAE, were transferred into Nura's uterus on the Emirati IVF clinic's operating table.

Unfortunately, God decided that the time was still not right for Ibrahim and Nura to become parents. On the fifteenth attempt at ICSI, the three female embryos did not implant in Nura's womb, and Ibrahim's dreams of fathering three little "American-made" Palestinian daughters vanished.

### An ICSI Revolution?

Ibrahim's story is emblematic of emergent masculinities in the Middle East today, including men's engagements with the latest forms of reproductive technology as they become available around the globe. Ibrahim is a happily married man, who wants to father a child with his beloved wife, Nura. When he learns early in marriage that he is infertile, he begins a relentless quest to overcome his infertility, involving, among other things, repeated sperm tests, an unproductive genital surgery, and eventual resort to assisted reproduction. Ibrahim's ICSI quest involves, among other things, thousands of dollars, intraregional "doctor shopping," transnational reproductive tourism to both Europe and America, sophisticated genetic embryo testing, transnational embryo couriership, and fifteen repeated ICSI failures. The toll this takes on Ibrahim and Nura is profound. Nura, for her part, must suffer through the hormonal stimulation and invasive oocyte retrievals and embryo transfers of each failed ICSI cycle. Because Nura herself is healthy and fertile, Ibrahim feels great guilt and empathy for Nura's embodied sacrifice. In an attempt to prevent Nura's suffering, he proposes the option of divorce, which Nura refuses. Nura also refuses the option of legal adoption, which is prohibited by Islam. Ibrahim, for his part, cannot accept sperm donation, which is also religiously illicit and which is rarely accepted by Sunni Muslim men, according to my studies (Inhorn 2006; 2012). Instead, Ibrahim hopes for the day when human reproductive cloning will become available and accepted by the Islamic religious authorities. Until then, he has no option but to wait, or to try ICSI again.

In Ibrahim's case, he is extremely unlikely to impregnate Nura without technological assistance. Like so many Middle Eastern men, Ibrahim has a severe case of male infertility, of likely genetic origin. Although he believes in "science" and understands that his sperm manifest chromosomal "fragmentation," he also believes in God's

omnipotence in matters of human reproduction. So far, God has not blessed him with a child, for reasons he cannot dare to question.

Instead, Ibrahim attributes his infertility to the stresses of war-related physical violence, of which he was the victim. In fact, Ibrahim is quite astute in his analysis. In the war-torn Middle Eastern region, war and other forms of political violence have, indeed, increased both male and female infertility on a population level (Abu-Musa et al. 2008; Kobeissi et al. 2008). However, war is probably not the major reason why so many Middle Eastern men are infertile, manifesting severe cases with extremely low sperm counts, poor motility, or absence of sperm altogether. These severe cases tend to run in families and, as noted earlier, are probably genetically based. Men in my studies were often able to note familial patterns of male infertility, calling them *wirathi* (hereditary).

If most male infertility is, indeed, genetically based, then the use of ICSI as the major technological solution to overcome male infertility problems is also ethically questionable. Through ICSI, the genetic mutations causing male infertility may be transmitted to male offspring, requiring the intervention of ICSI generation after generation. To prevent this from happening, some Middle Eastern IVF practitioners are beginning to recommend the PGD-assisted culling of all male embryos in severe male infertility cases, before they are ever implanted. In this way, only female offspring, who do not carry the Y chromosome, are born to such infertile men.

Unfortunately, many infertile Middle Eastern men will never produce an ICSI child, because ICSI cannot guarantee conception. As with IVF, overall ICSI success rates are usually less than 40 percent per cycle, even in the world's best centers (Osmanagaoglu et al. 1999). Depending upon other factors, such as age-related egg quality and the severity of the male infertility, ICSI success rates can be significantly lower. For example, of 220 men participating in my study of male infertility in Lebanon (Inhorn 2012), 177 of them had already undertaken ICSI. Among these 177 men, there was a grand total of 434 ICSI attempts—274 among the infertile men, and 160 among the fertile men with infertile wives. Yet, only eighteen ICSI children were born to these men, including thirteen ICSI sons and five ICSI daughters (including one set of female twins). Thus, the so-called "take-home baby rate" was astonishingly low—only 4 percent. This low rate of ICSI success increased considerably if all conceptions were considered, including current pregnancies (seven), ectopic pregnancies (nine), miscarriages and stillbirths (twenty-nine), and neonatal deaths (four). In this case, sixty-six conceptions took

