

The burden of infertility among HIV-positive couples in South Africa: The available evidence

D Basu, J K Basu, G T H Ellison

Most of the 5 million HIV-positive South Africans are in the reproductive age group. The current infertility rate in this group is 15 - 20%,¹ and it is likely that a substantial proportion of offspring are HIV positive. Given the implementation of highly active antiretroviral therapy (HAART), expectancy and quality of life, including reproductive aspirations, are raised. However, the prevalence of infertility among HIV-positive South Africans remains unknown.

Aim and method

We wished to determine the burden of infertility among HIV-positive (concordant and discordant) couples in South Africa (SA) so that the issue could be addressed in a safe and cost-effective manner. We conducted a systematic search of research evidence on the burden of infertility among HIV-positive couples in SA, that was available on Pubmed and Google Scholar, using the following search string: [HIV OR AIDS] AND [infertil*] AND [males AND females] AND [“South Africa”]. The search also included all non-research evidence on www.google.co.za, www.iol.co.za, www.mg.co.za, and www.news24.com. All articles published in English over the past 10 years were included. Pearl-growing techniques were applied to examine whether any of the references cited in any of the relevant evidence found might also be eligible for inclusion.²

Results

There was no research or non-research evidence on the burden of infertility among HIV-discordant and concordant couples in SA. We identified 10 items of research (2 through pearl-growing) and 3 items of non-research evidence, respectively; 12 were qualitative studies that focused on the psychosocial aspects of such couples on their fertility intentions. Few studies addressed health care providers' and policy makers' attitudes towards providing fertility services for HIV-positive couples (Table I).

Dr D Basu is a Public Health Medicine specialist in the Department of Community Health affiliated to Charlotte Maxeke Johannesburg Academic Hospital and the University of the Witwatersrand. Dr J Basu is a specialist in the Department of Obstetrics and Gynaecology at the same hospital. Professor G Ellison is director of the Graduate School of London Metropolitan University.

Corresponding author: D Basu (Debashis.Basu@wits.ac.za)

The review identified the following key findings:

- HIV infection results in reduced fertility and poor pregnancy outcomes.
- Reproductive aspirations of HIV-positive couples are subject to individual variation.
- There is a delicate balance between HIV status and reproductive aspirations that is strongly influenced by use of HAART, health status of the individual, provider's attitude, and social and cultural norms.
- The need for provision of fertility treatment to HIV-positive couples will grow.
- The need for risk-reduction fertility treatment for HIV discordant couples is increasing.
- Timed unprotected intercourse is a risky way to achieve conception, while assisted conception (such as sperm washing and intra-uterine insemination) are safe alternatives and may be cost-effective in the long term.
- Health care providers are willing to provide fertility treatment to HIV-positive couples, although there is fear of over-expense and lack of knowledge regarding risk-reduction treatment among health care managers.
- Dedicated work is necessary to quantify and address the problem in a safe and cost-effective way.

Discussion and conclusion

Evidence about the prevalence of infertility among HIV-positive couples in SA is lacking. Additionally, the availability and the uptake of infertility services by HIV-positive couples in SA are unknown. Recent advances in the fertility management of HIV-positive couples are increasingly recognised as being effective in preventing transmission between discordant partners and from mother to fetus. These interventions have been well received by HIV-positive couples in developed countries.³ The International Federation of Gynaecology and Obstetrics allows the use of assisted reproductive techniques (ART) for all HIV-positive people in an equitable manner in properly selected cases, and there should not be any discrimination because of HIV status.⁴ Further studies are necessary to determine the relationship between HIV status and infertility and the burden of infertility among HIV-positive people in SA. Since the reproductive rights of all South Africans are enshrined in the Constitution, health services should ensure that HIV-positive couples have access not only to antiretroviral treatment but also to other reproductive health services including fertility.⁵

1. Basu JK. Service, training and research into infertility in public hospitals in South Africa. *S Afr Med J* 2007; 97(11): 1018.
2. Sclosser RW, Wendt O, Bhavnani S, Nail-Chiweletu B. Use of information-seeking strategies for developing systematic reviews and engaging in evidence-based practice: the application of

