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Middle Eastern Masculinities in the Age of New Reproductive Technologies: Male Infertility and Stigma in Egypt and Lebanon

Worldwide, male infertility contributes to more than half of all cases of childlessness; yet, it is a reproductive health problem that is poorly studied and understood. This article examines the problem of male infertility in two Middle Eastern locales, Cairo, Egypt, and Beirut, Lebanon, where men may be at increased risk of male infertility because of environmental and behavioral factors. It is argued that male infertility may be particularly problematic for Middle Eastern men in their pronatalist societies; there, both virility and fertility are typically tied to manhood. Thus, male infertility is a potentially emasculating condition, surrounded by secrecy and stigma. Furthermore, the new reproductive technology called intracytoplasmic sperm injection (ICSI), designed specifically to overcome male infertility, may paradoxically create additional layers of stigma and secrecy, due to the complex moral and marital dilemmas associated with Islamic restrictions on third-party donation of gametes. [male infertility, masculinity, new reproductive technologies, stigma, Egypt, Lebanon]

Introduction

Infertility, classically defined as the inability to conceive after a year or more of trying and resulting in involuntary childlessness, affects approximately 8 to 14 percent of all couples worldwide (Bentley and Mascie-Taylor 2000; World Health Organization 1991). Among infertile couples, male factors, involving primarily low sperm count (*oligospermia*), poor sperm motility (*asthenospermia*), defects of sperm morphology (*teratospermia*), and total absence of sperm in the ejaculate (*azoospermia*), contribute to more than half of all cases (Irvine 1998). Yet, male infertility is a health and social problem that remains deeply hidden, including in the West. Studies have shown male infertility to be among the most

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stigmatizing of all male health conditions (Becker 2000, 2002; Greil 1991). Such stigmatization is clearly related to issues of sexuality. Male infertility is popularly, although usually mistakenly, conflated with impotency, as both disrupt a man's ability to impregnate a woman and to prove one's virility, paternity, and manhood (Goldberg n.d.; Webb and Daniluk 1999).

Over the past two decades, the study of infertility and the new reproductive technologies (NRTs), primarily in vitro fertilization (IVF), has emerged as a major area of scholarship in the West, including in medical anthropology (Becker 1997, 2000; Feldman-Savelsberg 1999; Franklin 1996; Inhorn 1994, 1996, 2003a, 2003b; Inhorn and van Balen 2002; Kahn 2000). Yet male infertility has received relatively scant attention, despite the fact that millions of reproductive-aged men worldwide are estimated to be infertile (Irvine 1998). Lloyd (1996, 1997), one of the few ethnographers to study the lived experiences of male infertility directly, has suggested that Western researchers interpret infertile men's nonresponse to their survey questions as an indication of the sensitivity of this emasculating reproductive health condition. However, little is known about the "truth of infertility" in men's lives (Lloyd 1996:452).

This article seeks to explore the truth of infertility in Middle Eastern men's lives by describing the possible causes and gendered consequences of male infertility and its evolving treatment for Middle Eastern men in Cairo, Egypt, and Beirut, Lebanon. I will show that male infertility may be a particularly vexing health and social problem among Middle Eastern Muslim men, for whom NRTs to overcome male infertility are simultaneously promising and problematic. As I suggest here, male infertility is not only a stigmatizing and potentially emasculating condition for Middle Eastern men, but the very technologies designed to overcome it add additional layers of stigma and cultural complexity. Such findings are not at all surprising. As shown by Joan Ablon in her pioneering medical anthropological research on the stigmatizing genetic disorders of dwarfism (Ablon 1984, 1988), neurofibromatosis 1 (Ablon 1999), and osteogenesis imperfecta,¹ the very technologies designed to detect these conditions, sometimes in the womb, may result in uncertainty and suffering on the part of their users, as well as broader social impacts, including eugenic implications and decreased social acceptance of the disabled. In the case of male infertility, the NRTs that are being rapidly transferred to the Middle Eastern region to solve this once intractable medical condition are leading simultaneously to hope and increased suffering, with major social consequences for marriage and family life (Inhorn 2003a).

As Kasnitz and Shuttleworth point out in this volume, Ablon's own work on three different genetic conditions in the United States has been profoundly concerned with the effects of stigmatized health conditions on gender and family life, including the ability of physically impaired informants to create and sustain meaningful intimate relationships with others. In all of Ablon's work, she focused on very visible-to-others physical health conditions that, in Goffman's (1963) terms, "discredit" individuals from normal social life.

Male infertility does not share this "discredited" status, for it is a condition that cannot be seen on the physical body. Instead, it is an impairment that is deeply hidden (in the testicles, in fact), with many men first learning of their infertile status upon postmarital semen analysis. Only then does male infertility become a problem for masculinity, marriage, and (the formation of) family life. Furthermore, in the

wider social milieu, male infertility becomes a problem of information sharing—namely, whether or not one should attempt to “pass for normal,” thereby implicitly placing the blame for childlessness on an otherwise fertile wife (Inhorn 2002, 2003b). Ultimately, then, male infertility makes men “discreditable” rather than “discredited,” or, in the words of Goffman (1963:42):

When his differentness is not immediately apparent, and is not known beforehand (or at least known by him to be known to the others), when in fact his is a discreditable, not a discredited, person, then the second main possibility in his life is to be found. The issue is not that of managing tension generated during social contacts, but rather that of managing information about his failing. To display or not to display; to tell or not to tell; to let on or not to let on; to lie or not to lie; and in each case, to whom, how, when, and where.

