Affordable assisted reproductive technologies in developing countries: pros and cons

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Infertility in developing countries is pervasive and a serious concern. In addition to the personal grief and suffering it causes, the inability to have children especially in poor communities can create broader problems, particularly for the woman. Infertility services in developing countries span the spectrum from prevention to treatment. From a societal and public health standpoint, prevention is cost–effective and is considered by many governments and public health care providers to be a priority for service delivery. While prevention remains paramount, taken alone it ignores the plight of infertile couples, including those with non-infectious causes of infertility. Two key arguments are frequently used to challenge the development of new reproductive technologies in developing countries: overpopulation and limited resources. Evidence supports the conclusion that there is a compelling need for infertility treatment beyond prevention. In many instances, assisted reproductive technologies (ART) are the last hope or the only means to achieve a child for couples. In an effort to make much needed ART to developing countries accessible and affordable, developing countries should look to public–private partnerships. Governments have a responsibility to ensure safe and effective services including the control of standards for clinical procedures and the regulation of professional practice.

Keywords: infertility prevention; infertility and reproductive tract infections; overpopulation; limited resources; public–private partnerships

Magnitude of the problem

Sixty to 80 million people experience infertility around the world, and most of those people live in developing countries (WHO, 1991).

Infertility in developing countries is pervasive and a serious concern. Further, there is evidence that the infertility rates that are generally quoted are, in fact, underestimates.

In addition to the personal grief and suffering it causes, the inability to have children especially in poor communities can create broader problems, particularly for the woman, in terms of social stigma, economic hardship, social isolation and even violence. In some societies, motherhood is the only way for women to improve their status within the family and the community. On a practical level, many families in developing countries depend on children for economic survival. While many people, therefore, would not consider infertility a disease in itself, it can certainly be said to be a social and public health issue as well as an individual problem (Unisa, 1999; Papreen et al., 2000).

Most of the infertility in developing countries is attributable to damage caused by infections of the reproductive tract, notably gonorrhoea and chlamydial infection (Cates et al., 1985).

Infertility services in developing countries span the spectrum from prevention to treatment. From a societal and public health standpoint, prevention is cost–effective and is considered by many governments and public health care providers to be a priority for service delivery. While prevention remains paramount, taken alone it ignores the plight of infertile couples, including those with non-infectious causes of infertility.

Assisted reproductive technologies

ART encompasses a wide range of techniques designed primarily to aid couples unable to conceive without medical assistance. Since the birth of the first so-called ‘test-tube baby’ in 1978, more than 1.5 million children worldwide have been born following in vitro fertilization (IVF) treatment.
The term ‘assisted reproductive technology’ includes techniques such as IVF and intracytoplasmic sperm injection as well as artificial insemination. It can be defined as including all treatments that include medical and scientific manipulation of human gametes and embryos in order to produce a term pregnancy. ART raise profound moral issues.

Arguments for and against ART in developing countries
Two key arguments are frequently used to challenge the development of new reproductive technologies in developing countries: overpopulation and limited resources.

First, the argument from overpopulation suggests that an overpopulated country should not prioritize infertility management, for the overpopulation poses a demographic problem for the country and for the global community.

The primary response to this argument is that individuals should be able to reproduce ‘if, when and as often as they wish,’ as it was stated in the definition of reproductive health adopted by the United Nation’s International Conference on Population and Development (United Nations, 1994). References in both the Universal Declaration of Human Rights and the Convention on the Elimination of All Discrimination against Women (1979) may also be interpreted to argue for a right to access to infertility treatment through ART. For, if infertile persons do not have access to ART because this would ‘contribute’ to overpopulation, why save lives in developing countries using medical technologies, as this too would have an ‘overpopulation effect’? If it is thought that it is justified to employ medical technologies to prevent suffering, why is it not justified to use medical technologies to alleviate suffering from infertility? Distinguishing the cases requires the assumption that the harms of infertility necessitate medical technology in a way that the harms of infertility do not.

The second argument, the limited resources argument, suggests that developing countries should not allocate resources for expensive technology that can benefit only a few. Proponents maintain that a country’s resources should be directed toward the prevention of infertility (Okonofua, 1996).

