

Why Me? Male Infertility and Responsibility in the Middle East

Men and Masculinities

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Abstract

Men in the contemporary Middle East suffer from high rates of male infertility, and are generally willing to acknowledge their reproductive impairments. “Taking responsibility” for infertility means seeking a diagnosis, trying assisted reproductive technologies, and engaging in a retrospective process of etiological assessment. Infertile Middle Eastern men’s etiological narratives reveal five perceived answers to the “why me?” question: heredity, illicit sex, war, stress, and pollution. Although only one of these factors—heredity—is routinely invoked in the biomedical literature on male infertility, at least three of the other factors may, in fact, be linked to men’s infertility in the Middle East. To ameliorate these various factors would require many fundamental improvements in Middle Eastern social conditions, including the elimination of all forms of political violence and oppression. Furthermore, the Reproductive Health Initiative initiated in Cairo in 1994 has done little for the infertile men of the Middle East, as no direct health education programs or treatment services have been made widely available to them. Thus, Middle Eastern men must “take responsibility” for their infertility on their own, seeking out diagnoses, paying for private treatment, and acting as lay epidemiologists in their search for the root causes of their infertility. In the end, Middle Eastern men prove to be astute observers of the social conditions that have produced their reproductive life histories and embodied subjectivities.

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Introduction: Male Reproduction and “Responsibility”

At the 1994 International Conference on Population and Development (ICPD) in Cairo, Egypt, a broad new approach to population policy, called the *Reproductive Health Initiative*, was conceived (Eager 2007; Haberland and Measham 2002; Sen, George, and Ostlin 2002). Under the new rubric of “reproductive health for all,” this initiative promised to move population policy beyond the narrow focus on fertility control, and to include the reproductive health of both men and the infertile. Indeed, infertility—both male and female—was recognized as an impediment to “family planning” in the truest sense of that term. The ICPD was hailed by many, including third-world feminist organizations, as a great historical achievement for public health and reproductive rights.

Yet, despite the broad definition of reproductive health put forward at the ICPD conference, the Reproductive Health Initiative today still remains heavily focused on population reduction through family planning. Some critics argue that the term reproductive health has simply replaced the term family planning in population and international health discourses, with little substantive change at the level of actual programs (Hartmann 2002; Roberts 1998). Infertility has received relatively scant attention, and men’s inclusion in reproductive health remains largely unfulfilled, except on the rhetorical level.

Rhetorically speaking, one of the major attempts to reframe men’s roles in reproductive health is to focus on “responsibility.” Namely, both men and women have reproductive “rights,” but men also have “responsibilities” toward their families (Greene 2000). “Responsible men” share in family planning, remain faithful to their partners, seek health care for their partners during pregnancy, birth, and postpartum, and participate as fathers in family life and child care. To wit, “real men” are “responsible men,” whose role is to protect and ensure the reproductive rights and well-being of others.

But what are the problems of this framework (Basu 1996; Mundigo 1998, 2000)? First, “responsible men” rhetoric is blatantly patriarchal, if men are primarily conceived of as paternalistic “protectors” of women and children. Second, in this framework, women’s and men’s contributions to reproductive health are seen as inherently unequal, and their experiences of reproductive health as fundamentally different. Interventions following from this framework remain focused on the reproductive health problems *caused* by men, along with approaches designed to *empower* women. Third, the fact that the reproductive rights of men and women coexist in relationship to each other is fundamentally ignored; if men, too, have reproductive “rights,” then women should also have “responsibilities” in protecting

men's reproductive rights and health. Fourth, if men are conceived of as primarily responsible for others, then their own reproductive health problems are ignored; this is particularly problematic for integrating men into reproductive health interventions and programs. Finally, a framework that invests men with responsibilities suggests that men are fundamentally "irresponsible." This assumption is profoundly problematic, even denigrating. Many men are already responsible when it comes to reproduction, and take responsibility for reproduction when it goes awry.

Male Infertility and Emergent Masculinities in the Middle East

In this article, I turn the lens on a major male reproductive health problem—male infertility—that has largely been ignored in the Reproductive Health Initiative. I also focus on a group of men—Middle Eastern Muslims—who are rarely upheld as "reproductively responsible." Instead, Middle Eastern men are often associated with what I call the four "notorious Ps": patriarchy, patrilineality, patrilocality, and polygyny (Inhorn 2012). Polygyny or divorce are said to be Middle Eastern Muslim men's taken-for-granted "solutions" to childlessness. Furthermore, in the Middle East, men are said to "blame" women for childlessness, because male infertility is rarely if ever acknowledged.

But the questions remain: Are Middle Eastern men so callous? Do they bear no responsibility for infertility? Is this patriarchal portrait true to their reproductive lives? As I will attempt to demonstrate in this article, most ordinary Middle Eastern men bear little resemblance to this stereotypical portrayal. Instead, I argue that Arab men's desire to understand their infertility problems, and then to solve them through pursuit of assisted reproductive technologies, is an example *par excellence* of Middle Eastern men's "emergent masculinities." This is a term that I have coined to capture all that is new and transformative in Middle Eastern men's lives in the twenty-first century. In my book, *The New Arab Man: Emergent Masculinities, Technologies, and Islam in the Middle East*, I argue that Arab men today are changing their personal lives, interjecting new notions of manhood, gender relations, and intimate subjectivities into their ways of being (Inhorn 2012; see also Inhorn and Wentzell 2011). Although Middle Eastern Muslim men have generally been portrayed as terrorists, religious zealots, and brutal oppressors of women since September 11, 2001 (Shaheen 2008), most ordinary Middle Eastern men bear little resemblance to these vilifying caricatures. Rather, men in the Middle East today are enacting emergent masculinities in ways that defy both patriarchy and Western-generated stereotypes (Myntti et al. 2000).