Following Goffman, as well as the intellectual tradition of Ablon, who extended Goffman’s theoretical insights ethnographically, this article seeks to reveal the tortured relationship between male infertility, stigma, masculinity, and issues of disclosure among Middle Eastern men, particularly as high-tech NRTs to purportedly overcome male infertility become increasingly available to Middle Eastern populations. Following a brief overview of the ethnographic setting and methods, the first half of this article examines the male infertility problem in the Middle East from both epidemiological and masculinities perspectives. I argue that Middle Eastern men are unwittingly at greater epidemiological risk of a stigmatizing health condition that may be emasculating for both social and cultural reasons. The second half of the article describes how the “newest” new reproductive technology to arrive in the Middle East—intracytoplasmic sperm injection (ICSI)—is now producing biological offspring for once hopelessly infertile Middle Eastern men. However, as the article will show, this technology may also produce paradoxical effects, including increased stigmatization, moral quandaries, and highly gendered suffering.

Methods

The findings presented here are based on ethnographic research carried out in four in vitro fertilization (IVF) clinics in two urban Middle Eastern locales, namely, Cairo, Egypt, and Beirut, Lebanon. In Egypt, I spent the summer of 1996 studying infertile couples attending IVF clinics in two elite suburbs of Cairo. Seventy percent of the 66 couples in my study suffered from male-factor infertility, and in most of these cases, the husband’s infertility was the sole cause of the couple’s childlessness. Among 40 percent of the couples in the study, both husbands and wives participated in the interviews, agreeing to speak with me about a wide variety of issues pertaining to IVF in Egypt (Inhorn 2003a). Thus, despite my previous focus on *female* infertility and IVF in Egypt (Inhorn 1994, 1996), my study in Cairo in 1996 was my first formal introduction to infertile *male* informants, who proved to be animated and loquacious in their own right. Through this study, I obtained rich interview data on male infertility and its treatment (Inhorn 2002, 2003b), even though I had not originally been seeking it.

Before I began my Egyptian IVF study, I had been highly skeptical that I would be able to conduct research with infertile Middle Eastern men, given the

sensitivity of the subject as well as general cultural barriers surrounding inter-gender communication. However, my position as a foreign female *duktura*—that is, as a knowledgeable, empathic listener, ethically committed to confidentiality—seemed to put infertile Egyptian men at ease (Inhorn *In press*). Furthermore, Middle Eastern-born male colleagues subsequently convinced me that my gender status might, in fact, be advantageous. In their view, Middle Eastern men may be much less likely to reveal their reproductive vulnerabilities to another man, given that virility and fertility are areas of intense masculine competition.

Thus, despite the impending U.S.-led war on Iraq (Inhorn *In press*), I decided to return to the Middle East for eight months in 2003—in this case to Beirut, Lebanon²—to study male infertility specifically. As in my Egyptian study, I was fortunate to gain ethnographic access to two of the busiest and most successful IVF clinics in central Beirut. One was located in a large, private university-based teaching hospital and catered to a religiously mixed patient population of both Sunni and Shi’ite Muslims, Christians of a variety of sects, Druze (a minority Muslim sub-sect), and various immigrant and refugee populations. The other was a private, stand-alone IVF clinic catering primarily to southern Lebanese Shi’ite patients, but with occasional Christian and Sunni Muslim patients from both Lebanon and neighboring Syria. Between these two clinics, I was able to recruit 220 Lebanese, Syrian, and Lebanese-Palestinian men into my study; 120 of them were infertile cases (i.e., based on spermogram results and World Health Organization definitions of male infertility), and 100 were fertile controls (i.e., the husbands of infertile women whose spermogram results showed them to have normal sperm parameters). This epidemiological case-control design also served important ethnographic purposes; it allowed me to understand the experiences and perspectives of infertile men, as well as men who were not infertile but who were experiencing childless marriages.

As in my Egyptian study, about half of my interviews were conducted in Arabic and half in English, depending on the preference and ability of informants (many of whom spoke excellent English). Although I tape-recorded some interviews in Egypt, most of my interviews in both countries were not taped, because of considerable discomfort on the part of most infertile informants, particularly men.³ In most cases, I conducted the interviews alone, but a research assistant was present during some of the Arabic interviews, especially in the initial stages of research when I was refamiliarizing myself with two very distinct colloquial dialects of Arabic (Egyptian versus Levantine).

A large amount of data was collected during the eight-month study period in Beirut. This included: (1) 220 completed eight-page reproductive history/epidemiological questionnaires, which I administered verbally to each man in the study; (2) 1,200 pages of qualitative interview transcripts, generated from open-ended interviews with all of the men in the study, some of their wives, and a variety of physicians, nurses, and embryologists at the two clinics; (3) 550 pages of field notes, based on participant observation and informal interviews and conversations with staff and patients at the two IVF clinics; and (4) more than 200 blood samples, which were frozen in the Beirut IVF laboratories and then hand carried by me via airplane to the United States for the purposes of later toxic metal analysis.⁴

This article is based primarily on qualitative interview data collected in both countries, given that quantitative epidemiological and environmental toxin

screening data from Lebanon are currently being analyzed. Yet, as will be seen in the following section, I asked men in their reproductive history interviews to reflect on the perceived causes of their infertility and their potential exposures to known epidemiological risk factors for male infertility. In addition, in open-ended interviews that I conducted with most men in the study, I asked questions revolving around what I characterized as the “four M’s”: masculinity, marriage, morality, and medical treatment-seeking. Although the Lebanese data from 2003 suggest that male infertility no longer “troubles” Middle Eastern masculinity as it once did in an earlier period in Egypt, masculinity issues in male infertility are still significant, shrouding this subject in relative secrecy in both countries. Moreover, in the age of new reproductive technologies, male infertility and its treatment lead to significant marital and moral conundrums in this predominantly Muslim region of the world, for reasons to be made clear in this article.

