Oncofertility Global Partners Meeting

Establishing Critical Connections Around the World and Generating High-Impact Products: Updates from 2016-2017 and Next Steps

Tuesday, November 14

Oncofertility Conference 2017

Chicago, IL

Welcome to the 2017 Oncofertility Conference!

- Tunisia
- Argentina
- Japan
- Brazil
- Nigeria
- Peru
- China
- Mexico
- India
- Belgium
- Korea
- Canada
- United States
- Thailand
- Australia
- Indonesia
- Uruguay

Today's Agenda

- 9:00—9:20am *Welcome! Growth and Accomplishments in 2016-2017*—Dr. Teresa K. Woodruff, Northwestern University

- 9:20—10:05am *Breaking barriers on fertility preservation: Expanding forces around the globe focusing on Latin American countries*—Dr. Jhenifer Rodrigues, In Vitro Clinical Embriology and Consultancy and Federal University of Minas Gerais

- 10:05—10:20am *Oncofertility in China*—Megan Kopp, University of South Carolina

- 10:20—11:00am *Multimodal cultural competence development tools for oncofertility* —Dr. Yuriko Iwahata, Visiting Scholar, Northwestern University

- 11:00—11:30am *Transition to Oncofertility Professional Engagement Network (OPEN): Next Steps and 2017-2018 Goals*—Dr. Teresa K. Woodruff

Fertility Preservation Decisions are Complex

Challenges of making the decision

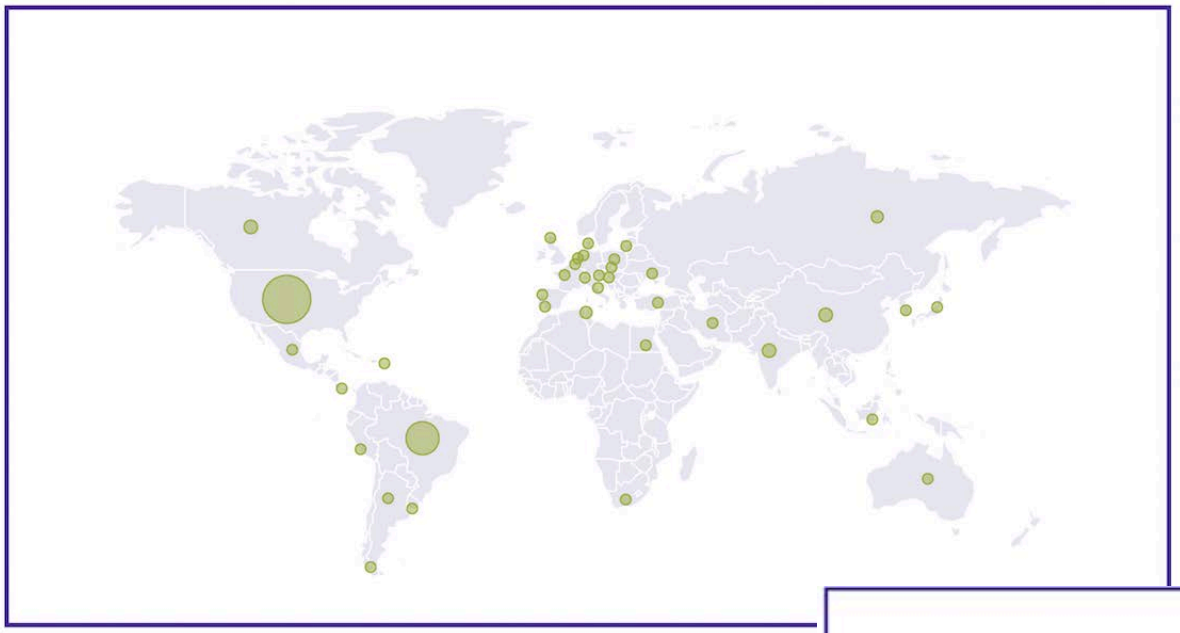
- Existential crisis about self, survival, and future
- Decision peripheral to primary diagnosis
- Time constraints
- Overwhelming array of options
- Access to care
- Financial constraints

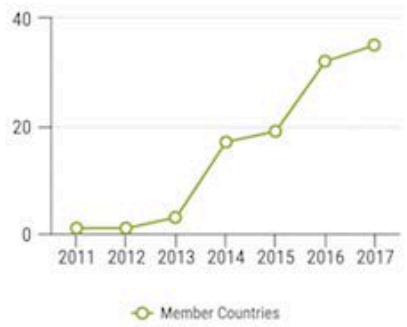
Challenges of navigating the decision

- Sex
- Age
- Diagnosis
- Treatment type
- Stage of treatment
- Baseline fertility

Preserving the reproductive function and future of those in need requires increased GLOBAL awareness and understanding.

Global Impact in 2017





The 2017 Breakdown

The Global Partners Network now consists of 35 member countries, many of which are located in areas with low or no resources. In 2017, 7 new members were added and three papers published.

35 Member Countries

4 Publications

7 Languages

Partner Publications

special article

Creating a Global Community of Practice for Oncofertility

Lauren M. Ataman
Jhenifer K. Rodrigues
Ricardo M. Marinho
João P.J. Caetano
Mauricio B. Chehin
Eduardo L. Alves da Motta
Paulo Serafini
Nao Suzuki
Tatsuro Furui
Seido Takae
Yodo Sugishita
Ken-Ichiro Morishige
Teresa Almeida-Santos
Claudia Melo
Karen Buzaglo
Kate Irwin
W. Hamish Wallace
Richard A. Anderson
Roderick T. Mitchell
Evelyn E. Telfer
Satish K. Adiga
Antoinette Anazodo
Catheryn Stern

Continued on next page.

