

# 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 important 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. It can be hard to predict the likelihood of infertility, but more than a third of women exposed to cancer therapy develop premature ovarian failure. The emerging technique of cryopreservation of ovarian tissue has the potential to preserve fertility in paediatric cancer patients. This involves 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 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. Cryopreservation on ovarian tissue has been shown to be biologically viable with evidence of 70 live births so far worldwide since the introduction of this intervention.

## Method and exclusions

We gathered accounts and data from national newspapers, Unnithan-Kumar's book 'Reproductive agency, medicine and the state', Demographic and Health Surveys of 2016, amongst numerous online resources on financial and structural barriers. We also evaluated 'Cancer Incidence Data' from the National Cancer Control Programme (2010) which showed data from 9 cancer treatment centres in the country as well as 30 other government hospitals and units and populations of cancer patients

Age Group	Male		Female		Total	
	Population	Incidence	Population	Incidence	Population	Incidence
0-4	892	15.9	863	10.9	1755	13.4
5-9	922	7.4	895	7.9	1817	7.6
10-14	943	5.4	916	3.5	1859	4.5
15-19	1015	8.5	988	8.0	2003	8.2

## Cancer Incidence Data (2010)

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

## Structural considerations

Sri Lanka offers universal free healthcare and there have been rapid improvements in infrastructure in both the government and private sectors. Successful preservation and long-term uptake requires sustainable surgical effort to enable informed decision making and potential for patients to use tissues in the future with ease. Those who seek screening need to be guided through the diagnosis and treatment procedure whilst policy makers need to assist in building fertility preservation guidelines to assist healthcare professionals in pre-treatment discussions with patients.

## Bibliography

- <http://www.sundaytimes.lk/160612/sunday-times-2/infertility-an-obstacle-to-cancer-survivors-196891.html>
- <https://www.cancer.org/treatment/treatments-and-side-effects/physical-side-effects/fertility-and-sexual-side-effects/fertility-and-women-with-cancer/how-cancer-treatments-affect-fertility.html>
- Ovarian tissue cryopreservation and transplantation: scientific implications. Sherman, 2016, J Assist Reprod Genet., 33(12), 1595-1603
- <http://www.nccp.health.gov.lk/index.php/publications/cancer-registries>
- Fertility transition in Sri Lanka: is it a temporary phenomenon. Perera (2017), J Biosoc Sci, 49, 116-130
- Unnithan-Kumar, Maya. 2016. *Reproductive agency, medicine and the state: cultural transformations in childbearing*. ACLS Humanities E-Book. <http://www.humanitiesebook.org/>
- <http://travelshus.com/2014/08/20/golden-temple-sri-lanka/>
- <https://www.lythamhigh.lancs.sch.uk/news/latest/2015-02-25-connecting-our-classrooms-lytham-uk-to-badulla-sri-lanka>

## Kinship values

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.



## Spiritual Healers

Health seeking behaviour can be through offerings made at the temples (pictured), and visits to astrologers and spiritual healers rather than medical intervention. The emergence of biomedical techniques has shifted the power balance, but spiritual healers still hold belief in poison (*zehir*) and to kill this poison scientists made injections (*teeke*). You must use injections, because 'only one poison can kill another poison'. Spiritual healers are less willing to acknowledge biomedical techniques than midwives for example and the invasive nature of medical intervention can mean women associate it with pain, looking at it less favourably than the brushing, blowing and gentle touches of spiritual healers.

## Distress of infertility

Doctors state how desperate people can be to find solutions to infertility. In Buddhist culture infertility is a personal tragedy as there are fewer opportunities for rebirth and generational transmission (*paramparava*). In Sinhalese and Kandyan kinship values, 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 extended family pressures for inheritance and for children to offer welfare to their parents in their old age- therefore childlessness has lifelong consequences and implicates more than just the couple in question.

## Female empowerment

Female empowerment, in connection with the third millennium development goal, will increase autonomy and individual agency. The Department of Census and Statistics in 2016 highlighted 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 *these* decisions increased from 78% to 86% in 2016.



# Abstract

Cryopreservation is an emerging technology that can be used to preserve ovarian tissue in paediatric cancer patients to preserve future fertility. The Lancet Commission in Global Surgery 2030 highlighted the need to contextualise efforts upon region, society and culture. As a result, we aimed to assess some of the potential cultural factors which would affect the uptake of such interventions in Sri Lanka. We carried out this analysis using national newspapers and literature from first-hand accounts, as well as the most recently available national data from Cancer Incidence and the Department of Census and Statistics. The research brought to light several key themes. There is a deep sense of distress in the nation surrounding infertility and as a result emerging technologies have the potential to be taken up, barriers here include the well-established role of spiritual healers in society. There is a real need for female empowerment in order to increase education and individual agency. Kinship values and family ties are heavily implicated in Sri Lankan culture and need to be considered when predicting attitudes and trends in uptake of cryopreservation. Taking these cultural factors into account, sensitivity is needed in approach and identification of structural considerations and impact on infrastructure and policy makers.