Male Infertility in the Middle East

Infertility prevalence rates, including male infertility rates, are lacking for the Middle Eastern region, although such rates are available throughout much of sub-Saharan Africa (Larsen and Riggers 2001; World Health Organization 1987). In Egypt, a World Health Organization-sponsored study carried out in the early 1990s placed the total infertility prevalence rate in that country at 12 percent (Egyptian Fertility Care Society 1995). There are no available data on infertility prevalence rates from Lebanon (a country that still lacks an official census because of multi-sectarian political rivalries), but there are enough cases of infertility to support a thriving infertility treatment industry. Although the country has only about 3.5 million Lebanese citizens, there are approximately 15 IVF centers in operation (some more successful than others), mostly located in greater Beirut. In Egypt, with its population of more than 70 million people, there were approximately 50 IVF centers in operation by 2003, mostly located in greater Cairo. Thus, in both countries, which have long historical traditions of colonially imposed Western biomedicine, the Western-developed and -manufactured NRTs to overcome infertility have spread rapidly and are now firmly entrenched in urban settings, where they are offered in private hospitals and IVF clinics (Inhorn 2003a, In press).

Part of the reason why IVF flourishes in both Egypt and Lebanon has to do with the purportedly high rates of male infertility in this region. Although so-called male factors (low count, low motility, sperm deformities, absence of sperm) are thought to contribute to about half of all cases in the United States and Western Europe, male infertility cases are even more common—and often more severe—in the Middle East. In the clinics in this study, male infertility cases make up at least 60–70 percent of the patient load. Furthermore, IVF physicians in these clinics, virtually all of whom have had comparative Western training in infertility, note that male infertility rates appear to be higher in IVF clinics in the Middle East than in Western settings. This is partly due to the fact that lower rates of sexually transmitted diseases (STDs) lead to fewer cases of primary tubal factor infertility in women. However, even in cases where Middle Eastern women suffer from a female factor, such as polycystic ovary syndrome (PCO), husbands often also present with persistent male infertility problems. Many of these cases, furthermore, are

severe, involving such problems as azoospermia and arrested spermatogenesis (i.e., no sperm whatsoever being produced in the testicles). As one doctor explained, reiterating a theme found in virtually every physician interview I conducted in Lebanon:

I think [the prevalence of male infertility] is higher here. Most of the studies that have been done show that it's *definitely* greater than 50 percent, more than half of all cases. Most of the literature from the West says 40 to 50 percent. But here, male infertility *by itself* is 50 percent—at least half of all cases—in addition to those cases where it's both male and female factor. Plus we see *very severe* cases. Severe oligo [spermia], severe asthenospermia. In the States, you see obstructive azoospermia following vasectomies. But here, it's definitely non-obstructive azoospermia cases, which are also high in Arabic populations in the [United] States.

When I asked this physician “Why so much male infertility?” his explanation was genetic. Namely, as shown in recent studies (Bittles and Matson 2000), Y-chromosome microdeletions and other genetic anomalies are clearly linked to some—maybe many—cases of male infertility, and such genetic conditions may be magnified through consanguineous marriage. Because interfamilial marriage, including among first cousins, is the preferred form in many parts of the Middle East (Inhorn 1996), including in some Muslim regions of Lebanon, consanguineous marriage may put a significant percentage of Middle Eastern males at unwitting risk of male infertility (Thomas and Jamal 1995).

In addition, Middle Eastern men, particularly those living in increasingly polluted urban centers such as Cairo and Beirut (Hopkins, Mehanna, and el-Haggar 2001), may be at increased risk of low sperm count and poor sperm motility due to environmental toxins. For example, lead is becoming a highly prevalent ambient air pollutant in urban areas of the Middle East where gasoline is still leaded, and lead is a well-known cause of spermatotoxicity (Schettler, Soloma, Valenti, and Huddle 1999). Other sources of toxin exposure, particularly to pesticides and heavy metals, are occupational in nature (Schettler et al. 1999) and may be linked to the lack of environmental and worker protections found in most industries in the Middle East. In addition, under periods of long-term warfare in some Middle Eastern countries, including Lebanon, men may have been exposed to other environmental toxins, including heavy metals such as depleted uranium (DU) used in American- and Israeli-deployed bombs and artillery.⁵

In addition to environmental toxins, significant amounts of caffeine and tobacco are ingested by many men (both in cigarettes and through waterpipes) in the contemporary Middle East. Both of these substances have been shown to exert negative effects on male fertility (Curtis et al. 1997; Inhorn and Buss 1994). Finally, histories of infections that impair male reproductive function, such as adult-onset mumps orchitis, schistosomiasis, or various sexually transmitted infections, are a potential cause of obstructive azoospermia and have been reported as a major cause of male infertility in parts of sub-Saharan Africa (Yeboah, Wadkhwani, and Wilson 1992).

For their part, many infertile Middle Eastern men wonder why they are among the unlucky ones to suffer from this serious reproductive impairment. Relatively few men in my studies attributed their own lifestyle factors, such as heavy smoking,

to male infertility. Instead, men who deemed themselves to be religious said that they accepted the fact that infertility is a condition "from God," while others said that they were probably infertile from factors beyond their individual control. These included, *inter alia*, infections and other health conditions that were undiagnosed or mistreated; food and water contaminated with hormones and pesticides; lack of nutritious food during critical periods of adolescent development; "shocks" and stresses suffered as a result of economic uncertainties and other misfortunes; and, in the case of Lebanon, being forced to live (and even fight) through the 17-year civil war.

