

The “Local” Confronts the “Global”
*Infertile Bodies and New Reproductive
Technologies in Egypt*

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Since the birth in 1978 of Louise Brown, the world's first test-tube baby, new reproductive technologies (NRTs) have spread around the globe, reaching countries far from the “producing” nations of the West. Perhaps nowhere is this globalization process more evident than in the nearly twenty nations of the Muslim Middle East, where in vitro fertilization (IVF) centers have opened in small, petro-rich Arab countries such as Bahrain and Qatar and in much larger but less prosperous North African nations such as Morocco and Egypt. Egypt provides a fascinating locus for investigation of this global transfer of NRTs because of its ironic position as one of the poor, “overpopulated” Middle Eastern nations. With nearly 70 million citizens and an annual per capita GNP of \$3,460 (Population Reference Bureau, 2001), Egypt has pursued population reduction goals through family planning since the 1960s, the first Muslim Middle Eastern nation to do so (Stycos, Said, Avery, & Fridman, 1988). Yet, as in the vast majority of the world's societies, infertility has never been included in Egypt's population program as a population problem, a more general public health concern, or an issue of human suffering for Egyptian citizens, especially women. This is despite the fact that a recent World Health Organization-sponsored survey placed the total infertility prevalence rate among married Egyptian couples at 12 percent (4.3% primary infertility and 7.7% secondary infertility) (Egyptian Fertility Care Society, 1995). Given the size of this infertile population and the strong culturally embedded desire for children expressed by virtually all Egyptian men and women, it is not surprising that Egypt provides a ready market for NRTs. Despite its regionally underprivileged position, Egypt has been on the forefront of NRT development in the Middle East—a legacy, perhaps, of its long history with colonially inspired biomedicine (Inhorn, 1994). In 1986 Egypt was one of two nations in the region to

open an IVF center. By 1996, when the research for this chapter was carried out, there were ten Egyptian IVF centers in full operation or development. By the end of the decade, there were more than thirty-five IVF centers in Egypt—a greater than threefold expansion in only three years, placing Egypt ahead of even Israel, which alone boasts twenty-four IVF centers (Kahn, 2000). This explosion of IVF services in Egypt is perhaps surprising when one considers that a single trial of IVF can cost more than £E 10,000, or U.S. \$3,000. This represents several times the annual income of a poor Egyptian and is an admittedly large sum for even the most affluent Egyptian patients. In other words, the new reproductive technologies would seem to be out of reach for most ordinary Egyptians; yet infertile Egyptian patients are inundating IVF centers, which face such great demand for their services that they are chronically short of the powerful drugs, supplies, and even competent technical staff necessary to carry out IVF procedures.

A critical question thus becomes: What factors explain the consumption of high-cost, high-tech reproductive technologies in a Third World country such as Egypt? Or, put another way, why are Egyptian consumers so powerfully motivated to try these costly, potentially risky, and often unsuccessful technologies? Certainly, to understand this demand for NRTs requires an analysis of pronatalism, or child desire, and the accompanying dread, severe stigmatization, and suffering that infertility brings for most Egyptian couples. These are subjects that I have taken up at length elsewhere (see Inhorn, 1994, 1996) and that provide the implicit background to this chapter.

But my primary goal here is to ask, not what motivates Egyptians to use these technologies, but rather what might prevent them from doing so. Namely, my research in Egypt shows that would-be Egyptian IVF consumers confront numerous “arenas of constraint,” or various structural, social-cultural, ideological, and practical obstacles and apprehensions that may detract or deter them altogether from using NRTs. During two periods of research in Egypt, I have identified eight major arenas of constraint, ranging from local formulations of patriarchy, which privilege infertile Egyptian men in their marital relationships, to local versions of Islam and Coptic Christianity, which legislate the “appropriate” use of new reproductive technologies, thereby restricting who may benefit from them (Inhorn, 2001). I would argue that examining such arenas of constraint facing the infertile wherever these technologies spread is an extremely useful exercise, for it serves to deconstruct the myth that NRTs are some sort of panacea for infertility wherever it occurs. Such critical deconstruction stands in sharp contrast to various “pro-technology” modernist narratives, which argue that NRTs are a great boon to infertile couples around the world—providing them with an opportunity to overcome their stigma through the use of a

“modern” technology representing the “cutting edge” of advances in Western science and medicine. By using such technologies, the infertile would therefore seem to be agents of their own reproductive futures, and issues of human suffering would be alleviated. Yet, as many feminist authors have argued (see chap. 3, this volume), such utopian scenarios are unrealistic and even dangerous, for they not only ignore the myriad obstacles and risks that consumers of these technologies face (Ginsburg & Rapp, 1995) but also fail to interrogate the notion of reproductive choice, particularly in pronatalist societies such as Egypt where motherhood, and thus infertility therapy seeking, are rarely if ever viewed as optional.

My second major line of argument in this chapter is that NRTs are not transferred into cultural voids when they reach places like Egypt. Rather, local considerations, be they cultural, social, economic, or political, shape and sometimes curtail the way these Western-generated technologies are both offered to and received by non-Western subjects. In other words, the assumption on the part of global producer nations that these NRTs—as purportedly value-free, inherently beneficial medical technologies—are “immune to culture” and can thus be “appropriately” transferred and implemented anywhere and everywhere is subject to challenge once local formulations, perceptions, and consumption are taken into consideration.