My notion of "emergent masculinities" derives from the work of Marxist scholar Raymond Williams (1978). In his essay "Dominant, Residual, Emergent," Williams (1978, 125) defined emergence as "new meanings and values, new practices, new relationships and kinds of relationship [that] are continually being created. When applied to new forms of manhood, 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.

In the Middle East, emergent masculinities entail new forms of masculine practice that accompany these social trends. These would include, for example, men's desire to "date" their partners before marriage; men's acceptance of condoms and vasectomy as forms of male birth control; men's desires to live in nuclear family residences with their wives and children; and men's encouragement of daughters' education. All of these masculine practices are, in fact, emerging in the Middle East, but are rarely noticed by scholars and media pundits.

The "emergent" is omnipresent in the Middle East. The region now hosts, *inter alia*, the world's tallest building and other architectural marvels; a global satellite television culture headlined by the homegrown product, Al Jazeera; Internet cafes frequented by youth; a mass cell phone culture even among domestic servants and day laborers; multistory shopping malls selling European designer labels as well as local Islamic fashions; rates of university matriculation among women now outstripping those of men; entrance of large numbers of women into the government bureaucracy and retail service sector; mass migration of men to the Arab Gulf and to virtually every other continent; concomitant delays in marriage, as young men and women "establish" themselves in new careers, new nuclear residences, and new lives different from their parents; and emerging social movements, including recent protest movements against dictatorial regimes, which have been largely initiated by younger-generation men and which have spread like wildfire across the region via social media networks (Gelvin 2012). In short, a veritable "revolution" in men's and women's social worlds—and their interactions with each other—is abundantly observable across the Middle Eastern region and requires our scholarly attention (Bayat 2010).

As I argue, many Middle Eastern men today are engaged in a self-conscious critique of local gender norms, including those having to do with reproduction, infertility, and the unfair social onus placed on women. These "new Arab men," who are perhaps the "silent majority," are instead taking multiple forms of responsibility for reproduction and its failure. Today, men no longer automatically blame women for childlessness. Men recognize that they, too, may be infertile, and are increasingly willing to undergo intracytoplasmic sperm injection (ICSI), a variant of in vitro fertilization (IVF) designed to overcome male infertility. Indeed, there has been a generational sea change in Middle Eastern attitudes toward infertility and its treatment. This includes men's understandings of why they are infertile and what they should do about it.

Based on ethnographic research carried out with 220 Lebanese, Syrian, and Lebanese–Palestinian men, this article examines the problem of male infertility in the Middle East, including how men attempt to answer the "Why me?" question. Men in the Middle East engage in what I will call here *etiological narratives*, or stories about the origins of their own infertility problems and of male infertility more generally. These etiological narratives range from the personal to the political, and are

constructed through a process of retrospective life review. Through these narrative constructions, men not only make sense of why they are infertile but also “take responsibility” for their infertility by admitting to past mistakes and their own psychological responses to a variety of life problems. Furthermore, these etiological narratives may or may not accord with standard epidemiological and medical understandings about male infertility risk factors and causation. Few Middle Eastern men have ready access to this kind of public health information. In short, in the new millennium, “responsibility” for infertility increasingly rests on the shoulders of men, who are assessing their reproductive risks and seeking assistance in IVF clinics across the region.

Ethnographic Setting and Research Methods

This article is based on an ethnographic and epidemiological study entitled “Middle Eastern Masculinities in the Age of New Reproductive Technologies,” which was carried out from January to August 2003 in Beirut, Lebanon. Exactly 220 Middle Eastern men from a variety of social classes and religious backgrounds participated in the study. The men hailed from three nations, Lebanon, Syria, and Palestine. The majority were Muslim (70 percent), about half Shia (35 percent), half Sunni (30 percent), and a small number of Druze (4 percent) and Alawi (1 percent; both minority Shia Muslim subjects). The remaining men in the study, nearly one-third (30 percent), were Christians from a variety of denominations, including Maronite Catholic (14 percent), Greek Orthodox (8 percent), Armenian Orthodox (2 percent), and Roman Catholic (2 percent).

The study was based in two of the busiest and most successful IVF clinics in Lebanon, both located in central Beirut. One clinic was part of a large, private university-based teaching hospital and catered to a religiously mixed patient population of both Sunni and Shia Muslims, Christians of a variety of sects, Druze, and various immigrant and refugee populations. All of the IVF doctors were male and Maronite Catholics; all of the embryologists and nursing staff were Muslim women.

The other research setting was a private, stand-alone IVF clinic catering primarily to southern Lebanese Shia Muslim patients, but with occasional Christian and Sunni Muslim patients from both Lebanon and neighboring Syria. In this clinic, all of the IVF doctors were Muslim, half Sunni and half Shia, with the only practicing female IVF doctor (a Sunni Muslim) in the city.

Between these two clinics, exactly 220 men were recruited, 120 of whom were infertile cases, and 100 of whom were fertile men married to infertile women. Men’s fertility status was determined by semen analyses, which were carried out in the IVF clinics’ laboratories, and which were based on the guidelines set out by the World Health Organization (2010). Infertile men in this study generally knew that they suffered from this condition, based on multiple semen analyses, sometimes carried out over many years. All of the men were recruited into the study while in the midst of seeking or undertaking an IVF or ICSI cycle.