In Lebanon, the most commonly cited reason for male infertility among men in my study was *el harb*, that is, "the war." Many men believed that their infertility somehow stemmed from the civil war, and the causes they cited were varied. These included the stresses and fears caused by war, physical relocation, and economic disruption; the use of toxic chemicals in bombs and weapons; the uncontrolled dumping of toxic wastes during that period; the use of saltpeter-like substances to quash sexual desire among young militia men; or genital and other forms of physical and psychological torture that some men endured during and after this period (which continued until the year 2000, with the Israeli occupation of most of southern Lebanon and the imprisonment of thousands of Lebanese men) (Fisk 2002; Khalaf 2002; O'Ballance 1998). As was clear from the demographic data I collected from each informant, my study population represented a generation of reproductive-aged men (25–55 years), whose lives, including education, marriage, and physical health, were significantly disrupted by years of warfare. Many men in the study had experienced injuries from bombs, artillery, or shrapnel. Those who were lucky were sent out of the country, usually by concerned parents, during the war period, either to escape the ravages of war or to find work and schooling opportunities that would benefit the extended family back in Lebanon. Periods of residence outside of the country affected men's abilities to marry in a timely fashion and also led some of them to contract potentially sterilizing infectious diseases. At least some of the men in this study blamed themselves for "ruining their reproductive organs" or "using up all their sperm" through premarital sexual activity, STDs, or excessive masturbation, for which they felt excessive remorse.

To take but one example, Ali,⁶ a Southern Lebanese Shi'ite man who fled to West Africa in 1977 to escape the ravages of war in his home community, described in an interview—while literally hanging and hiding his head in shame—that he and 11 other Lebanese refugee men had had serial, group intercourse with a West African prostitute. Following this episode, he contracted a sexually transmitted infection, which was quickly resolved with an antibiotic. Nonetheless, both Ali and his close hometown friend who had also participated in the group sex had gone on to suffer from long-term infertility in their subsequent marriages, of 15- and 20-year durations respectively. In Ali's view, it was this illicit sex act that caused his infertility, not his two-pack-a-day smoking habit for 35 years, which he did not associate with his low sperm count and poor sperm motility.⁷

Imagining Middle Eastern Masculinities

For infertile men like Ali, one of the major reasons that reproductive failure may be problematic is that men in the Middle East (and beyond) may deem

paternity an important achievement and a major source of their masculine identity. According to the first definition in *The New Shorter Oxford English Dictionary* (Brown 1993:1675), "male" means "of, pertaining to, or designating the sex which can beget offspring; in organisms which undergo sexual reproduction, designating, pertaining to, or producing gametes (as spermatozoa) that can fertilize female gametes (ova)." If biological "maleness" is, in fact, constituted by begetting offspring through the production of spermatozoa, then male infertility, or the inability to produce fecundating sperm, may come as a striking blow to men's social identities, with far-reaching implications for the construction of masculinity.

The relatively small but growing body of social scientific literature on male infertility in the West suggests that male infertility can have these kinds of emasculating effects. For example, in an article provocatively titled "The End of the Line: Infertile Men's Experiences of Being Unable to Produce a Child," Webb and Daniluk (1999) note that American men's sense of personal inadequacy constituted a major theme during interviews about their infertility. According to the authors, "The participants used words and phrases like *failure, useless, a dud, inadequate, not a real man, garbage, loser, and defective* in reference to their self-perceptions as infertile men—men who were unable to 'give their wife a child' "(Webb and Daniluk 1999:15, emphasis in original). Some men, furthermore, attempted to compensate for their feelings of inadequacy by acting like "super jocks," having affairs with other women, or throwing themselves into their work. In another study, men reported that their male physicians attempted to "smooth troubled waters" by referring to their infertility as "shooting blanks"—language that left men feeling separate and estranged from their somatic experiences (Moynihan 1998). Both infertility and its treatment have been reported in the West as resulting for some men in impaired sexual functioning and dissatisfaction, marital communication and adjustment problems, interpersonal relationship difficulties, and emotional and psychological distress (Abby, Andrews, and Halman 1991; Daniluk 1988; Greil 1991, 1997; Greil et al. 1990; Nachtigall, Becker and Wozny 1992).

It is very much an empirical question whether the effects of male infertility on men's sense of masculinity are culturally invariant; the topic has been even less researched in non-Western sites. The few comparative studies tend to come from Israel—more Western than Middle Eastern in some ways—where a handful of scholars have examined the impact of infertility treatment and especially donor insemination on masculinity (Carmeli and Birenbaum-Carmeli 1994, 2000; Goldberg n.d.). In Israel, infertile men were found to experience a profound sense of embarrassment and anomie in clinical treatment settings. There, poor semen analysis results were usually taken by men as indications of personal failure. Furthermore, infertile men felt as if they were expected to compete with another man, the sperm donor, who could easily substitute for them as a biological progenitor. Thus, the authors of one Israeli study suggested that infertility may have a "diffuse, total impact" on men, who may become a "target of ridicule" if their infertility becomes known to family and friends (Carmeli and Birenbaum-Carmeli 1994:674). Another author suggested that a "conceptual link . . . between dysfunctional sperm, failed masculinity and impotence in sexual intercourse" clearly exists in Israeli male infertility treatment settings (Goldberg n.d.).

Little if any social scientific research has explicitly focused on the subject of male infertility and masculinity among Middle Eastern Muslim men. Yet, Middle

Eastern Muslim men may also suffer over their infertility, for a number of important reasons. First, on the social structural level, men living in pronatalist Middle Eastern communities are expected to have children, as reflected in the relatively high marriage and fertility rates across the region (Population Reference Bureau 2001). Middle Eastern men achieve social power in the patriarchal, patrilineal, patrilineal, endogamous extended family through the birth of children, especially sons, who will perpetuate patrilineal structures into the future (Inhorn 1996; Obermeyer 1999; Ouzgane 1997). "Intimate serving" in Arab families involves expectations of "patriarchal connectivity" (Joseph 1999), whereby men assume patriarchal power in the family not only with advancing age and authority, but through the explicit production of offspring, who they love and nurture, but also dominate and control. Thus, in this region of the world, which "with some truth, is still regarded as one of the seats of patriarchy" (Ghoussoub and Sinclair-Webb 2000:8), men who do not become family patriarchs through physical and social reproduction may be deemed weak and ineffective (Lindisfarne 1994) and may be encouraged to take additional wives in order to contribute to the patrilineage and to prove their masculine virility (Inhorn 1996).