Indeed, the global spread of NRTs provides a particularly salient but little discussed example of what Appadurai (1996, p. 34) has termed a “technoscape,” or “the global configuration, also ever fluid, of technology, and the fact that technology, both high and low, both mechanical and informational, now moves at high speeds across various kinds of previously impervious boundaries.” Clearly, as with the global spread of other technologies, the NRT technoscape is an uneven terrain, in that some nations and regions within nations (e.g., major metropolises) have achieved greater access to these “fruits” of globalization than others. Furthermore, even in the West—and then on magnified terms in the non-Western world—lines of demarcation between gender, race, and class have been brought into great relief vis-à-vis access to these technologies. Ginsburg and Rapp (1995) have employed the term “stratified reproduction” in an attempt to get at these transnational inequalities, whereby some are able to achieve their reproductive desires, often through recourse to globalizing technologies, while others—usually poor women of color around the globe—are disempowered and even despised as reproducers. However, Ginsburg and Rapp are quick to point out that the power to define reproduction is not necessarily unidirectional—flowing from the West, with its money and technology, to the rest of the world. Rather, “people everywhere actively use their local cultural logics and social relations to incorporate, revise, or resist the influence of seemingly distant political and economic forces” (Ginsburg & Rapp, 1995, p. 1). Indeed, a growing number of studies asserting

the voices and agency of non-Western peoples have challenged the image of Third World subjects, particularly women, as passive and powerless in the face of global forces (Mohanty, Russo, & Torres, 1991). It is useful instead to ask how Third World recipients of global technologies resist their application, or at least reconfigure the ways they are to be adopted in local cultural contexts (Freeman, 1999). In other words, globalization is not enacted in a uniform manner around the world, nor is it simply homogenizing—necessarily “Westernizing” or even “Americanizing”—in its effects (Appadurai, 1996; Hannerz, 1996). The global is always imbued with local meaning, and local actors mold the very form that global processes take, doing so in ways that highlight the dialectics of gender and class, production and consumption, local and global cultures (Freeman, 1999).

In this chapter, I intend to focus on how local Egyptian culture both accommodates and curtails the incorporation of globalizing reproductive technologies into the Egyptian landscape. In particular, I hope to show how Egyptian IVF patients and their doctors imbue the practice of IVF with an Egyptian sensibility—not to be found in the IVF laboratories and clinics of London, Los Angeles, Sydney, or other Western sites. This Egyptian sensibility, furthermore, has much to do with issues of embodiment (Bourdieu, 1977), or local, culturally embedded notions of infertile bodies and human reproductive bodies in general. As I show here, understandings of the reproductive body and its physiology are highly culturally variable, as are perceptions of bodily risk and vulnerability, safety and efficacy, and social stigmatization associated with “abnormal” bodies and births. Such culturally specific understandings and experiences of the reproductive body may shape the way the new reproductive technologies are to be used, curtailing their application in some cases. Thus, although demand for NRTs has grown dramatically in Egypt over the past decade, the case of NRTs clearly demonstrates how the “local” confronts the “global”: how local cultural factors reshape and sometimes constrain how global technologies are to be used. Such local considerations speak to the need for greater historical and ethnographic grounding of bioethical, feminist, and technological debates over the various impacts of reproductive technologies. For, as my own ethnographic research suggests, the use of NRTs in Egypt involves not only a unique history, but different understandings of the body, the limits of science and technology, and the local “moral worlds” (Kleinman, 1992, 1995) in which the recipients of such global technologies and their high-tech offspring must live.

THE ETHNOGRAPHIC SETTING AND SUBJECTS

The research on which this chapter is based encompasses two distinct time periods and research settings, thereby capturing the historicity of

the NRT globalization process in Egypt. The first period is 1988–1989, or the “early IVF period” in Egypt. The first Egyptian IVF center had just opened in an elite suburb of Cairo in 1986, and the first Egyptian “baby of the tubes” (as they are called in Egypt), a little girl named Heba Mohammed, was born in 1987 (Stephens, 1995). In these early days of NRT transfer to Egypt, I conducted fifteen months of anthropological research on the general problem of infertility in that country, basing my research in the public OB-GYN teaching hospital in Alexandria, Egypt’s second largest city. This hospital, popularly known as “Shatby,” was initiating Egypt’s only government-sponsored IVF program, thereby drawing large numbers of lower-class, IVF-seeking patients for purportedly “free” NRT technology.¹ At Shatby, I conducted in-depth, semistructured interviews in the Egyptian dialect of Arabic with one hundred infertile women and a comparison group of ninety fertile women, most of whom were poor, uneducated, illiterate or only semiliterate housewives (see the appendixes in Inhorn [1994] for further details).

The second period of research took place in 1996, or what could be characterized as the “IVF boom period” in Egypt. In the midst of this NRT explosion, I spent the summer in Cairo conducting participant observation and in-depth, semistructured interviews with sixty-six mostly middle- to upper-class women; nearly all of them were undergoing IVF or related procedures at two of the major IVF centers in Cairo, Egypt’s largest city of more than 10 million inhabitants. Both of these IVF centers were situated in private hospitals in Heliopolis and Maadi, elite neighborhoods on the outskirts of Cairo. They were among the three most established and respected clinics in the city and received a daily influx of new patients, especially during the summer months, which were the busiest and therefore ideal for my research. The patients presenting to these IVF clinics were generally (although not exclusively) well-educated, professional, comparatively affluent women, who were often accompanied by their husbands. Indeed, in 40 percent of the interviews conducted in these clinics (in marked contrast to my earlier research), husbands were present and participated, often enthusiastically, in discussions. Moreover, whereas interviews in my first study were conducted entirely in Egyptian Arabic, many of the women and men who participated in the second study spoke fluent, even flawless English in a Western argot as a result of their advanced education, and they chose to conduct the interview in their second language.