place after 434 ICSI attempts, for a pregnancy rate (as opposed to a "take-home" baby rate) of 29 percent. This makes the overall success of ICSI in this Middle Eastern population seem closer to global standards. Nonetheless, most of these ICSI conceptions ended in heartbreak and suffering, including life-threatening ectopic pregnancies among men's wives, the stillbirth of seven sets of twins, and the deaths of three ICSI sons (including one with Down syndrome) and one ICSI daughter (due to a congenital heart defect). Recounting their losses, men often wiped tears from their eyes.

Furthermore, some men—especially ICSI repeaters like Ibrahim—spent small fortunes on their attempts. The average number of ICSIs was 2.5, but a few men in my study had undertaken ICSI more than ten times. When I asked men to estimate how much they had spent on their ICSI quests, those who were able to calculate averaged \$17,000, with total costs ranging from \$1,500 to \$100,000. These costs are exceedingly high for the Middle East, if it is considered that most men in my study made well under \$12,000 per year. In the United States, by comparison, the average cost of one ICSI cycle is more than \$12,000, and the cost of making one "take-home" baby reaches nearly \$70,000 (Spar 2006).

Because of the costs of repetition, ICSI is an incredibly expensive technology, which many of the men in my study could ill afford. Some of them used up their life savings; some borrowed against their future retirement benefits; others took out bank loans; some sold land; some of their wives sold bridal gold; and in many cases, men relied on family financial aid, particularly from wealthier relatives in the diaspora. Some men literally impoverished themselves in their ICSI quests. Others waited years to save the requisite money for a single ICSI cycle. In a few cases, men told me matter-of-factly that they could only afford one ICSI. Thus, they were praying to God that their single attempt would succeed.

This brings us to an important question: Is ICSI a revolutionary technology? A miracle solution for male infertility? A form of technological assistance? A way to give nature a helping hand? Or is it something less promising? A form of false hope? A deleterious eugenic technology? A means of stratified reproduction?

Neither philosopher nor bioethicist, I find it difficult to answer these questions definitively. Many feminist scholars before me have attempted to "theorize infertility," by condemning the ARTs for their negative gender effects. Yet, in the most comprehensive feminist assessment of assisted reproduction, Charis Thompson (2002; 2005) urges caution in this regard. As she points out, the ethnog-

raphy of infertility clearly demonstrates the power of ARTs such as ICSI to generate hope, fulfill desire, and make parents of infertile couples. IVF clinics in the Middle East today are filled with ICSI-seeking couples such as Ibrahim and Nura. Baby photos prominently displayed on clinic walls, including in the operating theaters where ICSI is performed, keep hope alive for these couples. ICSI is by far the most common form of assisted reproduction now undertaken in the Middle East, because in the absence of sperm donation and adoption as legal options, ICSI is infertile men's only hope for fatherhood.

### **ICSI, Emergent Masculinities, and New Arab Fatherhood**

Despite the ambiguous effects of ICSI and other forms of assisted reproduction, ICSI brings with it hopes and dreams for the high numbers of infertile men in the Middle East, a region that can now boast one of the strongest and largest assisted reproduction industries in the world (Abbasi-Shavazi et al. 2008; Inhorn and Tremayne 2012). If male infertility threatens fatherhood, it is now typically viewed as a medical condition to be overcome through high-tech assisted reproduction, rather than as a sign of diminished manhood. In a region with high rates of male infertility, men often have friends and male relatives who struggle with infertility. The modern-day treatment quest—which often includes repeated semen analysis, clinic-based masturbation, testicular needlework, genital surgeries, and other forms of embodied agony—is men's badge of honor, signifying the ways in which men suffer for reproduction and love. Their feelings of sympathy and sacrifice—of doing all of this "for her"—are prominent motivating factors in emergent marital subjectivities in the Middle East today.