In-depth ethnographic interviews were undertaken with all of the men in the study. More than half of the interviews were conducted in Arabic (57 percent) and about one-third in English (35 percent), with the remainder involving both languages (8 percent). Many of the men in the study had lived outside the Middle East and spoke excellent English (along with other languages in many cases). Interviews sometimes lasted two to three hours, because many of the men in the study shared information that was often deeply personal and poignant.

A large amount of data was collected during the eight-month study period in Beirut. This included: (1) 220 completed eight-page reproductive history questionnaires, which were 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 and some of their wives or other family members; (3) 550 pages of field notes, based on participant observation and informal interviews and conversations with clinic staff and patients in clinic waiting areas as well as two pharmaceutical reps, several American egg donors and sperm recipients, and three Shia Muslim clerics; and (4) more than 200 blood samples, which were frozen in the Beirut IVF laboratories and then hand-carried via airplane to the United States for the purposes of later toxic metal analysis. As we will see, toxins are speculated to be a significant cause of male infertility, and thus the men in the study were extremely curious to know whether they carried toxic metals in their blood.

Male Infertility: Global and Local Considerations

A standard biomedical definition of infertility is the inability to conceive after twelve months of regular, unprotected intercourse (Greil and McQuillan 2010). By this definition then, infertility affects more than 15 percent of all reproductive-aged couples worldwide (Vayena, Rowe, and Griffin 2002). So-called *male factors* contribute to more than half of all these cases (Irvine 1998). Male infertility is a chronic reproductive health condition for millions of men worldwide, given that it is recalcitrant to prevention, and among the most difficult forms of infertility to treat (Inhorn and Birenbaum-Carmeli 2010). Male infertility can be “solved” by ICSI, but it is not a condition that can be “cured” *per se*.

Male infertility involves four major categories of sperm defects: 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 (*nonobstructive 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. However, in the Middle East, 60–90 percent of all cases presenting to IVF centers involve a diagnosis of male infertility, according to physician estimates (Inhorn 2004). Moreover, nonobstructive azoospermia is highly prevalent in the Middle East, as are cases of severe oligoasthenozoospermia (i.e., very low sperm count and poor motility).

In short, male infertility is especially common in the Middle East and quite common elsewhere, but this is not popularly known. Male infertility has been called a “neglected” reproductive health problem, and one that remains deeply hidden, including in the West (Becker 2000, 2002; Greil 1991). This is because male infertility is popularly, although usually mistakenly, conflated with impotence (i.e., erectile dysfunction), as both disrupt a man’s ability to impregnate a woman and to prove one’s virility, paternity, and manhood. This “fertility–virility linkage” means that men who are infertile are assumed to be impotent, even though most are not (Lloyd 1996).

Given the widespread prevalence of male infertility, researchers have questioned whether levels of male infertility are, in fact, increasing globally (Daniels 2006). More specifically, in 1992, a team of Danish scientists reported that global sperm counts had dropped by rates of more than 40 percent over the previous fifty years. Dubbed “the big drop theory,” this purported epidemic of male infertility led to significant moral panic. As noted by Cynthia R. Daniels (2006) in her book, *Exposing Men: The Science and Politics of Male Reproduction*, the media and government agencies began declaring a male fertility “crisis,” even announcing the potential “end of the human race.” As Daniels points out, however, proving or disproving this big drop theory was difficult, given that measurement of male reproductive health has been woefully inadequate throughout the twentieth century. Nonetheless, once this notion of declining male fertility rates leaked into the public and scholarly imagination, a range of theorized causes began to be investigated. These included, *inter alia*, maternal use of drugs during pregnancy; the use of plastic diapers on male infants; the use of phytoestrogen-rich, soy-based formulas to feed male infants; increased rates of sexual activity among young men; the shift from boxer to jockey shorts (the so-called *jockey shorts hypothesis*); the rise of male obesity and dietary changes in men; increased use of drugs and alcohol as well as male smoking in some societies; the shift from factory to sedentary work; the use of hard bicycle seats; the use of hot tubs and saunas (which overheat the testicles); and “even the advent of feminism and the decline of war!” (Daniels 2006, 48).

More than two decades later, this “big drop theory” remains unproven (Auger 2010). Nonetheless, there is increasing scientific evidence that environmental pollutants—especially a class of widely used chemicals known as “endocrine disruptors”—are affecting both male and female reproductive health deleteriously, by altering the human hormones that control fertility (Bentley 2000). Furthermore, reproductive epidemiological evidence strongly suggests that other environmental toxins such as lead—the heavy metal found in paint and in air-polluted cities where leaded gasoline is still used (e.g., Mexico City, Cairo, Damascus)—are, in fact, “spermatotoxic,” leading to lower sperm counts in men with high levels of lead in their bodies (e.g., traffic policemen; Inhorn et al. 2008). Like lead, smoking has also been shown to be spermatotoxic, immobilizing human spermatozoa (Calogero et al. 2009).

Due to advances in the field of genetics, it is now realized that a significant percentage of male infertility cases, particularly those that are severe, are due to

genetic abnormalities. Indeed, “a virtual explosion in the identification of genes affecting spermatogenesis has occurred” in recent years (Maduro and Lamb 2002, 2197). A variety of abnormalities in both the Y and X chromosomes, as well as genetic abnormalities of the hypothalamic–pituitary–gonadal axis involved in the production of reproductive hormones, are now well-established causes of male infertility (Maduro et al. 2003; 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 (Chan 2007; Krausz, Forti, and McElreavey 2003). Such deletions are manifest in a variety of sperm defects, including defects of the sperm head (e.g., round heads, heads with craters) and sperm tail (e.g., stunted, immotile, or detached tails). 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 (Baccetti et al. 2001). In other words, male infertility may be primarily a genetic condition, although “gene–environment interactions” also seem to play a major role.

