

## New Reproductive Technologies and Infertility Treatment in Africa

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Available data indicate that countries in sub-Saharan Africa have some of the highest rates of infertility in the world. Infertility rates among married couples in African countries range from 15% to 30%, compared to reported rates of 5% to 10% in developed countries. There is now conclusive evidence that much of the infertility in Africa is attributable to infections that produce irreversible reproductive tract damage<sup>1</sup> in men and women. In Gabon, for example, more than 30% of couples are infertile at the end of their reproductive lives due to longstanding tubal occlusion in women and occlusion of the vas deferens and/epididymis producing azoospermia in men.

Apart from the sheer size of the problem, it is also now well known that infertility in African countries has severe negative consequences for women's reproductive health. Due to the high cultural premium placed on childbearing in many African countries, infertility often poses serious social problems for couples. However, women are more severely affected than men, even when the infertility is due to a male factor, often leading to divorce, sexual ostracisation and sometimes physical abuse of women.<sup>2</sup> Consequently, there is now a growing body of scientific opinion that suggests that addressing infertility could be one way to empower women in Africa and improve their sexual and reproductive health.<sup>2</sup> Infertility management should be part of a more comprehensive approach to reproductive health service delivery as recommended in the plan of action of ICPD, and would also im-

prove the uptake of contraceptives needed to improve other indices of reproductive health in Africa.

Despite the high prevalence of infertility in Africa, very little resources presently exist for the treatment of infertile couples. Conventional methods of infertility treatment are poorly developed in many African countries, with treatment effectiveness not exceeding 10% of infertile couples when these methods are applied in many parts of Africa. Part of the reasons for poor effectiveness of conventional methods is that many cases of infertility must have simply gone beyond the scope of these methods before they present for orthodox treatment. Of 780 couples seen at the reproductive health clinic of the Women's Health and Action Research Centre in Nigeria in 2002, more than half were assessed to have severe causes of infertility (bilateral tubal occlusion, severe oligospermia and premature ovarian failure), for which conventional methods of infertility treatment would have little effectiveness. Thus, there can be no doubt that the new reproductive technologies (in vitro fertilisation and embryo transfer, intra-cytoplasmic sperm injection, gamete intra-fallopian transfer, etc) are needed to resolve infertility for some couples in African countries.

It is in this respect that the reports of Ajayi and his co-authors<sup>3</sup> about the successful use of intra-cytoplasmic sperm injection for the treatment of severe male infertility in Nigeria, and that of Akinrinola and co-authors<sup>4</sup> on cryobanking of semen, are of considerable interest. These reports indicate

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that the high reproductive technologies for the treatment of infertility are feasible in African countries. However, whether the rates of successful treatment would be similar to those in developed countries, and whether the efforts would be sustained over time, remain to be known.

Of greater concern is how these reports of successful infertility treatment with the new reproductive technologies would be interpreted in many African countries. Some countries might be tempted to develop policies that focus on the use of these methods for the management of infertility. Several years ago, we cautioned that such an approach would be inappropriate as the new reproductive technologies are not likely to be cost-effective in resolving infertility in Africa, and could reduce available funds needed to address other mounting health problems.<sup>5</sup> In our view, the situation in Africa has not changed to warrant a review of this recommendation. By contrast, the reproductive health situation in many African countries has worsened over the years, with deepening HIV/AIDS epidemic and rising rates of unsafe abortion and maternal mortality in the continent. Every effort now needs to be concentrated on addressing these problems rather than seeking to establish expensive methods of treating infertility.

Despite this, several lessons can be learnt from the report of successful treatment with the new reproductive technologies in Lagos. In the first place, the results were obtained in a private hospital, which depends on full cost recovery for their operations. Therefore, the treatments were not subsidised, and costs could only have been similar to those paid in western countries. Full cost recovery is unlikely to be feasible if the treatment were done in a public hospital, which, as presently conceived in many African countries, often includes substantial subsidies and subventions from the government. However, without subventions from government the programme is unlikely to be sustainable in the public sector.

A second lesson is the fact that the private clinic from where the results were obtained is run exclusively for treatment with the new reproductive technologies on a full cost basis and in collaboration with overseas partners from the UK. These kinds of dedication and international collaboration are unlikely to be feasible for public health institutions, and yet without them the programme would

have limited chances of success. Additionally, maternity units in public health institutions in Africa are so overburdened and overworked that adding the high-tech procedure of assisted reproductive technologies that depend on a high level of efficiency would be unthinkable.

Thus, the main lesson to be learnt from the report from Lagos is that the new reproductive technologies for the treatment of infertility in Africa is best left in the domain of the private sector rather than being incorporated into public sector health policy. No doubt, infertility in Africa is a public health problem since it is often due to sexually transmitted infections, unwanted pregnancies and unsafe abortions. However, the best public health policy is one that seeks to prevent the problems that lead to infertility rather than a policy based on treatment of individual cases with expensive new reproductive technology procedures. Additionally such policies should seek ways to improve the conventional treatment of infertility while strengthening support systems and promoting increased use of adoption and fostering as alternative methods of resolving infertility. The new reproductive technologies should be left in the hands of a well-motivated private sector partnering with experienced international institutions in order to engender the best results for couples who can afford the cost. The example from Nigeria is revealing, and would be useful to other African countries as they grope with the problem of addressing infertility existing side by side with mounting reproductive health problems.

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