In addition, a repeating theme in the small but growing literature on Middle Eastern masculinities is one of homosocial competition between men in the realms of virility and fertility, which are typically conflated (Ali 2000, Lindisfarne 1994; Ouzgane 1997). According to Ouzgane, an expert on contemporary Arabic literature, virility emerges as the "essence of Arab masculinity" in the novels of some of the region's most eminent writers (Ouzgane 1997:3), with men in these stories both distinguishing themselves, and being distinguished from other men, through the fathering of children, and especially sons. If this is, in fact, the case, as much of the literature from this region suggests, then the experience of male infertility for a Middle Eastern man can only be imagined as an extremely threatening and emasculating condition (Ghoussoub and Sinclair-Webb 2000), particularly in a region of the world where so-called hegemonic masculinities (Connell 1995) are homosocially competitive and men work hard to sustain their public images as "powerful, virile" patriarchs (Ouzgane 1997:4).

My own studies, particularly in Egypt, suggest that this may, in fact, be the case. In Egypt, for example, few men in my study were willing to tell anyone, including their closest family members, that they suffered from male infertility. Male infertility was described variously as an "embarrassing," "sensitive," and "private" subject for the Egyptian male, who would necessarily feel *ana mish raagil*—"I am not a man"—if others were to know that he was the cause of a given infertility problem. Because of the association between male infertility and manhood, men's wives were generally expected to participate in a two-person cult of silence regarding the male infertility, which usually meant that women shouldered the blame for the infertility in public. When women were questioned (as is often the case in Egypt) about the source of the childlessness, most told others that there was "nothing wrong" with either partner and that the matter was "up to God." Sometimes, women suggested to their acquaintances that they themselves were seeking treatment for the infertility. Women often explained that they "covered" for their husbands out of love and loyalty. However, some women also said that they feared the potential familial and marital consequences of exposing their husbands' secrets (Inhorn 2003a).

In my more recent study in Lebanon, this conspiracy of silence surrounding male infertility was not as readily apparent. Why? For one, there seems to have been a normalization process occurring over time, particularly in the decade since IVF and ICSI have arrived in the Middle East. Lebanese men acknowledged that there is increasing openness about male infertility these days, particularly in light of the modern infertility treatment services being provided and advertised widely in Lebanon. Furthermore, once inside treatment centers, Lebanese men seem to begin accepting the fact that male infertility is a medical problem, "like any other medical condition." Thus, they typically stated in interviews that male infertility "has nothing to do with manhood." Indeed, this was one of my most surprising findings. Although I was fully expecting infertile Lebanese men to lament their impaired manhood in interviews—much as Egyptian men and their wives did in my earlier studies—most Lebanese men who I asked insisted that they had never equated their infertility with emasculation. In other words, male infertility was not the major "crisis of masculinity" that I had found in Egypt or had expected from reading the literature cited above.

For these men, male infertility wasn't necessarily a "big secret." Many men in the study had consulted friends and family members about male infertility, in order to obtain treatment advice and the names of good infertility physicians. Furthermore, families—at least close relatives on both husbands' and wives' sides—were often heavily invested in infertile men's treatment quests; in many cases, family members, especially parents and siblings, had donated considerable money to offset the high costs of NRTs. Nonetheless, this family investment in treatment seeking may be based on familial pressure to produce progeny "for the family." In some cases, infertile men lamented the fact that they were seeking NRT treatment more to satisfy the demands of their wives and families, and particularly to "keep the family name going," than out of their own innate desire to have children or become fathers. In other words, becoming a father—and hence a family patriarch—was not necessarily an ardent desire.

Having said all this, some additional information must be considered when assessing the links between male infertility and masculinity in Lebanon. First, Lebanon has generally higher educational and literacy rates than most other Middle Eastern societies, including Egypt. Thus, many Lebanese men in my study were highly educated—with at least a high school diploma and many with advanced degrees—and virtually all were literate. Many of these men had educated, working wives, and thus presented to IVF clinics as "career couples." Presumably higher levels of education and satisfaction with professional careers may have offset the potential effects of emasculation and contributed to men's acceptance of a "medical model" of male infertility cited above. In addition, it is widely recognized within Lebanon that the country is in the midst of a postwar economic recession. Men in particular feel the stress of societal expectations to support both nuclear and extended family members (especially aging parents). Thus, male infertility may seem like a relatively trivial concern, especially given a current economic climate that is seen by most Lebanese as not conducive to raising a family.

Further, the psychologically exhausting 17-year civil war, followed by at least seven years of postwar economic crisis, seem to have generated high levels of poor mental health in Lebanon. Many men in my study openly admitted to feelings of stress, depression, and anxiety, for which some were taking medications. In general,

the Lebanese men in my study did not seem happy, an impression that was seconded by some of the physicians I also interviewed. Lebanese men rarely laughed, were somewhat morose and reserved during interviews, and generally looked much older than their reported ages (presumably from a “weathering” effect attributable to the war, too much sun, and heavy smoking). Although I enjoyed my interviews with many men in this study, particularly after some of them started opening up as the interviews progressed, I found Lebanese men to be much less forthcoming and animated than Egyptians, the latter of whom are known within the region for their sometimes excessive loquaciousness and good humor. Perhaps this tendency toward reserve made it more difficult for Lebanese men to admit deeply personal and potentially humiliating feelings of masculine inadequacy.

Indeed, I will never know for certain whether pervasive bad moods or feelings of diminished masculinity were the ultimate sources of the high nonresponse rate in my study. Namely, in Lebanon, a significant (although undetermined) percentage of men who were asked by their IVF physicians, clinic staff members, or by me directly to participate in my study refused, outright, to become my informants. On any given day, one, two or even more men who were asked to participate in my study declined to be interviewed, even after careful description of the benefits of the study and its guarantees of confidentiality. Reasons for refusal, if given, were of three general types: “not in the mood to talk,” “not enough time” (even though most men spent hours in the clinic waiting for their wives to complete IVF procedures), and “this is something confidential” (i.e., a secret not to be shared even in a confidential interview).