Men’s Reproductive Life Histories and Etiological Narratives

The questions remain: Do men themselves understand their male infertility as a genetic condition? The result of toxic exposures? The product of their own bad behaviors or ways of living? God’s will? Little if any research has probed men’s own etiological understandings of male infertility, in the Middle East, in Euro-America, or in any part of the world for that matter.

In this study, I attempted to elicit men’s own thoughts and ideas about male infertility through a combination of ethnographic and epidemiological questioning. I call this methodological approach the “reproductive life history.” The term *reproductive history* is used in epidemiology to explore the important reproductive events in individuals’ lives through a process of structured interviewing. Questions revolve around premarital and marital sexuality, contraception, conjugality, infertility, pregnancy, pregnancy loss, childbirth, maternal and neonatal mortality. Reproductive epidemiology also focuses on so-called *risk factors* (e.g., smoking, sexually transmitted infections [STI], etc.) that may lead to so-called *disease outcomes* (e.g., infertility, stillbirth). Carefully rendered reproductive histories can provide an incredible wealth of information on both epidemiological and demographic variables. Through systematic and detailed reproductive histories, reproductive disruptions of all kinds may emerge.

When combined with anthropological ethnography, reproductive histories take on additional meanings, transforming into full-fledged reproductive life histories. In anthropology, the “life history” is one of the most important ways in which ethnographers elicit chronological, retrospective accounts of persons’ lives, through processes of gentle questioning and probing. As a form of “person-centered ethnography,” life histories develop “experience-near ways of describing and

analyzing human behavior, subjective experience, and psychological processes” (Hollan 2001). Life histories attempt to chronicle the past, in an effort to make sense of the forces that have shaped a person’s life over time.

In my own study of Middle Eastern men, I attempted to conjoin the two disparate genres—epidemiological reproductive history with anthropological life history—to elicit nuanced reproductive life histories from both fertile and infertile men. I asked men a detailed series of structured questions about possible epidemiological risk factors for male infertility (e.g., smoking, toxic exposures). But I also asked the infertile men open-ended questions about the perceived causes of their infertility problems, and whether there were any conditions in their current or past lives that they believed had influenced their fertility.

This process of ethnographic questioning rendered responses from seventy-five infertile men, or nearly two-thirds of the total. I call these responses *etiological narratives*, a term that I borrow from the discipline of philosophy. In mythology, folklore, and religion, an etiological narrative is an origin story, describing how something came into being or existence. Etiological narratives can also be applied to the origin of disease or illness. In this sense, they are quests for understanding about why particular illnesses beset particular individuals. Etiological narratives may focus on one cause, or many. They may involve multiple levels of causation, from endogenous processes within the human body to exogenous forces well beyond an individual’s or even a society’s control. They may speak to religious theodicies about God’s role in human life, or they may be entirely “scientific,” eschewing spiritual and theological explanations of suffering. Through etiological narratives, human beings attempt to explain the cause of their health problems, and to tie their current suffering to the larger social forces which they view as impinging upon their lives.

In this study, most men volunteered etiological narratives about the origins of their male infertility problems. They had carefully examined their own lives, attempting to identify possible causes for their “weak” sperm. Two brief examples of etiological narratives speak to this process of retrospective assessment. One Lebanese man, a Maronite Catholic who had spent six years as a labor migrant in Saudi Arabia, had this to say,

Now I ask myself, *Why* did this problem happen? *When* did this problem happen? What’s the cause? What did I eat? From what did I get these problems? Pollution? I don’t know. From six years living in Saudi Arabia, continuing in this temperature of 50 degrees [Celsius]? Here in Lebanon, maybe you [the anthropologist] will feel that this is important, because any [sexual] “relation” before the marriage will potentially make this problem [of male infertility], but I had no premarital sex. I don’t take anything like alcohol. I don’t smoke. Nothing, no drugs, no alcohol.

Another man, a highly educated, Sunni Muslim Lebanese pediatrician, who had trained in the United States and had regular access to medical information, described the various reasons why he believed he was infertile,

Well, I did some reading, and some sources suggest that exposure to hot water in tubs, which I did while a teenager, could cause infertility. And then medications, and then toxic exposures, which I didn't have. So hot water was the only thing. And the other thing I was thinking about was that when I was a resident, I kept going with patients to the CT scan and x-ray; maybe this hurt me before I got married. I used to take small babies and give them sedation to go into the CT scan. This is the only explanation I have in mind.

But then, he added,

And there's one other thing I had in mind. I very rarely masturbated when I was a very, very young child, even before puberty. But I felt numbness [when I did masturbate]. I can remember this. Even though this is normal, it has a bad connotation here. It's something which is a taboo. So I used to feel guilty about this for a long time. I think it's natural—the child discovers this. But I thought maybe I abused my reproductive organ and it affected my fertility, especially because I used to masturbate a lot as I got older.