Gender scripts surrounding conjugality are also being reworked in complex ways as ICSI and other ARTs reach wider audiences in the Middle East. I would argue that assisted reproduction itself is changing the Middle East in unprecedented ways, creating many new possibilities for marital, gender, and family relations. The very growth of a booming Middle Eastern IVF industry—for example, with nearly 250 IVF clinics between the three Middle Eastern countries of Turkey, Iran, and Egypt—bespeaks not only regional pronatalism, but also the physical, financial, and emotional commitments of thousands upon thousands of married couples.



It is important to point out that Middle Eastern men embark on IVF and ICSI within marriage, which is highly valorized. Most Arab men desire romantic love, companionship, sexual passion, and monogamy, surrounded by a sphere of conjugal privacy within a nuclear household setting (Inhorn 1996; 2012). Increasingly, Middle Eastern couples are remaining together in long-term childless marriages, while trying repeated rounds of IVF and ICSI in the hopes of achieving parenthood. Furthermore, Middle Eastern men work hard, often emigrating for periods of their lives, in order to save the money necessary for these IVF and ICSI cycles. Fatherhood of two to three "test-tube babies"—a mixture of sons and desired daughters—is wanted as much for sheer joy and marital fulfillment as it is for patrilineal continuity, patriarchal power, or old-age security.

These changes in men's attitudes, expectations, and practices of reproduction and family life are indicative of what is being called "ideational change" across the Middle East (Yount and Rashad 2008). To wit, total fertility rates have fallen across the region; nuclear families are becoming the socially accepted norm; levels of education for both men and women, but especially women, are rising; and assumptions about son preference and men's patriarchal rights are being questioned. This "new Arab family"—to use the term coined by anthropologist Nicholas Hopkins (2004)—no longer resembles the Middle Eastern family of a generation ago. These emergent changes in family life are being followed by several Middle Eastern anthropologists, who have formed the Arab Families Working Group (AFWG) led by pioneering Lebanese-American scholar Suad Joseph (1999).

Just as these anthropologists are speaking of the new Arab family, I would like to coin the terms "the new Arab man" and "the new Arab father." New Arab men are rejecting the assumptions of their Arab forefathers, including what I have called in my work the "four notorious P's" (Inhorn 2012)—namely, *patriarchy* (i.e., male dominance), *patrilineality* (i.e., kinship traced only through the male line), *patrilocality* (i.e., residence with husband's family after marriage), and *polygyny* (i.e., marriage of one man to more than one wife). According to the men in my studies, these four P's are becoming a thing of the past. Instead, emergent masculinities in the Middle East are characterized by resistance to patriarchy, patrilineality, and patrilocality, which are being undermined. Polygyny is truly rare, comprising less than 1 percent of marriages in most Middle Eastern societies, just as it has been throughout history (Charrad 2001; Musallam 2009). Certainly, polygyny is not a common strategy today to overcome childlessness, nor a social norm for which contem-

porary Middle Eastern men strive. Although most Middle Eastern men want to father their own children, taking a second wife is not viewed as a solution to infertility. Instead, men seek to help their infertile wives find appropriate treatment. Middle Eastern men today also realize that they themselves may be infertile. Indeed, determining whether a man is infertile is now one of the first steps taken in the medical examination of childless couples across the Middle Eastern region. Men's acceptance of ICSI as the preferred solution for male infertility is also, in my view, highly indicative of ideational change and emergent masculinities in the Arab world today.

## Conclusion

All in all, the Middle East is in the midst of double forms of emergence—both technological and masculine. On the one hand, new forms of reproductive technology are continuously emerging, and once they reach the reproductive marketplace, they are being rapidly discussed, debated, and, in most cases, deployed in Middle Eastern IVF settings. ICSI is a case in point: after its introduction in Belgium in 1992, it spread within two years to Egypt, where Sunni Muslim couples were the first to access this reproductive technology. By 2007, when Ibrahim and Nura were about to embark on their fourteenth ICSI cycle in Dubai, ICSI was widely available across the entire Middle Eastern region from Morocco to Iran, with couples from all religions, Sunni, Shia, Druze, and Christian, employing this technology in hopes of overcoming male infertility.