Table I. List of research and non-research evidences

Type	Source	Reference
Research	Pubmed	Chigumadzi PT, Moodley J, Bagratee. Infertility profile at King Edward VIII Hospital, Durban, South Africa. <i>Trop Doct</i> 1998; 28: 168-172.
Research	Pubmed	Cooper D, Bracken H, Myer L, et al. <i>Reproductive intentions and choices among HIV-infected individuals in Cape Town, South Africa: Lessons for reproductive policy and service provision from a qualitative study</i> . New York: Population Council, September 2005.
Research	Pubmed	Gray GE, McIntyre JA. Effect of HIV on women. <i>AIDS Read</i> 2006; 16: 365-368, 373-377.
Research	Pubmed	Mohohlo M, Khosa T, Mohapi L, Gray G. Pregnancy related events in an anti-retroviral program. PEPFAR implementers meeting. Abstract 113. 2006.
Research	Pubmed	Nosarka S, Hoogendoorn CF, Siebert TJ, Kruger TF. Assisted reproduction in the HIV-serodiscordant couple. <i>S Afr Med J</i> 2007; 97(1): 24-26.
Research	Pubmed	Harries J, Cooper D, Myer L, Bracken H, Zweigenthal V, Orner P. Policy maker and health care provider perspectives on reproductive-decision making amongst HIV-infected individuals in South Africa. <i>BMC Public Health</i> 2007; 7: 282.
Research	Pubmed	Cooper D, Harries J, Myer L, Orner P, Bracken H, Zweigenthal V. 'Life is still going on': Reproductive intentions among HIV-positive women and men in South Africa. <i>Soc Sci Med</i> 2007; 65(2): 274-283.
Research	Pubmed	Myer L, Morroni C, Rebe K. Prevalence and determinants of fertility intentions of HIV-infected women and men receiving antiretroviral therapy in South Africa. <i>AIDS Patient Care and STDs</i> 2007; 21(4): 278-285.
Research	Pubmed	Nduna M, Farlane L. Women living with HIV in South Africa and their concerns about fertility. <i>AIDS Behav</i> 2009; 13: S62-S65.
Research	Pubmed	Cooper D, Moodley J, Zweigenthal V, Bekker LG, Shah I, Myer L. Fertility intentions and reproductive health care needs of people living with HIV in Cape Town, South Africa: Implications for integrating reproductive health and HIV care services. <i>AIDS Behav</i> 2009; 13(Suppl 1): 38-46.
Non-research	www.iol.co.za	Dyer SJ. <i>Infertility in African countries: challenges created by the HIV epidemic</i> http://eshremonographs.oxfordjournals.org/cgi/reprint/2008/1/48 (accessed 30 June 2008).
Non-research	www.iol.co.za	Hirschler B. <i>Doctors seek IVF for Africa's infertile</i> . http://www.thestar.co.za/index.php?ArticleId=4174630 (accessed 30 June 2008).
Non-research	www.google.co.za	Cooper D. In pursuit of social development goals and HIV-infected women's reproductive rights – South Africa as a case study. <i>Agenda</i> 2008; 1(1): 4-15. http://www.agenda.org.za/content/blogcategory/88888970/88889086/ (accessed 30 June 2008).

traditional and comprehensive pearl growing. A review. *Int J Lang Commun Disord* 2006; 41(5): 567-582.

3. Sunderam S, Hollander L, Macaluso M, et al. Safe conception for HIV discordant couples through sperm-washing: experience and perceptions of patients in Milan, Italy. *Reprod Health Matters* 2008; 16(31): 211-219.

4. FIGO. *Ethical Issues in Obstetrics and Gynaecology for the Study of Ethical Aspects of Human Reproduction and Women's Health*. London: FIGO, October 2009: 62-63.

5. Delvaux T, Nostlinger C. Reproductive choice for women and men living with HIV: contraception, abortion and fertility. *Reprod Health Matters* 2007; 15(29 suppl): 46-66.