In these etiological narratives, issues of male responsibility come readily to the fore. In the first case, the man questions whether he could have eaten something that caused his male infertility, or whether his decision to live in the high heat of Saudi Arabia affected his fertility. Ultimately, he goes on to rule out a list of “lifestyle factors,” which are not relevant to his own case, but which he believes are factors affecting others. In the second case, a physician looks to his own career history of exposure to radiation, but ultimately blames what he perceives as his own youthful transgressions—taking too many hot baths and masturbating until he “abused” his reproductive organs.

Not all men are able to articulate such causes. Forty-five of the infertile men in this study, or more than one-third, said they had “no idea” why they were infertile. They essentially lacked etiological narratives, although most said that they were interested in the origin of their infertility problems. In many cases, men had asked their physicians, who often responded that male infertility is “idiopathic,” or of unknown cause. Several of these men described their incredible frustration at being given inadequate information. As one man expressed it, “I don't know my problem. I can't guess the reason why I have this, but I want to know. It makes me *angry*, it causes stress. Why do I have this problem? I've often thought, ‘Why me?’ But I can't find the answer.” Another man directed his frustration at his physicians, “In my opinion, I have the problem of not having kids. I can't bring kids. Why no sperm? The doctor should tell me, but all doctors, they never give a reason. They say there isn't one cause. But the doctors *should* tell you. The doctors *should* do an exam. They *should* do this kind of research [pointing to the anthropologist's notebook].”

Another infertile men speculated that the very existence of ICSI had diminished physicians' willingness to look for causes. As he explained,

I was surprised, yes, when I found out I was infertile, because I couldn't know what the reason was. The problem then is finding a reason. When you're having this low

[sperm] count, you start to ask yourself questions. The question that always intrigued me is: Why this low count? But with every doctor I asked, no doctor said why. For them, it's not the problem, it's not what interests them. The solution is ICSI now, so they don't have to bother to know why.

He then added,

For me, every problem has a solution. That's how I deal with life. We are having a kind of solution through ICSI, and I thank God for that. I thank my God every day and every night for this.

Although this man spoke of God, few men in the study, either Muslim or Christian, invoked "God's will" as the "cause" for their infertility. Religious theodicies rarely surfaced in men's etiological narratives, despite the fact that most men in the study were practicing Muslims.

Furthermore, so-called *lifestyle factors*—such as smoking, drinking, overeating, drinking too much caffeine, or leading a sedentary lifestyle—were occasionally mentioned, with men taking responsibility for behaviors that they deemed harmful to their own bodies. But, overall, a focus on "unhealthy lifestyles" was relatively infrequent in this population. For example, smoking was rarely mentioned in men's etiological narratives. Yet, male smoking is widespread across the region, with Lebanon having among the highest rates of smoking in the Arab world. In Lebanon, by age nineteen, approximately 52.6 percent of men are already smoking (Nakkash et al. 2010). In my study, 45 percent of men were current cigarette smokers (41 percent of the infertile men, 49 percent of the fertile men). Furthermore, the majority of men were heavy smokers, consuming one to three packs a day. This was as true among infertile men in the study as among fertile ones. In fact, few infertile men made any association between their infertility and their smoking, even though physicians had often told them to quit. Quitting attempts were relatively few and far between; only twenty men in the study (twelve infertile, eight fertile) had stopped cigarette smoking altogether. As most men told me, they had started smoking as teenagers, continued to smoke because they enjoyed it, considered smoking to be a form of sociability and a coping mechanism, and remained unconvinced that smoking had anything to do with infertility, especially since so many of their male compatriots who smoked had fathered children.

A few men in the study had definitive answers about why they were infertile, based on reproductive disorders (e.g., undescended testicles) or other health problems (e.g., cancer and its treatment), which had affected their reproductive systems. But, in general, the "Why me?" question was one that most men had yet to answer. Few men owned computers, and thus rarely undertook Internet-based "research" on the subject of male infertility. Furthermore, as noted above, few men had received satisfactory causal explanations from their mostly male physicians, who were more interested in undertaking ICSI cycles than probing male infertility causation. Thus, they were forced to rely

on their own empirical observations about why they suffered from “weak sperm,” the reasons for which will be explored in the next section.

Etiological Narratives of Male Infertility: The Five Factors

Although a wide range of factors were mentioned in Middle Eastern men’s etiological narratives, five factors emerged repeatedly: *wiratha* (heredity), *zina* (illicit sex), *al harb* (the Lebanese civil war), *daght* (stress), and *talauwiz* (pollution). Each will be described briefly in turn. Although few of these factors are found in standard medical and epidemiological descriptions of male infertility, they speak to men’s own embodied understandings of male infertility causation. Indeed, this set of five factors reflects the risks and responsibilities of being a man in the politically tumultuous Middle East, where the vicissitudes of everyday life may wreak havoc on a man’s reproductive body.

Wiratha (Heredity)

Discourses of “genetics” are not widespread in the Middle East, and, in fact, there was only one geneticist practicing in Lebanon at the time of my study. Genetic counseling is rarely if ever offered as a routine part of reproductive care, either for men, women, or couples. Thus, men in this study generally had no knowledge of the genetics of male infertility, nor had they been exposed to any form of genetic testing. Yet, even in the absence of “geneticization,” some men speculated about “hereditary” causes of male infertility. This was especially true among men whose male family members were also infertile. 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 or grandfathers. In the study, male infertility definitely “clustered” in families. The fact of two or more infertile men in the same family led some men to suspect *wiratha*, or heredity. In a few cases, physicians had also informed these men of a possible genetic etiology to their problems.