Thus my work on this subject incorporates both a longitudinal and a class-based comparison of infertile women seeking treatment in the two largest cities of Egypt. The findings presented here are based largely on the second period of research, but they are clearly informed by insights gained through the initial, longer period of research on the general problem of infertility.

ARENAS OF CONSTRAINT

"Reproducing" Knowledge and Belief

Perhaps the most fundamental cultural constraint to the practice of IVF and other NRTs in Egypt has to do with deeply embedded beliefs about the nature of the reproductive body—beliefs that have yet to be supplanted through widespread education in contemporary Western reproductive biology. What Martin (1991) has called the “romance of egg and sperm”—the now widely held Western version of duogenetic inheritance through equal contributions of egg and sperm—is not the cultural script of procreation imagined by most Egyptians. Instead, among the poorly educated, often illiterate Egyptian “masses” (i.e., the urban and rural poor), views of procreation are decidedly “monogenetic” (Delaney, 1991): that is, men are literally thought to create life vis-à-vis preformed fetuses that they carry in their sperm and ejaculate into women’s waiting wombs. Since sperm are popularly referred to as *didan*, or worms, among the Egyptian masses, this masculinist, monogenetic, preformation model (Laqueur, 1990)² is typically glossed as: “men’s worms carry the kids.” Women, who are clearly marginalized in this procreative scenario, are thought of as mere receptacles for and nurturers of men’s substantive input rather than as active contributors to the process of procreation per se. Among uneducated Egyptians, women are not deemed contributors of biogenetic substance but rather serve to carry, “cushion,” or perhaps “nourish” the growing fetus with menstrual blood (a substance that is nonetheless polluting and thus deemed troublesome as a source of fetal sustenance). Indeed, the notion of women having “eggs” is seen as ludicrous and unthinkable—equating, as it would, human females with chickens!

Given such differences in knowledge and belief, biomedically oriented infertility treatment is typically deeply disturbing and even threatening for both Egyptian men and women. It requires men to “bring,” or ejaculate, their sperm into plastic containers and women to take powerful hormonal medications to stimulate their egg production. The new reproductive technologies such as IVF take such manipulation of procreative materials several steps further, requiring that both ova and sperm be removed from the body, sometimes surgically, and that embryos formed through in vitro fertilization in a laboratory be placed back inside a woman’s body. This technology challenges the most basic precepts of monogenetic procreation and patrilineally based kinship envisioned by most uneducated Egyptians. Such challenges include the notions (1) that women have eggs that can be removed from and later returned to their bodies in a different form; (2) that women’s eggs contribute material to the creation of offspring, thereby giving women biological “ownership” of their children in their own right; (3) that men do *not*, in fact, contribute “everything” to procreation if their

sperm are made to “combine” with women’s eggs; (4) that men’s sperm and women’s eggs may somehow be of equal weight in biogenetic inheritance, a form of equality questioned even by more educated Egyptians; and (5) that this combination of eggs and sperm can occur outside the body, separate from the “bringing” of children through male-orgasmic sex.

Indeed, questions about what happens to such procreative materials during the period in which they are “in vitro” (literally, outside the body) are deeply troubling to Egyptians of all social backgrounds. Among the less educated, wild, futuristic fantasy visions of babies lingering for months in aquariums or giant test tubes abound, making such “extracorporeal pregnancies” decidedly “unnatural” and against God-given plans for pregnancy and birth (Inhorn, 1994). Even among the most highly educated Egyptians, the in vitro nature of NRTs evokes widespread moral uncertainty, for they worry about inadvertent laboratory mixups of procreative materials. An accidental laboratory recombination of eggs and sperm outside the marital union—as has happened in Western IVF laboratories—is considered tantamount to adultery in this Muslim society, where donation of sperm, ova, embryos, and wombs (through surrogacy) are all strictly prohibited (Inhorn, 2000, 2001).

In the early IVF period, when I conducted my first research on this subject in Egypt, fears of this kind abounded, such that only the most desperate “moral pioneers” (Rapp, 1988) seemed willing to actually enter the brave new world of high-tech reproductive medicine. However, the past ten years have yielded dramatic changes in the realm of knowledge and hence belief. Patients who reached Egyptian IVF centers in the late 1990s were relative “experts” on the basic biology, mechanics, and religious permissibility of NRTs, easily reciting the differences between the various types of NRTs, as well as contemporary religious thinking on the subject. But this is largely a function of the educational level of IVF clientele; those who eventually overcome the various obstacles to using NRTs are generally affluent, highly educated women and men, who have received Western-style higher education including instruction in Western reproductive biology. In addition, most cope with the trials and tribulations of the IVF treatment process by seeking out information on NRTs both before and after they embark on this line of therapy. In many cases, this typically includes patient education received in IVF centers, as well as books and other printed materials, generally written by physicians for educated Arabic-speaking audiences.

Furthermore, gaining access to popular information on NRTs has been made much easier for potential Egyptian NRT consumers through the veritable information explosion in Egypt, a country that has long been receptive to global media forces and prides itself on being the “Hollywood of the Middle East.” Each new development in the world of Egyptian high-tech

medicine becomes big news and is covered by various forms of print and electronic media. In addition, movies and television soap operas about the human dilemmas of high-tech reproduction have been both imported and produced locally and broadcast to literally millions of curious Egyptians. Although "IVF for entertainment" has often been as misleading as it has been educational, the very fact that such movies are being watched by millions of Egyptians of all social backgrounds has served to inform the public and to normalize NRTs to some extent.

