Barrenness Amid Plenty: The Case for Primary Prevention of Preventable Causes of Tubal Infertility

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Introduction
Infertility is classically defined as the inability to conceive following one year of sexual intercourse without the use of contraceptives. Conservative estimates purport that the problem affects nearly 12% of couples worldwide. The prevalence of infertility, however, varies geographically, being reportedly highest in areas of sub-Saharan and central Africa, where prevalence rates are as high as 30%. Globally, the major paradox of infertility is its prevalence in areas of the world where fertility is highest—a phenomenon otherwise known as “barrenness amid plenty”. According to this phenomenon, in high-fertility pronatalist societies, women do not regularly contracept, thereby exposing themselves to the risk of sterilizing infections from STIs, unsafe abortions and postpartum infections following pregnancy. Consequently, high rates of fertility juxtapose high rates of infertility in societies where there is an emphasis on procreation and family building.

Factors causing high rates of infertility in the developing world are varied, but tubal infertility secondary to sexually transmitted, postpartum, post-abortive and iatrogenic infections is widely regarded as the leading cause of preventable cases of infertility in the world today. Because of the devastating sequelae of infertility, it is recognized that prevention of preventable causes of infertility is imperative in order to attempt to resolve this problem.

The purpose of this article is to highlight the need for more effective strategies at reducing the epidemic of infertility secondary to sterilizing infections. The need for prevention of infertility will be elucidated using the Middle Eastern population as a model. The justification for this is as follows: firstly, it is widely recognized that Middle Eastern societies are highly pronatalist, with burgeoning fertility rates coexisting with exceedingly high rates of infertility—aptly demonstrating the phenomenon of “barrenness amid plenty”; secondly, Middle Eastern societies, being predominantly Muslim in religious ideology, represent a challenge in the infertility treatment world, as will be elaborated later in this article; and finally, previous studies on this population have demonstrated that tubal infertility represents a major cause of cases of infertility and is associated with profound psychological distress and ostracization. Given that the World Health Organization’s (WHO) definition of health includes a “state of complete physical, mental and social well-being, and not merely the absence of disease or infirmity”, it becomes increasingly apparent that in order for infertile women to achieve their fullest health potential, one must address factors that are impinging on their mental and social well-being, namely, the stigmatization that is associated with childlessness.

Sequelae of infertility
At a meeting on infertility held at the XXII Conference of the Council for International Organizations of Medical Sciences in Bangkok in June 1988, the following statement was developed:

Infertility is a health problem with very definite physiological, psychological and social implications. The stigma of infertility often leads to mental disharmony; divorce and ostracism. The suffering experienced by the infertile couple is very real.

In much of the developing world, infertility is a life sentence of societal stigmatization and economic vulnerability. Not only do infertile women face the possibility of divorce as a consequence of their childlessness, but, they, in some societies, a source of trepidation in the general community. In many Middle Eastern communities, the notion of the “evil eye” runs rampant, and it is often assumed that the infertile woman will envy fertile women and their children. As a result, these women will often suffer in isolation, without the vital social support from the general community, friends or even family. Several studies have demonstrated that unsupportive social interactions stemming from the inability to conceive are a significant source of anxiety for the infertile woman. Furthermore, other studies have concluded that stress may be a causal factor leading to infertility. Consequently, for the infertile woman, it becomes necessary not only to address her biological health and help her achieve conception, but also her social concerns, as they may have a deleterious impact on her overall well-being.

Traditional Solutions for Infertility
Since 1978, in vitro fertilization (IVF) has been an option for patients with infertility. This and other so-called new reproductive technologies (NRTs) have instilled hope in people, particularly in industrialized countries, who would have otherwise had to face a reality of childlessness barring adoption. Despite the ever-growing rates of infertility in developing countries, however, it has rarely been acknowledged as a serious public health problem in the purportedly overpopulated, non-Western world. Consequently, few non-Western societies have incorporated the diagnosis and treatment of infertility into their family planning programs, meaning
that state-sponsored infertility care is marginal (at best) and often does not include access or coverage to NRT services. Thus, the staggering costs of NRTs make them functionally inaccessible to couples that need them most – women that otherwise cannot afford quality health care and are vulnerable to infertility secondary to sterilizing infections.

As a result of the cost issue, one turns to the option often regarded as a “natural”, even if last-resort, solution to infertility – adoption. While adoption could potentially solve the problem of childlessness in affected couples, it is culturally or legally unacceptable in many developing societies and may, therefore, not represent a way to solve this intractable problem. Returning to our model population in the Middle East, adoption, in the Western sense of “absorbing” a child into a family, is not only an Islamically unacceptable solution (this is to be distinguished, however, from guardianship, which is religiously accepted and encouraged), but there is also widespread cultural resistance from bringing up a “stranger” in the home. The cultural anxieties that preclude many from adoption include: fears that (1) illegitimate children are assumed to be of “bad blood”, and are inherently immoral; (2) birth parents will return to reclaim the adopted child; (3) feelings of emotional affinity and kinship between the parents and the child will not emerge; (4) erotic attraction between “real” and adoptive siblings or between adoptive parents and children will emerge; (5) adoptive children will be stigmatized within the family and community; (6) adoptive parents, and particularly mothers, will be stigmatized for being unable to produce “real” children; and finally (7) adoption is not available to the poor (although that preconception is false). With many of these fears culturally ingrained across all societal classes, adoption, in the traditional Western sense, is an unacceptable solution to the problem of infertility on a global scale.