For example, a Shia Muslim Lebanese truck driver was diagnosed with absence of the vas deferens, a testicular vessel crucial to sperm transport. As he explained it, “It’s ‘the line’ [vas] I don’t have. It’s not only me; it’s my brother and one cousin. I asked the doctor why this happened. The doctor explained to me, ‘It’s biology. It’s coming from your mother and father. It’s coming to the men in your family.’”

In this man’s case, he was the product of multiple generations of consanguineous, or cousin marriage. He, too, was married to his first cousin. Across the Middle East, rates of cousin marriage remain high, and are often preferred for a variety of social and cultural reasons (Inhorn et al. 2009). That male infertility may be somehow linked to cousin marriage is not part of men’s understandings of *wiratha*. Nonetheless, marriage to cousins has been shown to increase the chances for genetic defects, including the chromosomal defects linked to male infertility (Baccetti et al. 2001; Latini et al. 2004).

Using reproductive history data from my own study, my Lebanese colleagues and I were able to show that significantly more of the infertile than fertile men in the study were the offspring of prior consanguineous unions, suggesting that this form of marriage may produce infertile male offspring (Inhorn et al. 2009a, 2009b). In addition, infertile men with the most severe cases of oligozoospermia and azoospermia were significantly more likely to be the offspring of parental and grandparental 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.

Zina (Illicit Sex)

Although conditions of *wiratha*, or hereditary infertility, are deemed beyond men’s control, practices of *zina*, or illicit sex, are not. In fact, men in my study felt guilty about their sexual pasts, and blamed themselves for “wasting” or “destroying” their own reproductive potential. In Islam, *zina* is defined as any form of sexuality other than heterosexual marital sex. Premarital, extramarital, and homosexual sex are all considered *zina*, and masturbation, too, is generally looked upon unfavorably within the Islamic legal schools (Khuri 2001; Musallam 1983). In short, the only form of licit sex within Islam is marital sex, thus leaving open multiple possible forms of sexual transgression.

In my interviews, some men openly lamented their youthful practices of masturbation as the probable cause of their current state of infertility. These men told me that their own excessive premarital masturbation had, in effect, “used up” all of their good semen, leaving their bodies depleted of the sperm necessary to impregnate their often healthy, fertile wives. They also doubted that such masturbation was moral within their societies and religion. Such attitudes could be found among highly educated professionals as well as among blue-collar workers in my study, and was found among both Sunni and Shia Muslims. For example, a Shia Muslim construction worker framed his current sexual and infertility problems within an earlier discourse about his adolescent sexuality,

In cases where I would have an erection as a teenager, I wouldn’t know what to do, because I wasn’t taught . . . All over the world, every teenager goes through this experience, and at this age, they start masturbating. I’m asking myself, maybe due to excess masturbation, maybe this affected my sexual life and my fertility later on. Muslims say masturbation is *haram* [religiously forbidden].

In addition, many men in the study worried about the effects of another form of *zina*, namely, premarital sex. Overall, one-third of men in my study had only had sex with their wives. The vast majority of men, more than 90 percent, also said that they had been faithful within marriage. However, two-thirds of men in the study had

experienced premarital sex. Of these, half had had sex with less than ten lifetime sexual partners, and the other half with more than ten. A total of 17 percent of men in the study claimed to have had more than 100 lifetime partners, and virtually all of them had spent significant periods of their lives outside of their home countries, mainly in West Africa, Europe, North America, and Latin America. There, they had experienced “promiscuous” youthful premarital sexuality, and some deemed their current infertility problems to be the outcome, even God’s “punishment,” for their illicit sexual pasts. Excessive premarital sex, encounters with prostitutes, and the contraction of STIs were all mentioned in men’s etiological narratives.

To take but one example, a Lebanese Shia man who fled to West Africa in 1977 to escape the ravages of war in his home community, described to me—while literally hanging and hiding his head in shame—that he and eleven other Lebanese refugee men had had serial, group intercourse with a West African prostitute. Following this episode, he contracted an STI, which was quickly resolved with an antibiotic. Nonetheless, this man 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 fifteen- and twenty-year durations, respectively. In this man’s view, it was this act of *zina* that had caused his infertility. He lamented, “Only God knows if this is the reason, but I think so. I feel guilty. But all of us were like this back in Abidjan [the capital of Cote d’Ivoire], because there were so many prostitutes there.”

Al Harb (The War)

This man was one of the forty-four men in the study who had fled their countries because of war. Indeed, the vast majority of men in the study had lived through periods of war and political violence. *Al harb*, “the war,” was the single most cited reason for male infertility problems. In invoking *al harb*, most men were referring to the Lebanese civil war (1975–1990) and the subsequent occupation of Southern Lebanon by Israel (1990–2000). However, some Palestinian men had also lived through the First Gulf War (1990–1991), and the US-led war in Iraq had just begun during the period of my study, causing acts of angry violence in Lebanon during the spring of 2003.

Men’s “war stories of male infertility” bespoke their embodied suffering, but also the reproductive effects of war’s aftermath. Men who I met had been wounded, sometimes as fighters, but mostly as civilians. They often showed me their bullet and shrapnel wounds, pointing to where they were still carrying metal debris in their bodies. Several men had been kidnapped and threatened with death. Even more had been imprisoned and tortured. Some had lost family members, including their parents when they were still young children. In a few very poignant cases, men’s entire families had been wiped out in massive bombing raids, usually by the Israelis in Southern Lebanon. Most of the Lebanese men in my study had been exposed to bombing and life in bomb shelters. Some had had their homes destroyed. Families had often been forced to flee to safer havens, and in many cases, families with financial

means simply left the country altogether. When entire families were unable to emigrate, they often sent their sons out of the country to prevent them from being killed.