Nonetheless, judging by the degree of stigma and secrecy still associated with IVF, it seems unlikely that all the media coverage in the world can alleviate and eliminate some of the widespread misunderstandings about high-tech baby making in Egypt. To do this will require, instead, unseating deeply held monogenetic cultural models of how babies are made. As I have argued elsewhere (Inhorn, 1996), it is these very models of monogenetic male procreation that serve as the ideological underpinning of Egyptian patriarchy, particularly as it is manifest in patrilineal kinship and family life. Thus I predict that no amount of media coverage will do away entirely with widely held, powerful beliefs about the nature of reproductive bodies, procreative substances, and the inherent "wrongness" of a technological innovation that tampers with these bodies and substances—in addition to the highly gendered notions of their relative importance. To that end, knowledge and belief themselves will probably continue to serve as one of the most fundamental impediments to the use of NRTs for many years to come, especially among more traditional segments of Egyptian society.

Embodiment and Efficacy

Given the uncertainties about reproductive bodies and the entire NRT enterprise, it is not surprising that questions of safety and efficacy are also of paramount concern to Egyptians, both men and women. Clearly, it is women who experience most powerfully the "embodiment" of the NRT process, and it is they who put their bodies on the line from the first injection of side effect-producing, ova-stimulating hormones to the typically cesarean birth of often multiple "babies of the tubes."³ Thus Egyptian women, like women considering NRTs anywhere, are concerned with (1) the immediate risks and long-term safety of such procedures; (2) their individual somatic and psychic sensitivities to the debilitating aspects of such procedures; and (3) the efficacy, or the ultimate likelihood of success, of conception through such extraordinary means. These concerns are often shared by women's husbands, particularly in cases of male infertility. In the latter cases, a perfectly "healthy" wife must nonetheless experience the psychosomatic risks and discomforts of the NRT procedure, while her

infertile husband's only psychosomatic suffering may involve the tension of time-sensitive, masturbatory ejaculation of his "weak" sperm into a plastic cup.

The very embodiment of NRT procedures is experienced by Egyptian women and men in culturally specific ways—ways that often magnify the psychic costs of this type of treatment and that in some cases may prevent Egyptian couples from going forward with IVF or a related procedure. Even well-informed couples who decide to visit an Egyptian IVF clinic have deep concerns about the embodiment of a potentially risky and not necessarily successful form of high-tech therapy. And these concerns are exacerbated by real structural tensions having to do with the availability of supplies and competent personnel to perform effective IVF in a Third World setting that is on the perceived receiving end of global technological transfer. In fact, Egyptian patients' anxieties about this related set of issues are well founded, for a number of reasons.

"Weakness." First, Egyptian women are often fundamentally ambivalent about taking the powerful hormonal agents required before any trial of IVF, because of deep culturally entrenched beliefs about the bodily "weakness" produced by hormones of any kind. "Weakness" is a common cultural illness idiom in Egypt (DeClerque, Tsui, Abul-Ata, & Barcelona, 1986; Early, 1993), one that is viewed both as a general condition of ill health and as a problem localized to specific parts of the body (e.g., "weak heart," "weak lungs," and "weak blood"). The idiom of weakness is rife in popular Egyptian reproductive imagery, and it is given further support by Egyptian gynecologists, who tend to use the adjective "weak" to describe reproductive processes to laypersons. Thus *mibāyid da'if*, or weak ovaries, is a term used by both Egyptian physicians and patients to describe ovarian problems, particularly anovulation (Inhorn, 1994). And such "weakness" is often translated into more condemnatory terms by patients themselves, who refer to their own ovaries as "lazy" and in need of "activation."

The hormonal medications that women are given before an IVF cycle are generally viewed as "strengtheners," capable of stimulating ovarian function even in the "weakest" ovaries. However, the paradoxical problem with these agents is that they may overcome weakness in one set of organs, the ovaries, only to produce a more generalized bodily weakness apparent in the noticeable list of side effects that they produce. Indeed, in the minds of Egyptian women, IVF hormones belong in the same category as contraceptive hormones, including oral contraceptives, Depo-Provera injections, and NORPLANT, all of which are widely available in Egypt. Although their mechanisms of action and desired effects are different, all reproductively related hormonal agents are viewed as powerful drugs, which, over time, produce a long list of potential side effects, including a condition of gen-

eralized weakness characterized by enervation, loss of muscular strength and appetite, and even fainting. Furthermore, women taking pre-IVF hormones generally complain of other, more immediate debilitating side effects, including pain, bruising, and swelling at the site of injections; abdominal bloating, fluid retention, and weight gain; breast enlargement and tenderness; nausea and vomiting; and headaches, dizziness, lightheadedness, and general feelings of moodiness and depression. Women are understandably concerned about whether such bodily weakness is temporary, lasting, or even permanent, and they wonder aloud whether even worse problems, such as grave diseases like reproductive cancers, may be produced by these agents in the long term. Such concerns are especially pronounced for women who have undergone repeated cycles of ovulation induction before IVF.

In part because many women undergoing IVF feel weak and sick, they take to their beds during periods of therapy. This is especially true following embryo transfer, when successful fertilization has occurred in the laboratory, and the embryos are transferred back into the woman's uterus in the hope that at least one of them will implant. Women who pass the stage of embryo transfer virtually immobilize themselves, barely moving from bed during the two-week period until the pregnancy test is performed (or menses occurs, indicating a "failed" cycle). Basing their immobility on popular notions of pregnancy loss caused by overexertion, women hope that by remaining still and inactive, the pregnancy will "stick" or "hang" (i.e., implant) and will not "fall down," resulting in miscarriage. Women maintain this belief even though Egyptian IVF doctors usually inform patients that movement and activity have little to do with the success of implantation and that bed rest beyond the day of embryo transfer is therefore unnecessary. Indeed, those days spent in bed are rarely restful for women, who tend to brood excessively about whether the IVF trial has been successful and are thus prone to the ill effects of excessive stress (see chap. 4, this volume). The emotional devastation that follows a failed trial, furthermore, is often experienced in relative isolation, for reasons to be described below; hence it often takes women months to muster sufficient courage to repeat the procedure, assuming financial resources are available.