This issue of male nonresponse, first noted by Lloyd (1996) among men in Western infertility studies, may mean many things in Lebanon. On the one hand, it could relate to the general mood problems described above, leading to a lack of enthusiasm on the part of some men to participate as research subjects. However, most of the Lebanese IVF physicians and clinic staff members attributed nonresponse to masculinity issues—namely, the sensitivity and shyness of most Lebanese men to reveal their reproductive problems to anyone, including a Western researcher.⁸ Like the physicians, I suspect that at least some of this nonresponse reflects that fact that male infertility is, on some level for some Lebanese men, deeply humiliating—something to be hidden rather than revealed. In fact, when I first arrived at one of the Lebanese IVF centers and explained my study to the clinic staff members, a nurse predicted bluntly that my study would never succeed because of the stigma and secrecy surrounding this topic. She described how couples with an infertile husband tried to “hide from each other” in the recovery rooms, and would sometimes stay there for hours if they saw an acquaintance who might expose their secret to the outside world. Although her prediction about my study’s inherent failure did not come to pass, her point was well taken. At least some men in Lebanese IVF clinics probably refused to speak to me out of feelings of stigma and emasculation. Those who *did* agree to participate were probably the ones who felt least diminished by their infertility, for reasons of education, supportive wives and family members, and idiosyncracies of personality and resilience.

As George, a Christian oil executive, explained to me, there are two views of male infertility in Lebanon, an “insider’s” point of view and an “outsider’s” perspective:

In Lebanon, yes, male infertility does affect manhood. Men don’t want to admit they can’t have children. They’re not men any more. But this is not the view of people inside treatment. People who are “in” know it *is* a medical problem. So we don’t feel this problem of manhood or womanhood. In our company [where he works], four to five people have IVF babies. One guy was married for 15 years, and he went to Singapore [for IVF]. Then another one went there. So, in my company, people talk about it. I tell everybody about it. I don’t mind. Because it’s easier to tell everyone what you’re doing. Even at work, it’s easier to tell them, so that they just stop asking. My boss said, “You’ve been married for more than two years and you didn’t get your wife pregnant yet?” I said, “I’m trying, but I couldn’t get my wife pregnant yet.” Two days ago, I told him I’m coming for IVF. But this is *very* uncharacteristic of Lebanese people. People think like, “Manhood. He can’t have children.” So a lot of people blame the woman, even when it’s male infertility. This is because people are secretive. They don’t know the problem is male infertility, and so they say [it’s from] the woman.

Ahmed, an infertile, American-trained Lebanese Muslim physician, who was attempting with his wife to make a third IVF baby (perhaps a son after the birth of two daughters), described the relationship between masculinity and male infertility this way:

Manhood. It’s really an important factor in society. I know this as a pediatrician. The first thing people ask for at the first baby visit is to check the [male] baby’s reproductive organs. They’re worried from the first moment of life if [the child has] normal reproductive organs. If they will have a normal sexual life. It’s about his future manhood. It’s a strong feeling. And it’s a deficiency if you can’t have children. I do think people feel this. I would assume they do, because it’s a secret kind of thing, male infertility. In my own case, who knows about this [his male infertility problem, involving abnormal sperm morphology]? My wife doesn’t want *anyone* to know. So we come here [to the IVF clinic] in secrecy.

The Age of New Reproductive Technologies

Infertile men such as George and Ahmed are essentially required to seek treatment at an IVF clinic if they hope to overcome their infertility. Why? Traditional medical therapies to overcome male infertility, including surgeries for varicoceles (varicose-type dilations of the veins in the testicles) and estrogen-containing hormonal drugs, are widely prescribed by medical andrologists and urologists in the Middle East (Inhorn 2003a, 2003b). However, these therapies have been heavily criticized in the West for being largely unproven, ineffective, and rife with unpleasant side effects, including exacerbation of male infertility problems (Devroey, Vandevorst, Nagy, and Van Steirteghem 1998; Kamischke and Nieschlag 1998). In short, male infertility is intransigent to the standard therapies that are generally tried by most Middle Eastern men but that fail to turn them into fathers.

However, the newest new reproductive technology, ICSI (pronounced “ik-see”), has promised to change all of this. First developed in Belgium in the early 1990s, ICSI has allowed thousands of severely infertile men to father children with their own gametes. As long as even one viable spermatozoon can be retrieved from an infertile man’s body—including through painful testicular aspirations and biopsies—this spermatozoon can be injected directly into the ovum with the aid of a “micromanipulator” on a high-powered microscope, thereby effectively forcing

fertilization to occur. Over the past decade, ICSI has become widely available in assisted reproduction centers in the West, where it has helped thousands of severely infertile men to father their own biological children.

Although ICSI is an expensive technique, easily accessed only by elites in most Middle Eastern countries (Inhorn 2003a), it may represent the only hope for Muslim Middle Eastern men to overcome their infertility. Why? In the Sunni Islamic world, contemporary Muslim religious scholars, following mandates originally set forth in the Islamic scriptures, have effectively disallowed alternative modes of family formation for infertile couples, including third-party donation of sperm, eggs, embryos, or surrogate uteruses (Inhorn 2003a; Meirow and Schenker 1997; Serour 1996). For this reason, third-party donation is illegal in most Sunni-dominated Middle Eastern countries, including Egypt, where it is simply not practiced in IVF clinics (Inhorn 2003a). Similarly, because alternative modes of family formation are not allowed, legal adoption of an orphan as practiced in the West is prohibited in Islam. Although the Islamic scriptures encourage kindness and care in the upbringing of orphans, legal adoption—whereby a child acquires the name of, and can inherit from, its adoptive parents—is clearly prohibited within the Islamic scriptures (Inhorn 1996; Serour 1996; Sonbol 1995). Thus, unlike infertile men in the West, who may agree to donor insemination (DI) or adoption to overcome their childlessness (Becker 2000, 2002), infertile men living in the “local moral worlds” (Kleinman 1992) of the Sunni Muslim Middle East have literally no other way of becoming fathers—within their own countries at least—except through resort to expensive trials of ICSI using their own sperm.