Most of the Lebanese and Palestinian men in the study had stories of suffering to tell. For example, when I met a Shia Muslim Lebanese police officer in a Beirut IVF clinic, his first words to me were, “I have suffered a lot in my life.” He then launched into the harrowing tale of his capture by the Israelis in 1983 and his two-year detention in the notorious Khiam Prison (now a museum) during the Lebanese civil war. He was put in solitary confinement—“where you could not see day from night in some of the cells, and there were no toilets”—and forced to eat the same food, without any meat, for the length of his imprisonment. He was also tortured with electricity to his genitals on three separate interrogations, “and there were many interrogations.” As he explained, “I wasn’t married then, and I didn’t do a sperm test before marriage because I was young then. This was almost 23 years ago. But *maybe* this [the torture] is the cause of my sperm problems.” In addition, upon his release from Khiam in a prisoner swap with the Israelis, he was involved in a major car accident, breaking twenty-four bones, suffering internal bleeding, and experiencing two months of unconsciousness as a result of a severe head injury that required brain surgery. Unfortunately, such car accidents are common in Lebanon as a result of war-torn roads and general lawlessness. As he concluded quite bluntly, “The war was very bad. We lived our life in the war, and we suffered a lot.”

The fact that Middle Eastern men attribute their male infertility problems to war is not so far-fetched. In two papers written with my Lebanese colleagues, we have been able to show that exposure to war events significantly increases the risk of male infertility (Abu-Musa et al. 2008; Kobeissi et al. 2008). In my study, men who were infertile had a 57 percent increased odds of exposure to one or more war-related events, as compared to fertile men in the study. Furthermore, the men who had suffered the harshest exposures to war (through combat, kidnapping, torture, and displacement) were the most likely to be infertile. In short, my study suggests that Middle Eastern men are right about *al harb*. As they put it, “War has weakened sperm.” That war has destroyed lives and men’s fertility is an indigenous etiological narrative that seems to hold up well against the emerging epidemiological evidence.

Daght (Stress)

Men often attributed their infertility to *daght nafsi*, or “psychological stress.” Many of them told me that the war had affected their *hal nafsiya*, or “psychological condition,” in profoundly negative ways. The psychologically exhausting fifteen-year Lebanese civil war, which was followed by at least seven years of post-war economic recession, seemed 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. The poor psychological state of many Lebanese men was something that I noted during interviews.

Many men told me bluntly, "I'm not in a good mood." They described their *nafsiya*, or "psychology," as being poor, or noted that they were *asabi*, or "nervous." In general, the Lebanese men in my study, and also many of the Palestinian men, did not seem happy, an impression that was seconded by some of the physicians I also interviewed. Lebanese men rarely laughed, were somewhat 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). In general, this was a population of men who described themselves as living in conditions of chronic *daght*, defined as both "stress" and "pressure." Various forms of *daght* included work stress (too much, too little, poor conditions), family stress, financial problems, and the problem of infertility itself along with its costly solution via ICSI. According to most men, these various forms of *daght* exerted negative effects on their reproductive bodies as well as on their sexual lives.

For example, a Lebanese Greek Orthodox store owner, who had once joined a Christian militia at the tender age of thirteen, described how he was now experiencing multiple forms of stress in his life. According to him, these stresses were taking their toll on his body. Not only did he suffer from azoospermia, but he had high cholesterol and a chronic problem of severe migraine headaches, which were incapacitating his sex life. As he explained,

The migraines and the cholesterol are affecting my sex drive. After intercourse, I feel very tense, and then I get swollen eyes and the aura of a migraine. Then one to two hours later, I get the migraine. So sex makes me feel tension, not relaxation! I feel hysterical because of the migraine. I need to relax and sleep [to overcome it], but I have no time because of my work. I like to work, but then I have no time to relax and to enjoy sex. And I'm worried about having a migraine after sex.

Accordingly, his sex life is now infrequent because of the migraines, his hectic work schedule, and the stresses of infertility treatment. Currently on his sixth ICSI cycle, he told me, "Worries, sure! Everyone worries, not about the ICSI itself, but about how many embryos will develop, the possibility of death of some embryos. The whole procedure is stressful."

As this man suggested, men's emotions were especially heightened at the time of ICSI, which involved the stresses of "timed" ejaculation in clinic bathrooms, watching wives wince in pain during ICSI operations, or hearing bad news about semen test results or the "cancellation" of an ICSI cycle when embryos failed to develop. Men with financial problems experienced additional stresses at the time of payment.

Men's etiological narratives about the debilitating effects of stress on their sexual and reproductive bodies seem to be substantiated by emerging research in male reproductive physiology (Bribiescas 2001, 2006). Namely, stress induces testosterone suppression in men. In males, testosterone is the primary hormone necessary for both male reproduction and sexual function. Thus, during periods of acute or chronic stress, testosterone production is diminished, leading to lower levels of sperm production as

well as erectile dysfunction in some men. In short, stress leads to diminished fertility through testosterone suppression. Middle Eastern men's strong suspicion that stress underlies their male infertility problems seems to be supported by the evidence.