The Case for Primary Prevention of Infertility Secondary to Sterilizing Infections

Pelvic inflammatory disease (PID) remains to be the leading cause of reproductive tract morbidity in females worldwide. Consequently, the prevention and early management of PID are measures that can be employed to effectively reduce the incidence of these preventable causes of tubal infertility. Prevention strategies should be instituted before pregnancy, at the time of childbirth or abortion or during any invasive procedure involving the reproductive tract in females. In a review article on “Infection and Infertility” in the first volume of the journal Infectious Diseases in Obstetrics and Gynecology, Dr. Sebastian Faro stated:

“The most important aspect of preventing infertility or tubal damage secondary to infection is not the design of more potent treatment agents, but the prevention and recognition of the earliest signs of infection. Prevention of tubal damage and infertility does not begin with the treatment of salpingitis. Rather, the physician must begin the educational process at the patient’s first visit... The second opportunity to prevent tubal damage and infection is the recognition of the early signs of infection in the asymptomatic patient. These signs should be used to develop a significant history and to determine at what degree of risk the particular patient has placed herself.”

Two things become immediately obvious from this statement: the first is that prevention of tubal infertility necessitates that the physician assume the role of educator – allowing women to take ownership over their health and recognize potentially sterilizing infections, while the second recognizes that physicians must themselves play the role of competent diagnosticians, identifying and treating early cases before they become fertility-threatening.

For physicians to assume the roles of educators and competent diagnosticians in the prevention of tubal infertility secondary to infection, one must also recognize the need for accessible care and education for the target population. Women being educated to recognize the signs and symptoms of pelvic infection may still succumb to the devastating sequelae of such infections if they cannot afford health care services or if there are no health care services that are geographically accessible to them. Governments and health-governing bodies must make a collective effort to ensure that such services are not denied to women because of lack of resources or transport.

Finally, tantamount to effective prevention of tubal infertility is education. Several anthropological studies have demonstrated that widespread fears surrounding hormonal contraceptives as causative agents of fertility has led to an increasing reproductive morbidity in these populations. This fear of hormone-induced infertility may lead women to accept alternate forms of contraception, including intrauterine devices (IUDs) as a preferable form of birth control. However, recent studies have demonstrated a significant morbidity associated with widespread IUD use; for example, IUD use has been found to be partly responsible for the high rates of infertility secondary to sterilizing infection. In areas of the Middle East where infections secondary to sexually transmitted pathogens may not be as common as they are in areas of Sub-Saharan Africa, the misuse of contraceptives becomes a significant source of preventable causes of tubal infertility. Thus, education at the most basic level must be undertaken in order to eradicate misconceptions about hormonal contraceptives which could potentially be safer and even medically beneficial in these populations. Finally, to combat the largest preventable infertility crisis faced by the world today, one needs to promote sexually transmitted infection control through instruction with respect to safer sexual practices and barrier contraceptives.

Conclusion

Infectious causes of female infertility have gained the notoriety for being the leading cause of preventable infertility worldwide. While physicians need to assume leading roles in educating the public about this emerging health crisis and recognizing and treating cases early to prevent reproductive morbidity, it is imperative that governments take ownership over this problem and ensure that patients that require timely access to care do so without the economic burden or geographic isolation precluding them from doing so. A shift in ideas also needs to occur at the population level – misconceptions about contraceptive use need to be eradicated and the public must be informed about better infection control strategies that could prevent these infections from being established in the first place.

Primary prevention of preventable causes of infertility is a necessity. Women most vulnerable to sterilizing infections are often the destitute and the uneducated – women that may not be able to
afford basic care, let alone infertility treatments. For these women, expensive therapies such as in vitro fertilization or intrauterine sperm injection are not economically feasible and one cannot expect the governments of developing countries to shift already meager resources towards these services. Adoption restrictions are the rule rather than the exception in most non-Western societies; accordingly, it does not represent a viable solution to childlessness. Finally, infertility is often seen as sufficient grounds for divorce, irrespective of whether or not the female has been demonstrated to be the infertile partner. These women are financially vulnerable and often suffer in isolation, ostracized by their communities and families. Primary prevention of tubal infertility secondary to infection through reallocation of some health resources towards education and ensuring the timely access to care could significantly reduce the incidence of these sterilizing infections and thus avoid the psycho-social harms and potential economic burdens (in costly treatment seeking) that ensue. It is only when these issues are dealt with effectively that one can take steps towards the restoration of the physical, mental and social well-being of these women—a well-being not achievable in a state of childlessness in the predominantly pronatalist world one finds oneself in today.

References