Success Rates. Given the physical and emotional rollercoaster associated with IVF, Egyptian women are clearly concerned about whether their efforts will be fruitful—whether placing one's body at risk and enduring periods of immobilization will lead, ultimately, to a successful pregnancy and birth of a precious "baby of the tubes." Consequently, patients are keen to know percentages of success, and, once informed of the lower-than-average odds, they debate whether undergoing IVF is worth the physical risks, the worry, and the money, which may end up being gambled and

then lost. Conscious of their position in the global arena, many Egyptian patients also wonder whether the percentages they are quoted by their physicians are equivalent to the best centers in the West. Unfortunately, because of various technical obstacles and lack of training and technique on the part of most NRT providers, local success rates in Egypt—except in the very best centers—are comparatively poor. But they are rarely presented as such to patients. Instead, patients are routinely quoted inflated success rates—generally in the 30 to 40 percent range—in order to maintain patients' hope and willingness to undergo NRT procedures. Yet such percentages are high, even by Western standards, and do not represent the take-home-baby rate, which in the West is rarely higher than 20 percent.⁴

Furthermore, many patients are given false hope that a first trial of IVF will be successful. Given all the hardships described above, it is not surprising that patients ardently hope to avoid repeated trials of IVF and are usually devastated when pregnancy is not achieved on the first attempt. With very few exceptions, most Egyptian patients also hope that the first trial of IVF will yield multiple births—ideally twins or triplets. Because of the cultural unacceptability of a one-child family, low-order multiple births mean that the "ideal" urban Egyptian family size of at least two but not more than three children can be achieved without having to resort to future IVF trials. For this reason, four to six embryos are usually transferred in any given IVF trial, and occasionally, when most of these embryos "take," so-called selective reductions through the "therapeutic" abortion of "excess" embryos are advised and performed. Nonetheless, fascination with higher-order births can be found in Egypt, as in the West, and the rare birth of IVF quadruplets and beyond generally makes headline news in the Egyptian media.

Test-Tube Babies' (and Women's) Futures

But what about these Egyptian babies of the tubes? Do their parents fear for their future well-being? The answer to this question is definitely yes. But the concerns and apprehensions of Egyptian IVF parents may be considerably different from those of their counterparts in the West.

First, concerns about the physical well-being of offspring conceived through NRTs continue to be in the forefront of Egyptian patients' minds, especially those couples who are undergoing the newest variant of IVF called intracytoplasmic sperm injection (ICSI) for cases of severe male-factor infertility. Since its introduction in the early 1990s, ICSI has created a revolution in the treatment of male infertility, which contributes to more than half of all infertility cases and has traditionally been intransigent to standard treatment protocols (Inhorn, 2002). With ICSI, men with very poor semen profiles—even true azoospermia, or lack of sperm in the ejac-

ulate—are now able to produce a “biological” child of their own. As long as a single viable spermatozoon can be retrieved from a man’s body—even through epididymal aspiration or testicular biopsy—it can be injected vis-à-vis laboratory micromanipulation techniques directly into an ovum, thereby increasing the chances of fertilization. Thus men whose only chances for having children would have been through adoption or donor insemination—both of which are prohibited on religious grounds in Egypt—are now able to conceive children “of their own” with the help of this revolutionary technology. Not surprisingly, since ICSI’s arrival in Egypt in the mid-1990s and its subsequent heralding in the Egyptian media, Egyptian IVF centers have been virtually flooded with cases of often long-term, male-factor infertility—for example, 70 percent of those couples participating in my study in 1996. But the arrival of ICSI has itself generated new sets of culturally based dilemmas and constraints.

“Weakness Revisited.” Many of the men who have lived with the fact that their sperm are “weak” are clearly concerned about the biological transmission of “weakness” to their children. As with “weak ovaries,” weakness is the cultural idiom used to describe male infertility in Egypt. Among the less educated, who conceptualize sperm as worms, men suffering from infertility are seen as having weak worms, incapable of carrying fetuses to women’s wombs. Among the more educated clientele at Egyptian IVF centers, male infertility problems, of which there are more than ten different types, are understood in more nuanced terms as problems of sperm count or motility. Nonetheless, such male infertility problems are routinely glossed as “weakness,” even in Egyptian IVF clinics, and it seems that many infertile Egyptian men take this cultural idiom to heart, feeling that they are somehow weak, defective, and even unworthy as biological progenitors. Many men in Egyptian IVF centers are openly concerned about whether they will “pass their weakness” on to their children, and this is especially pronounced among men with spermatic deformities, who wonder if their children will suffer from congenital malformations. Given the growing evidence that ICSI offspring are just as “normal” as any other population of children conceived through NRTs, Egyptian physicians attempt to reassure their male patients that their offspring will be healthy and normal. But these lingering doubts about the general health and well-being of offspring conceived from “weakness” plague many men—up to and even beyond the birth of their own evidently physically normal ICSI babies.

Aging Wives. The wives of infertile men may share their anxieties but are also confronted with additional serious concerns of their own. For one thing, many of the women who eventually arrive at Egyptian IVF centers are “reproductively elderly,” approaching or having passed the age of forty.