Talauwiz (Pollution)

In addition to the stresses of war and its aftermath, Middle Eastern men worry that war in the region has led to *talauwiz*, or "pollution" of the air, food, and water. In fact, Lebanon is a Middle Eastern nation that has undergone severe environmental degradation over the past few decades. In his article on "The Ecological Crisis in Lebanon," Fouad Hamdan (2002) argues that the improper disposal of household, industrial, and hospital waste, industrial pollution, air pollution, and the use of chemicals in agriculture have compromised the quality of Lebanon's air, water, and soil. These types of environmental disruptions may have long-term impacts on human health, particularly in a country with nonexistent or unenforced occupational safety and health standards.

Much of Lebanon's environmental degradation is the direct result of war, including the illegal importation of toxic wastes from abroad and dumping of those wastes on Lebanon's soil (Hamdan 2002). During the last "Summer War" of 2006, thousands of hectares of agricultural land and greenhouses were destroyed, huge quantities of toxic wastes were produced from destroyed building and structures, and 15 tons of oil were spilled into the Mediterranean Sea (United Nations 2006).

Heavy metal contamination is a cause for serious concern in Lebanon. A 2001 report by the Lebanese Ministry of the Environment reported that more than 2,400 tons of industrial waste containing heavy metals is generated each year. A variety of heavy metals are known or suspected to cause damage to the male reproductive system, by affecting spermatogenesis (i.e., the production, maturation, motility, and fertilizing capacity of human spermatozoa).

Given these environmental concerns, men in my study worried openly about the effects of *talauwiz*, or pollution, on their fertility and overall health. Men complained about the ongoing use of lead in the gasoline, of pesticides on their fruits and vegetables, of hormones in meat, and of unsafe drinking water. Furthermore, they described to me in great detail the various types of bombs and armaments that had been dropped on Lebanon, and about their own direct exposure to bombing raids and the choking air-borne debris. Air pollution was cited time and again as a probable cause of male infertility. As one Lebanese engineer remarked, while we looked out a window of a fifth-floor IVF clinic, "See how black the sky is? This pollution is bad for everything. I am sure that this has something to do with infertility. And recently the cancer rates have been really, really high, too."

Given these concerns about infertility-producing *talauwiz*, more than 200 of the 220 men in my study volunteered to have their blood drawn for toxic metal analysis. I hand-carried these blood samples in a cooler back to the University of Michigan School of Public Health, where my colleague Jerome Nriagu assessed the samples

for a suite of toxic metals. Fortunately, we were able to determine that the men in the study were *not* carrying toxic loads of heavy metals in their bodies (Inhorn et al. 2007). Once this heavy metal analysis was completed, I and my Lebanese research assistants were able to contact all of the men in the study to convey their “healthy” results. Many were extremely curious to know what was “in” their blood, worrying, as they did, that “chemicals” in the air, food, and water were at least partly to be blamed for their male infertility. Thus, they were quite grateful for this health-educating information.

Conclusion

As shown in this article, men in the contemporary Middle East suffer from higher-than-average rates of male infertility, and are generally willing to acknowledge their reproductive impairments. “Taking responsibility” for infertility means seeking a diagnosis, mobilizing resources to try ICSI, and engaging in a retrospective process of etiological assessment. Infertile Middle Eastern men’s etiological narratives reveal their best efforts to answer the “why me?” question, often in the absence of reliable sources of health information. Men ask, Why are my sperm defective? What could have caused my sperm to be low in number, unable to move, misshapen, or absent altogether? Am I myself responsible for my own infertility problems? Or did something happen to me that was beyond my individual control?

In this study, five major answers to these questions emerged in men’s etiological narratives. Middle Eastern men who are infertile often believe that their condition derives from a combination of heredity, illicit sex, war, stress, or pollution. Although only one of these factors—heredity—is routinely invoked in epidemiological and biomedical literature on male infertility, at least three of the other factors may be linked to men’s infertility in the Middle Eastern region. Men’s ongoing exposure to war and political violence has led to acute and chronic stress as well as environmental toxicity. Men firmly believe that war and its effects have reduced their reproductive potential, and they may, in fact, be right. Although the links between war and male infertility require further investigation, my own study, as well as those of other researchers (Kilshaw 2009), suggest that war is deleterious to human reproductive health.

It is also important to stress that wars in the Middle East have caused the emigration of many young men, who may experience their first sexual encounters while in exile. In my study, men who had engaged in premarital sex, had visited prostitutes, or had simply masturbated as a form of sexual release were living in a current state of guilt about “wasting” their fertility before marriage. Men’s willingness to describe their episodes of perceived *zina* to the anthropologist, but also to emphasize their marital love and fidelity, presented especially poignant moments within men’s larger reproductive life histories (Inhorn 2012).

Returning to the rhetorics of “reproductive health for all” and “responsible men,” I feel compelled to conclude by critiquing these discourses. Although

initiated in the Middle East in 1994, the Reproductive Health Initiative has done little for the infertile men of the Middle East. No infertility programs or services have been made available to them, so Middle Eastern men must “take responsibility” for their infertility on their own, by seeking out diagnoses and services in the private sector. Furthermore, health education materials about male infertility remain scarce. Thus, men must make sense of their reproductive impairments through their own commonsense understandings of what might have “weakened” their sperm. That men’s etiological narratives about heredity, sexuality, war, stress, and toxicity are backed by emerging epidemiological evidence suggests that men are cogent observers of the harmful factors affecting their lives.

To ameliorate these factors would require many fundamental improvements in Middle Eastern social conditions, including the elimination of all forms of political violence and oppression. Until this day comes, however, infertile Middle Eastern men must be credited for being “responsible” men. They acknowledge their infertility, seek diagnoses, embark on ICSI cycles, and act as lay epidemiologists by attempting to get at the root causes of male infertility.

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