

The Cultural Challenges in Cryopreservation for Cancer Patients in Sri Lanka

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The Lancet Commission in Global Surgery 2030 presented us with evidence and solutions for achieving health, welfare and economic development. This commission highlighted the importance of contextualising all procedures upon region, society and culture in order to ensure promotion of individual and public health.

Introduction

There is an increasingly high incidence of cancer amongst young women in Sri Lanka. Whilst the majority of cases are curable using aggressive chemotherapy and radiotherapy, the ovaries are sensitive to cytotoxic drugs and gonadal function can be severely impaired. It can be hard to predict likelihood of infertility but more than a third of women exposed to cancer therapy develop premature ovarian failure. Freezing eggs and embryos is an avenue that has been well explored as an infertility treatment in Sri Lanka, but not as fertility preservation for cancer patients.

The emerging technique of cryopreservation of ovarian tissue has the potential to preserve fertility in paediatric cancer patients. There is surgical removal of an ovary whilst eggs are in the immature primordial state and then the ovarian cortex can be cooled to sub-zero temperatures (slow/rapid freezing) or preserved using vitrification methods and stored in liquid nitrogen. In the future if the patient decides she wants to have children, the tissue can be thawed and re-implanted into an anorthotopic or heterotopic site.

Method and exclusions

The most recently available Cancer Incidence Data from the National Cancer Control Programme (2010) allowed me to appreciate the national burden and through exploring national newspapers (the Sunday Times) I was able to develop an understanding of perceptions amongst service providers in Sri Lanka. I then consulted numerous online resources to better understand financial and structural barriers. I was able to contextualise culturally using Unnithan-Kumar's book titled 'Reproductive agency, medicine and the state' and the Demographic and Health Surveys of 2016.

Cryopreservation on ovarian tissue has been shown to be biologically viable through evidence of 70 live births so far worldwide since the introduction of this intervention. Cryopreservation on male sperm and testicular tissue is purely in the experimental phases right now so my focus is on female interventions only.

Cancer Incidence Data 2010

The data was collected from all 9 cancer treatment centres in the country as well as 30 other government hospitals and units. The CR (crude incidence rate) of all cancers was 82.1 per 100,000 of the population with 5,431 cases of cancer diagnosed in those aged 0-14 years. In females leukaemia, lymphoma and ovarian cancer accounts for 14% of all cancers

Bibliography

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Structural considerations

Sri Lanka offers universal free healthcare and there have been rapid improvement in infrastructure in both the government and private sectors. Only when there is sustainable surgical effort can there be preservation and infrastructure to enable patients to use the tissue in the future. Those who seek screening need to be guided through the diagnosis and treatment procedure. Policy makers need to assist in building fertility preservation guidelines to assist healthcare professionals in pre-treatment discussions with patients.

Cultural considerations

Distress of infertility

In Sri Lanka there is a deep sense of distress and huge social stigma attached to infertility. Doctors state how desperate people can be to find solutions and they will go to any lengths to conceive. In Buddhist culture infertility is a personal tragedy as there are fewer opportunities for rebirth and generational transmission (*paramparava*). The Sinhalese and Kandyan kinship shares similar values of pursuing any means necessary to ensure continuity through legitimate offspring and where this can't be offered, adoption is simple and accepted and there is little stigma attached. However, this has changed in recent years with the practice becoming less acceptable and this could be due to the emergence of reproductive technologies meaning infertility is not as much of a barrier. There is a high premium on family ties and need for extended families for inheritance and for children to offer welfare to their parents in their old age- therefore childlessness has lifelong and knock-on consequences.

Emerging technologies

Technologies originate and proliferate in Western societies and are welcomed easily as they are unproblematically pro-natalist. Doctors deliver these new technologies and are held at an exalted position in society because of this. It also means patients put an inordinate amount of faith in their doctors and sometimes expectation and excitement can be unrealistic on both clinical and economic grounds.

Spiritual healers

For some, health seeking behaviour isn't in the form of medical intervention but rather through offerings made at the temples and visits to astrologers and spiritual healers. The emergence of biomedical techniques shifted the power balance in favour of midwives, but spiritual healers still hold the belief that 'in the wheat of today, poison is put (*zehir*). To kill this poison scientists made injections (*teeke*). You must use injections, because only one poison can kill another poison'. For this reason, spiritual healers may also discourage the use of chemotherapy and radiotherapy agents due to adverse effects on fertility and this opens a whole new set of problems in health-seeking behaviour. Spiritual healers are less willing to acknowledge biomedical techniques than midwives for example and the invasive nature of medical diagnosis and intervention strikes fear in women and they associate it with pain, looking at it less favourably than the brushing, blowing and gentle touches of spiritual healers

Female empowerment and education

Couples are placed under pressure from family members (especially the mother-in-law) to produce children shortly after marriage. Women bear the brunt even when there is male infertility since in traditionalist gender ideologies, men are primary in procreation and regarded as the creators whereas women only contribute the womb as a 'vessel' to carry and nurture the baby. Removing these opinions would allow for female empowerment and great involvement in decision making when it comes to conception.

Autonomy and empowerment when it comes to the status of women implies an isolated and individual agency, but this isn't always the case. The valuation and definition of roles and positions in their several dimensions includes cultural, biological, behavioural and socio-economic factors.

Using data from the Department of Census and Statistics in 2016 highlighted some key pieces of information surrounding fertility. The survey and census also illustrated that 77% of currently married women participated in 3 key household decisions identified and only 6% participated in none of these 3. One of these categories was the healthcare of the woman. Promisingly, the women involved in decisions about their health care increased from 78% to 86% in 2016, and it was found that as the number of decisions a woman participates in increases, the use of contraception also increases.