Some critics question whether ARTs are an appropriate use of limited health care resources (Okonofua 1996; Sheth and Malpani, 1997). It has been recommended that public health policy should invest in preventing the causes of infertility and leave the establishment of new ARTs to the private sector since it is unlikely to be cost–effective in the public sector (Okonofua, 2003).

As Sen (1994) observes, a careful examination of governmental budgets in both developing and developed nations frequently reveals mismanagement of funds, rather than an inability to finance social and economic rights.

Others argue on the other hand, that the social, emotional, physical and economic consequences that infertile couples—and in particular, women—face justifies investing in treatment options in developing countries (Edouard and Olatunbosun, 1997; Daar et al., 2002).

The idea that infertility treatment is not a health care priority is based on the fallacious assumption that it does not have devastating, material and life-threatening consequences. Indeed, since the consequences of infertility are so severe in developing countries, infertility treatment should assume an even higher priority in developing countries than it does in developed countries.

In some instances ART may be the only way to treat infertility, even if prevention programmes are successful.

While the affordability of ART is a problem that needs to be assessed in the specific context of a country’s needs and economic conditions, it cannot be assumed that ART is unfeasible. Rather, given the social suffering and public health harms associated with infertility, research should be directed towards finding effective, low-cost solutions to infertility and this exploration should extend to ART.

Finally, if governments cite scarce resources as the justification for not funding ART, this is a cause for governments to think creatively about infertility solutions, rather than a justification for rejecting all ART advances and development.

Public–private partnerships
In an effort to make much needed ARTs to developing countries accessible and affordable, developing countries should look to public–private partnerships (PPPs). These partnerships can bring technical expertise, research, equipment and supplies to low-resource settings. At the same time, PPPs can offer services at lower costs that are more realistic in developing countries. In addition, PPPs can help influence the establishment of standards, regulations and policies to safeguard the health of couples undergoing treatment (Daar et al., 2002; Giwa-Osagie, 2002).

Cooperative public and private partnerships have the potential to make infertility care affordable and to make access more just. A framework that ensures knowledge transfer through PPPs would enable domestic drug companies to manufacture their own infertility drugs, especially for those drugs whose patents have expired. Furthermore, public–private clinics may be a source of revenue that may be used to support other health care objectives.

Evidence supports the conclusion that there is a compelling need for infertility treatment beyond prevention. In many instances, ART are the last hope or the only means to achieve a child for couples. There is a heightened need for ART in developing countries. While developing countries have generally not established adequate infertility programmes, mainly due to arguments based on overpopulation and cost, some notable exceptions raise hope of successful and just implementation of ART, perhaps through PPPs. A failure to even consider examining low-cost models of ART will be to conceive of developing countries as perpetually developing, rather than developed, with respect to public health.

Heterogeneity of the developing world
The provision of ART services in developing countries could be viewed as contradictory. Such a view may be influenced by the misconception that the developing world is homogeneous. On the contrary, developing countries are heterogeneous, varying in cultural and moral values, religions, and
their pace of development. The health care infrastructure, including laboratory facilities and personnel, in some countries is substantially better positioned than in others to support the delivery of relatively sophisticated medical services. In some countries with economies in transition, an emerging middle class is already able to afford ART. In other countries, strong religious opposition to ART, on ethical rather than financial grounds, has led to little or no access to ART. Such differences are currently reflected in a wide variety of national policies toward infertility and its treatment, which, in turn, influences the options available to infertile couples (Vayena et al., 2002a).

**Conclusion**

Many studies have established that IVF may be cost–effective and feasible in developing nations (Olatunbosun et al., 1990; Serour et al., 1991).

However, the burgeoning use of ART in developing countries raises important questions regarding the quality of services provided in terms of safety and effectiveness (Vayena et al., 2002b).

Governments have a responsibility to ensure safe and effective services with constraints regarding government funding whilst the public priority to be accorded to new reproductive technologies should be established (WHO, 2003).

At the very least, the involvement of government in assisted reproduction should include the control of standards for clinical procedures, regulation of professional practice and in certain countries, the waiving of import duties so as to improve the procurement of equipment and supplies.

**References**


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