Some of these are women with their own infertility problems, who eventually resort to NRTs after many failed attempts at less invasive therapies. Others are the wives of infertile men who have stood by their husbands after many years of childless marriage. Unfortunately for both groups of women, the age of forty marks a key watershed, in that they themselves are no longer viewed as acceptable candidates for IVF or ICSI therapy. Because of significantly declining success rates for IVF and ICSI in women aged forty and older, most Egyptian IVF centers refuse to accept these women into their patient populations. Some Egyptian IVF doctors argue that this is a compassionate restriction, because it prevents older women from suffering the economic, physical, and psychic hardships of likely futile attempts at repeated NRT trials. Furthermore, technologies such as amniocentesis for genetic testing of fetuses are virtually undeveloped in Egypt. Although this may seem ironic, given the enthusiasm for other forms of high-tech reproductive medicine, the lack of prenatal testing clearly reflects at least three factors: (1) physicians’ extreme reluctance to intervene invasively in a “God-given” pregnancy; (2) greater cultural tolerance than in the West for disability and family care giving of the disabled; and (3) the continuing criminalization of abortion in the country (Lane, 1997). Hence older women who end up conceiving through IVF or ICSI have fewer means of guaranteeing that their children will be genetically “normal,” and mid-trimester abortion of children with maternal age-related genetic defects is not an option anyway. In fact, many infertile Egyptian women believe that they or their husbands may be infertile precisely because God is sparing them from the birth of such a “defective” child.

However, female age restrictions in the midst of an ICSI revolution have proved particularly devastating for Egyptian wives of infertile husbands. Because contemporary Islamic, as well as Egyptian Coptic Christian, religious opinion forbids any kind of egg, embryo, or semen donation, as well as surrogacy arrangements, couples in which the wife is reproductively elderly face four difficult options: (1) to remain together permanently without children; (2) to raise orphaned foster children; (3) to partake in a polygynous marriage; or (4) to divorce so that the infertile husband can try his luck with a younger, more fecund woman. Polygyny is unacceptable to most Egyptian women today; yet the options of permanent involuntary childlessness or permanent fostering are unacceptable to a significant proportion (although not necessarily the majority) of Egyptian men, including the highly educated ones presenting to Egyptian IVF centers. Thus, sadly, cases of male-initiated divorce—between infertile men in their forties and fifties and the once-fertile but now reproductively elderly wives who stood by them, for decades in some cases—are increasing.

For their part, Egyptian physicians who perform ICSI realize this potentially untoward outcome but remain divided in their approach. Some be-

lieve that these scientific developments give infertile men the God-given right to conceive their own biological children, regardless of the marital repercussions; thus they inform their patients about ICSI, regardless of a wife's age or marital vulnerability. Others argue for a less scientific but more "compassionate" approach, refusing to inform *either* partner in such marriages that ICSI is an option. But given the way such information quickly spreads in the urban Egyptian landscape, it seems likely that men turned away at one clinic may simply seek another clinic that will accept them—with a new, more fertile second wife. Thus the gendered dimensions of this "newest" new reproductive technology reveal the ongoing nature of Egyptian patriarchy and the ways in which Egyptian Muslim women continue to remain vulnerable to Islamic personal status laws that allow relatively easy divorce when initiated by men—including infertile ones.

Envy, Secrecy, and Stigma. Yet, even among Egyptian couples who avoid these marital outcomes and who succeed in bearing a baby of the tubes, completely happy endings are never to be assumed. For very few Egyptian parents of test-tube babies are willing to admit to anyone, outside of perhaps their closest family members, that conception occurred in anything but an "ordinary" fashion. Despite widespread public knowledge that babies of the tubes are in fact being "made" in Egypt, the actual production of such children remains in the realm of the extraordinary and is a subject of wild speculation and moral uncertainty among ordinary "fertile" Egyptians. The vast majority of patients undergoing NRT procedures are extremely concerned about issues of confidentiality, because of the social stigma and ridicule that they anticipate may be directed toward them or their baby of the tubes as the child grows up.

Moreover, widespread cultural notions of envy—resulting in harm to the pregnancy or the test-tube child itself—come into play even among the "modern," educated elite. Egyptians of all social backgrounds abide by the notion that those who covet one's success or material possessions, including one's children, may direct an envious glance—the so-called evil eye—thereby harming or "ruining" another's good fortune. As a result, most Egyptians place protective amulets on prized possessions, such as automobiles, and are never too boastful—even hiding or lying about particular accomplishments, good health, and good fortune. As has been widely documented throughout the Middle East (Inhorn, 1994), *hasad*, or envy, is considered a major etiological factor in childhood illness, and envious infertile women are considered major perpetrators of the evil eye. Although they may not intend to harm a child, they are seen as incapable of controlling their feelings of envy and are sometimes accused of causing childhood illness and even death. As a result, infertile women are often avoided

by others with children, and infertile women themselves are often sensitive about attending rituals and celebrations where many children are present (Inhorn, 1996).

Given that infertile Egyptian women know all too well how society views them, they are likewise concerned about revealing their own good fortune when they eventually become pregnant through IVF or ICSI. Many women who achieve IVF or ICSI pregnancies attempt to hide the pregnancy for as long as possible. Moreover, they ask to see their physicians at their private OB-GYN clinics rather than in their IVF centers where high numbers of potentially covetous infertile patients are to be found.