The willingness of Middle Eastern men such as Ibrahim to engage with ICSI as a form of assisted reproduction is a powerful marker of their emergent masculinities. For example, in Ibrahim's case, he has undergone repeated forms of embodied agony to assess and improve his sperm profile. He has worked hard as a male labor migrant to fund his treatment quest. He has become a twenty-first-century male "reproductive tourist," even venturing to the West, where Palestinians are generally unwelcome. He has authorized the use of the latest forms of reprogenetic technology to advance his chances of ICSI success, and he has engaged in a sophisticated transnational process of embryo couriership in order to retrieve what he hoped would become his future daughters. Furthermore, although Ibrahim has demonstrated his marital love and commitment to Nura, he is sensitive to her own motherhood desires and embodied suffering, believing that she has made a major sacrifice in order to be with

him—an infertile husband. Ibrahim extols the virtues of his conjugal love. Indeed, his greatest hope is to become *both* a loving husband *and* a loving father—to a son *or* a daughter, the sex of the child being unimportant in his quest for fatherhood.

In conclusion, in the Middle East today, emergent masculinities entail love, tenderness, and affection, as well as untold sacrifice and suffering, all elements of contemporary Arab manhood that go unnoticed and unappreciated. It is my hope that this chapter provides a fundamentally humanizing account, moving us one step closer to understanding how Arab men encounter their reproductive setbacks. Through these encounters, Arab men such as Ibrahim are living proof that manhood is being transformed in the Middle East today, with men themselves reconceiving their masculinity.

### Notes

1. Since 1988, I have been undertaking ethnographic fieldwork on infertility and assisted reproduction in the Middle East, beginning in Egypt. Following the publication of my "Egyptian trilogy" (Inhorn 1994; 1996; 2003), I embarked on a major study of male infertility in Lebanon in 2003, undertaking semi-structured reproductive history and unstructured ethnographic interviews with 220 Lebanese, Syrian, and Palestinian men coming for infertility services in two major IVF clinics in Beirut, Lebanon. In 2007, I returned to the Middle East to undertake an ethnographic study of "reproductive tourism" in the United Arab Emirates, interviewing more than 200 reproductive travelers from fifty countries (Inhorn and Shrivastav 2010). In the intervening years, I conducted a study of infertile Arab immigrant and refugee men in southeastern Michigan, the so-called "capital of Arab America" (Inhorn and Fakih 2005). Most of these men were Lebanese, Iraqi, and Yemeni. In total, I have interviewed more than 330 Arab men in infertile marriages, the majority of these men being infertile. The interviews were conducted in either Arabic or English, depending on the preference of the informant. In Ibrahim's case, we spoke in English, a language in which he was fully fluent.
2. This chapter is excerpted from a variety of sections of my recent book, *The New Arab Man: Emergent Masculinities, Technologies, and Islam in the Middle East* (Inhorn 2012).
3. Legal adoption, as it is understood in the West, is not allowed in Islam. According to Islam, orphaned children can be permanently fostered, but they cannot be given the adoptive parents' family name, nor can they inherit from them (Sonbol 1995). Three Muslim Middle Eastern countries—Iran, Tunisia, and Turkey—have nonetheless circumvented these adoption rules, allowing formal legal adoption to take place. Informal

"adoption" (i.e., fostering) of relatives' children sometimes takes place, but, according to my studies, is relatively uncommon among infertile couples.

4. All names are pseudonyms.
5. At some point during long-term childless marriages, infertile men and women in the Middle East often offer to "free" their fertile spouses through divorce. These offers are generally refused, on the parts of both men and women.
6. Currently, there is an Islamic bioethical ban in place on human reproductive cloning, which follows worldwide trends in this regard (Eich 2002; Moosa 2003). Nonetheless, at least one Lebanese Shia cleric has condoned human reproductive cloning as a solution for childlessness (Clarke and Inhorn 2011; Inhorn 2012).

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