Yet it is important to point out the exception to the rule, which has affected the practice of IVF and ICSI in two Middle Eastern countries, namely Iran and Lebanon. At the end of the 1990s, Shaikh ‘Ali Hussein Khamanei, Iran’s Shi’ite Muslim spiritual leader, issued a religious proclamation approving of both egg and sperm donation for infertile Shi’ite couples, under certain conditions. Although egg donor programs have subsequently been initiated in Iran and in some of the clinics in Lebanon that cater to large Shi’ite populations (including one of the clinics in this study), the notion of third-party donation—and particularly of sperm donation—still does not meet with social acceptance among the vast majority of infertile Muslims, be they Shi’ite or Sunni.⁹ Clearly, the strong social prohibitions against sperm donation, which I found in both Egypt and Lebanon among Sunni and Shi’ite men alike, can be traced to patrilineal kinship ideologies and Islamic scriptural beliefs, which privilege patrilineal continuity and the importance of men’s biological paternity. Or, to put it in the words of Egyptian and Lebanese male informants, a child produced from donor insemination (DI) “will not be my son.” The “questionable” nature of such a DI child is reflected in Ayatollah Khamanei’s own ruling: Namely, a DI child can be raised by, but not inherit from, its infertile social (as opposed to biological) father.

Given these religious understandings and strong cultural prohibitions against the uses of donor sperm, ICSI remains the only hope for most infertile men in Egypt, Lebanon, and the rest of the Middle East. Yet, ICSI itself engenders a range of moral anxieties among Middle Eastern men, who may fear (un)intentional sperm “mixing”—including with racialized “black *bizri*” (literally, black seeds)—in Middle Eastern IVF laboratories (Inhorn 2003b). For example, in one of the IVF clinics in my study, a recurrent fear among the infertile Lebanese men was

that their semen would somehow become tainted with the semen of the black West African janitor, whose job was to accompany men to the semen collection room and then to carry their fresh semen samples back to the IVF laboratory. Such fears of racial miscegenation were prominent in my Egyptian IVF study as well (Inhorn 2003a).

In addition, infertile men also worried about the stigma that might surround their child if its “test-tube origins” were revealed, due to the popular societal assumption that an IVF baby might be the product of donor gametes. Thus, the stigma and secrecy surrounding male infertility, particularly in Egypt, were compounded by the “technological stigma” of IVF/ICSI itself, which continues to be morally questionable because of lingering assumptions that something *haram*, or “sinful,” is going on through the mixing of donor gametes in IVF laboratories. Although this technological stigma was much less pronounced in Lebanon in 2003 than it was in Egypt in 1996 (Inhorn 2003a), I found that “IVF is haram” views still circulated in my 2003 study, particularly among Syrian men, who had essentially “secreted” themselves and their wives from Syria to Lebanon in order to undertake IVF without the knowledge of either family or friends.¹⁰

Finally, it is important to note that ICSI also poses particular marital dilemmas in the Middle East, with consequences for women that are potentially profound (Inhorn 2003a). Generally speaking, wives of infertile Middle Eastern men tend to accommodate their husbands’ treatment desires, not only to avoid conjugal disputes but also to achieve their own reproductive aims and to overcome their “courtesy stigmatization” (Lorber 1989). However, for men, the advent of ICSI has also brought new possibilities.

Middle-aged infertile men are generally married to middle-aged women, the latter of whom were once fertile but who may no longer be able to produce viable ova for the ICSI procedure. When these men are informed that a wife’s age may be a major limitation to the success of the procedure, some men may decide to divorce their once-fertile but now “reproductively elderly” wives to test their reproductive futures with younger, potentially more fertile women. By the time of my 1996 study in Egypt, such cases were beginning to occur, particularly given the Sunni Islamic mandate disallowing egg donation. In Lebanon, I also interviewed several middle-aged men with 40-something wives, who were in the midst of such marital crises. In one particularly memorable case, where the husband had wept openly during his interview about the “dying out” of his family name, the couple became pregnant through ICSI, but then lost the fetus in an unfortunate, maternal-age-related, second-trimester miscarriage. At the time I was readying myself to leave Lebanon, this Shi’ite couple was on the verge of divorce, and the wife was clearly desperate, for her husband would not accept the idea of egg donation.

Having said this, most infertile marriages that I have encountered in both Egypt and Lebanon were remarkably stable, for reasons that I have described in my earlier publications (Inhorn 1996, 2003a). Furthermore, in Lebanon, where donor egg programs are “quietly” in place in some IVF clinics, including one of the clinics in my study, new marital scenarios are beginning to emerge as infertile husbands, particularly those of the Shi’ite faith, are beginning to accept the idea of donated eggs from other women. Because Islam allows polygyny, or the taking of more than one wife, egg donation is being conceptually conflated with polygyny,

whereby the egg donor becomes like a second wife to the husband. Those Shi'ite shaikhs who accept the premise of egg donation may recommend that egg donation be accompanied by a *muta'a*, or temporary marriage, during the period ranging from retrieval of the eggs to transfer of the fertilized embryos back to the wife's uterus.¹¹

Thus, in the complicated, multi-sectarian religious landscape of Lebanon, the growing acceptance of third-party donation in IVF has brought with it the possibility of new marital imaginaries still unthinkable in the more homogeneous Sunni Islamic environment of Egypt. Indeed, ICSI and the practices of third-party donation have brought with them moral and marital scenarios that are rapidly evolving in the Middle East and that have major implications for women's well-being and marital security. Clearly, such scenarios speak to the importance of understanding the local cultural context, particularly the local moral worlds in which new health technologies such as ICSI are being rapidly deployed.