In this local moral world marked by fear, envy, paranoia, and stigma, women and men who attempt NRT procedures must go it alone, that is, in relative emotional isolation. The pervasive fear of others' envy clearly militates against the formation of patient coalitions, as most Egyptian couples are reluctant to disclose their IVF or ICSI successes to other hopeful patients. Furthermore, although some patients admit that professional psychological support services or patient-led self-help groups, such as RESOLVE in the United States, would be extremely beneficial, they are quick to point out that these will never happen in Egypt, primarily because of these fears of envy and the desire to prevent stigmatization by keeping one's identity as an IVF or ICSI patient a true secret.⁵ Thus those Egyptian men and women, such as Mohammed and Shahira, whose telling case is described below, experience both their hopelessness and their exaltation in silence. For they live in a society that, like many others, has yet to come to terms with the myriad implications of the new reproductive technologies being so rapidly exported around the globe.

THE CASE OF INFERTILE MOHAMMED, HIS TWO WIVES, AND HIS ICSI TWINS

Many of the issues described above are clearly revealed in the case of Mohammed,⁶ a forty-three-year-old Egyptian man with a long history of infertility. Mohammed is a lawyer whose father was once a powerful politician. By Egyptian standards, Mohammed is affluent; in addition to his legal practice, he rents a villa to a foreign embassy and owns a "business center" for photocopying and office supplies. For seventeen years Mohammed was married to Hala, a woman now in her forties whom he divorced two years ago as a result of their childlessness. Relatively early in his marriage to Hala, Mohammed was told by physicians that he suffered from rather severe male-factor infertility, involving both low sperm count and poor motility. He underwent repeated courses of hormonal therapy, none of which was successful in significantly improving his sperm profile. Ultimately, he and Hala

underwent several cycles of intrauterine insemination using concentrates of his sperm, as well as five cycles of IVF, three times in Germany and two times in Egypt. Each trial was unsuccessful.

According to the Egyptian physicians who undertook one of the failed trials in Mohammed's home country, it was obvious to them that Mohammed and Hala's marriage was deteriorating during the course of therapy—a deterioration they blamed on Hala's "very strong personality." After the second failed IVF trial in Egypt, Mohammed divorced Hala, who herself was never infertile but is now unlikely to remarry as her reproductive clock runs out. Mohammed, meanwhile, was remarried within a year to Shahira, a Christian woman approximately half his age. Mohammed was less interested in Shahira's "pedigree" (her college degree in tourism, with fluency in both French and English) or in her differing religious background (a Muslim man is allowed to marry a Christian woman) than in her youth, her potential fecundity, and her acceptance of his infertility problem, including her willingness to try ICSI with him.

Within a few months of their marriage, Mohammed took Shahira to one of the two Egyptian IVF clinics where he had also taken his first wife, Hala. The physicians there confirmed that because Shahira was young, with no known reproductive impairments, her chances of conceiving with ICSI were significantly greater than in Mohammed's previous IVF attempts with the aging Hala. Mohammed was delighted with the news that he and Shahira were candidates for ICSI. However, Shahira's reaction was fear. She said, "I'm very afraid of *any* operation, or anything. . . . I was *so* afraid, and I was not thinking it was going to be successful. But [the doctor] told me, 'Don't be afraid. It's easy. A small operation. It will be successful.' But I was convinced it was *not* going to be successful."

Shahira suffered from uncomfortable side effects from the hormones used to stimulate her ovulation. Her gastric ulcer symptoms were exacerbated, and she felt abdominal cramping and pain at various points in the treatment cycle. "It's too difficult doing this ICSI," Shahira explained. "I take all these injections, I come to the hospital every day, I prepare for the operation, I see the anesthesia, the doctors. It's frightening. My husband—they just take the semen from him."

Once the ICSI embryo transfer was completed, Shahira was still unconvinced of its possible efficacy. She stayed in her house and refused to go out to take the pregnancy blood test scheduled at a nearby laboratory. Finally, Mohammed had a doctor sent to their home to draw the blood sample. The pregnancy test, which was followed by more blood tests and ultrasounds, confirmed that Shahira was indeed pregnant—with twins in separate amniotic sacs.

Now it is Mohammed who is in disbelief. Every day he looks at Shahira's expanding belly and says, "Now I can't believe I will have children. I will

believe it if I touch my son or daughter by myself." Shahira hopes that the birth of his ICSI twins will make Mohammed stop smoking three packs of cigarettes a day, which may be implicated in his ongoing infertility problems. For her part, Shahira is concerned about the potential difficulties associated with a twin pregnancy and a mandatory cesarean. She is also concerned about keeping the ICSI conception of her twins a secret, to be carefully guarded by Mohammed and her brother and sister. She hopes that both twins will be born live and healthy and that at least one of them will be a girl, although Mohammed hopes for a son who he can name Ahmed. If God wills and both twins survive and are normal, Shahira says she will not do ICSI again. "Once is enough," she says. "One operation, one delivery. It's too difficult and too frightening."

CONCLUSION

Mohammed and Shahira are among the "lucky" ones, for whom the fruits of globalization are literally the test-tube children they bear. But many other cautionary tales could be written of the ways in which infertile Egyptian women and men confront the realities of the NRTs currently flooding into their country. Such stories would tell of class-based barriers to NRT access among the Egyptian lower and middle classes; the necessity of income-generating labor migration even among the upper classes and the search for NRT solutions on month-long holidays "back home"; the unavailability of drugs and the creation of pharmaceutical "suitcase trading" across national borders; the greed and arrogance of physicians who are in it for the money and treat their NRT-seeking patients like furniture; and morally based anxieties about the handling of biogenetic substances in behind-the-scenes places like IVF laboratories.

In this chapter, I have focused primarily on one aspect of NRT treatment seeking in Egypt, namely, on issues of embodiment, or how local, culturally shaped knowledge of, beliefs about, and experiences of the human body serve as constraints on the practice and use of NRTs in this country. In so doing, I have attempted to highlight the cultural variability inherent in perceptions of the reproductive body and its physiology, as well as notions of bodily risk and vulnerability, safety and efficacy, and the social stigmatization associated with "abnormal" bodies and births.

As the NRTs become further entrenched in the urban Egyptian landscape and other forms of high-tech reproductive technology become available in this setting, new dilemmas and new local cultural responses to these forms of globalization are likely to arise. Indeed, the pace of change evident in the production of NRTs themselves—and the rapidity of their globalization and penetration into far reaches of the so-called Third world—is certain to engender much that is "new": new social imaginaries, new forms

of cultural production, and new utopias, as well as new dystopias, new forms of local resistance, and new arenas of cultural constraint.

For all of these reasons and for others as well, following the globalization of NRTs into the new millennium—in places such as Egypt and elsewhere around the globe—seems a worthy endeavor. For, the examination of these Western technologies in non-Western places offers an illuminating case study of local-global intersections and particularly the importance of interrogating what is “local” in an increasingly “global” world.

NOTES

The research on which this chapter is based was supported by grants from the National Science Foundation, the Fulbright Institute of International Education, and the U.S. Department of Education’s Fulbright-Hays Research Abroad Program (the latter of which provided separate grants for each field period). I am grateful to these granting agencies for their support and to the hospitals in Egypt, including Shatby University Hospital, Nozha International Hospital, and Nile Badrawi Hospital, where I was allowed to conduct my research. I am also grateful to the many physicians at Shatby Hospital who facilitated my early field research and to Drs. Gamal Serour, Mohamed Yehia, and Salah Zaki, who were instrumental in allowing me to undertake my later research in Egyptian IVF centers. My research in these centers was immeasurably aided by my able and sympathetic research assistant, Tayseer Salem. Finally, and most significantly, I could not have conducted this research without the goodwill, patience, and extraordinary candor of my many infertile Egyptian informants, who opened up to me despite their desires to remain anonymous as IVF seekers. My feelings of gratitude toward them are profound.

1. Shatby Hospital’s IVF center opened in 1991, and the first Alexandrian “baby of the tubes” was born and heralded in the Egyptian media in early 1992. However, since those early publicity-driven days of “free,” government-sponsored IVF, fewer and fewer test-tube babies have been born to poor Egyptian women. As Egypt’s one and only *public* IVF program, the Shatby Hospital IVF clinic continues to run but on such a low volume that very few patients receive treatment and success rates are compromised. For the most part, the physicians charged with running this public clinic put their energies into their private IVF practices, which, as is typical for Egyptian physicians working in the public sector, they run on the side.

2. Such “preformation” models also dominated early European biomedical thinking after Antonie van Leeuwenhoek discovered sperm through the microscope and declared that he found a homunculus, or little person, folded inside the head of the sperm (Laqueur, 1990). Such ideas were probably brought to Egypt in the nineteenth century with the advent of British colonial medicine (Inhorn, 1994). However, a monogenetic theory of procreation has an indigenous origin as well, which can be traced back to the pharaonic period in Egypt (Inhorn, 1994).

3. Prescheduled cesarean deliveries are now widely touted by Egyptian gynecologists to IVF patients as the easiest and “safest” form of childbirth, avoiding as they do the potentially harmful exertions of natural labor and vaginal delivery. Thus

mothers of IVF babies uniformly consent to cesareans without ever questioning their value or necessity.

4. In summer 1996, for example, it became known to me that one Egyptian IVF center had prepared more than thirty patient couples for the IVF variant called intracytoplasmic sperm injection (ICSI), with no pregnancies achieved by summer’s end (i.e., yielding a 0 percent “un-success rate”).

5. Furthermore, psychotherapy of any kind is generally associated with severe forms of mental illness. Thus it is highly stigmatized and rarely do Egyptians go into therapy, as is relatively common in the West. When one Egyptian IVF clinic advised psychological counseling before patients’ enrollment in IVF/ICSI, few patients could be convinced to attend sessions with a psychologist. Thus the effort was dropped.

6. This name and all others used here are pseudonyms.

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FIFTEEN

Rabbis and Reproduction

The Uses of New Reproductive Technologies among Ultraorthodox Jews in Israel

Susan Martha Kahn

What are the contemporary attitudes toward new reproductive technologies (NRTs) among ultraorthodox Jews in Israel? Ultraorthodox Jews have embraced the practical and theoretical challenges presented by NRTs and have created innovative if often contradictory rulings about their appropriate use. That they inhabit a world governed by ancient traditions and rooted in a two-thousand-year-old legal system has not prevented them from adapting the newest technologies to their way of life, including the latest techniques to conceive persons.

In this chapter, I argue that the phenomenon of NRT use among ultraorthodox Jews in Israel is instructive on many levels. We learn something about how the Jewish legal system works and how it has evolved to allow for innovation (provided the impulse toward innovation preserves and reinforces foundational assumptions, in this case, about the Jewish family). We learn how rabbinic attitudes toward these technologies have created remarkable applications for the treatment of infertility among ultraorthodox Jews, applications that embody innovative and counterintuitive understandings of reproductive genetic material. And we also learn from what is absent from this rabbinic discussion: namely, the voices and experiences of ultraorthodox women. Specifically, we must ask what happens to ultraorthodox Jewish women, whose bodies bear the brunt of most high-tech reproductive interventions, when law and technology converge to make fertility treatment all but inevitable. Finally, an examination of the social uses of NRTs by ultraorthodox Jews reveals how these can be adapted in highly specific ways to achieve highly specific outcomes—in this case, to assist ultraorthodox Jews to realize the biblical commandment to "be fruitful and multiply."

This study is based on my analysis of the Halakhic (Jewish legal) litera-

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