Conclusion

Exploring Middle Eastern men's experiences of male infertility and NRTs—including, among other things, their understandings of infertility etiology, their feelings about their masculinity, their embodiment of new reproductive technologies, their interpretations of local religious moralities, and their sometimes conflicting feelings of marital loyalty versus desires for fatherhood—presents itself as a fruitful area of medical anthropological research. Furthermore, investigation of this topic is timely, given the relative recentness of the newest new reproductive technology, ICSI, which is rapidly making its way to the Middle East. There, gender studies are also shifting from an almost exclusive focus on women to a new interest in Middle Eastern men *as men*, whose masculinity is molded in particular, culturally regnant ways (Ghoussoub and Sinclair-Webb 2000). Thus, the study of male infertility in the era of ICSI can contribute in a unique and powerful way to the emerging field of masculinity studies in the Middle East, where fatherhood has traditionally been synonymous with manhood (Ouzgane 1997).

As suggested by this study of male infertility in Egypt and Lebanon, male infertility is an emasculating condition for some men, perhaps the majority of them. In both countries, infertile men's secretive behavior, including their high rates of nonresponse to my most recent IVF-clinic-based study, likely reflects the degree of stigmatization still surrounding this condition. Although the emergence of ICSI may eventually help bring this once intractable and still hidden condition from behind its veil of secrecy, as is clearly beginning to take place in Lebanon, ICSI itself has created new marital and moral dilemmas. As shown in this article, these dilemmas, in and of themselves, are accompanied by additional layers of stigma and secrecy. Thus, for the Middle East at least, interrogating the new reproductive technologies from the vantage point of *men's* own reproductive lives seems to be a worthwhile endeavor, one that, ideally, should be repeated in many sites around the globe. As medical anthropologists, we may be particularly well suited for this role in the new millennium. For, as Joan Ablon has shown us, medical anthropology is a discipline with both the methodological and theoretical tools to reveal both

the stigma and suffering—as well as the humanity and dignity—of those with the most discrediting health conditions.

NOTES

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1. Neurofibromatosis I, sometimes mistakenly referred to as "Elephant Man disease," is a genetic condition typically involving numerous subdermal fibroid tumors, which appear as potentially disfiguring nodules on the skin. Such internal tumors in the brain can also cause significant learning disabilities and impairments. Osteogenesis imperfecta, or so-called brittle bone disease, involves a genetic defect of bone formation leading to numerous fractures and significant disability throughout the life course.

2. Originally, I was supposed to return to Egypt to conduct this study, but I did not receive research permission from the Egyptian government. Thus, I relocated my study to Beirut, with the assistance of a number of Lebanese colleagues.

3. The option to be tape-recorded was presented to each informant on the written informed consent form. Most informants asked about this, and when I told them it was not necessary to tape-record the interview, they uniformly declined, usually with visible relief. This "tape-record-less" strategy, which I have used in most of my interviews in both Egypt and Lebanon, requires me to take almost verbatim short-hand notes, which I learned through a previous career as a medical journalist.

4. All of these blood samples are currently being tested for nine heavy metals in the environmental health laboratory of my study co-principal investigator, Dr. Jerome Nriagu, of the University of Michigan School of Public Health.

5. DU, which is used in the manufacture of some U.S. weapons, including those sold to Israel, is a source of scientific controversy in the environmental health community, which is currently assessing the long-term health risks of this substance (Iman Nuwayhid, personal communication). DU was used by U.S. forces in the Gulf War (where some U.S. military personnel were affected). Thus, there is public concern in Lebanon, raised in the popular media, that DU was used by Israeli forces in southern Lebanon. For this reason, we decided to search for DU in the blood samples of men in this study, some of whom tested positive for the presence of DU.

6. All names in this article are pseudonyms.

7. Because Ali was clearly distraught by this admission of sexual "immorality," I attempted to assuage his anxieties by telling him it was unlikely that an STD had led to his infertility. STDs can lead to infertility through obstructive scar tissue in the epididymis (so-called obstructive azoospermia). However, Ali did not suffer from azoospermia; he suffered from guilt, which my biomedical explanation probably did not and could not remedy.

8. It is important to note that I was also conducting my study during a period of heightened political tension, because of the U.S.-led war in Iraq. In one clinic, which

catered to many members of the Shi'ite political party Hizbullah, I was clearly not welcome during the period of the war, when virtually every Lebanese and Syrian man who was asked refused to participate in my study. Fortunately, once the war officially ended and bad feelings toward the U.S. ebbed somewhat, my interviews at this clinic resumed. I have written about this elsewhere (Inhorn In press).

9. Because of widespread disapproval of sperm donation in Lebanon, it was rarely practiced. However, I did meet several men in my study, including one uneducated Shi'ite laborer and two highly educated Christian men, who were resorting to sperm donation because of intractable azoospermia. The rest of the men who were using donor sperm during the time of my study refused to participate in interviews.

10. Although Syria borders Lebanon, its historical ties to the West are much weaker and its standards of living much lower. Thus, IVF clinics are few and far between in Syria when compared to Lebanon. Furthermore, the views of male infertility reported to me by Syrian men were much closer to what I found in Egypt in my earlier studies. Thus, Syrian men who agreed to participate in my study were generally sharing a secret that they had discussed only with their wives and IVF physicians.

11. Muta'a marriages were, in fact, being undertaken between some husbands and egg donors in the predominantly Shi'ite clinic in which I worked.

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