Corresponding author: Teresa K. Woodruff, PhD, Department of Obstetrics and Gynecology, Feinberg School of Medicine Northwestern University, 303 E. Superior St, Lurie 10-250, Chicago, IL 60611; e-mail: tkw@northwestern.edu.

Fertility preservation in the cancer setting, known as oncofertility, is a field that requires cross-disciplinary interaction between physicians, basic scientists, clinical researchers, ethicists, lawyers, educators, and religious leaders. Funded by the National Institutes of Health, the Oncofertility Consortium (OC) was formed to be a scientifically grounded, transparent, and altruistic resource, both intellectual and monetary, for building this new field of practice capable of addressing the unique needs of young patients with cancer. The OC has expanded its attention to include other nonmalignant conditions that can threaten fertility, and the work of the OC now extends around the globe, involving partners who together have created a community of shared effort, resources, and practices. The OC creates materials that are translated, disseminated, and amended by all participants in the field, and local programs of excellence have developed worldwide to accelerate the pace and improve the quality of oncofertility research and practice. Here we review the global oncofertility programs and the capacity building activities that strengthen these research and clinical programs, ultimately improving patient care.

INTRODUCTION

Survival rates among young patients with cancer have steadily increased over the past three decades, in part because of the development of more effective cancer treatments.[1,2] Today, both women and men can look forward to life after cancer; however, many may face the possibility of infertility as a result of the disease itself or these lifesaving treatments. Established in 2007 as part of a National Institutes of Health center grant, the Oncofertility Consortium (OC) is an interinstitutional, interdisciplinary consortium to expand research in fertility loss in patients with cancer, accelerate clinical translation of fertility preservation techniques, and address the complex health care and quality-of-life issues that concern young patients with cancer whose fertility may be threatened by their disease or its treatment.[3-7] The term oncofertility was originally coined to describe a new discipline that bridges oncology and reproductive medicine to discover and apply new fertility preservation options for young patients with cancer. However, as the OC worked to create fertility preservation technologies and clinical oncology management plans for patients with cancer, it became clear that fertility concerns resulting from nonmalignant diseases and iatrogenic causes were much broader than just those associated with cancer. GI diseases, rheumatologic disorders, nonmalignant hematologic conditions (most prominently β thalassemia), neurologic disorders, renal disorders, gynecologic conditions, and metabolic diseases can all adversely affect fertility. By expanding its scope, the OC now ensures that all patients facing a disease or treatment that limits reproductive function can benefit from the findings of basic and clinical reproductive research. The word oncofertility was created when few options were available and now provides terminology for a medical field at the intersection of many iatrogenic causes of infertility.

To facilitate sharing of knowledge and resources, the OC formed the National Physicians Cooperative, which today represents > 60 centers across the United States that provide oncofertility services to men and women, as well as 19 centers focused on pediatric patients.[8] Since its inception, the OC has aimed to involve more partners to create a nationwide community of shared resources and practices, with the ultimate goal of improving patient care. Today, there is wide acceptance that partnerships that bring research and clinical teams together catalyze progress, and the global partnerships discussed here are moving quickly to provide broad reproductive care to anyone experiencing an iatrogenic impact on reproduction, fertility, or sexuality.[9]

There are currently 19 countries engaged in the global oncofertility community (Fig 1), and the hope is to continue to grow and expand these relationships. As individual centers of excellence

original report

Survey of Fertility Preservation Options Available to Patients With Cancer Around the Globe

Alexandra S. Rashedi
Saskia F. de Roo
Lauren M. Ataman
Maxwell E. Edmonds
Adelino Amaral Silva
Anibal Scarella
Anna Horbaczewska
Antoinette Anazodo
Ayse Arvas
Bruno Ramalho de Carvalho
Cassio Sertorio
Catharina C.M. Beerendonk
Cesar Diaz-Garcia
Chang Suk Suh
Claudia Melo
Claus Yding Andersen
Eduardo Motta
Ellen M. Greenblatt
Ellen Van Moer
Elnaz Zand
Fernando M. Reis
Flor Sánchez
Guillermo Terrado
Jhenifer K. Rodrigues
João Marcos de Meneses e Silva
Johan Smitz
Jose Medrano
Jung Ryeol Lee
Katharina Winkler-Crepaz
Kristin Smith
Ligia Helena Ferreira Melo e Silva

(continued)

Purpose Oncofertility focuses on providing fertility and endocrine-sparing options to patients who undergo life-preserving but gonadotoxic cancer treatment. The resources needed to meet patient demand often are fragmented along disciplinary lines. We quantify assets and gaps in oncofertility care on a global scale.

Methods Survey-based questionnaires were provided to 191 members of the Oncofertility Consortium Global Partners Network, a National Institutes of Health–funded organization. Responses were analyzed to measure trends and regional subtleties about patient oncofertility experiences and to analyze barriers to care at sites that provide oncofertility services.

Results Sixty-three responses were received (response rate, 25%), and 40 were analyzed from oncofertility centers in 28 countries. Thirty of 40 survey results (75%) showed that formal referral processes and psychological care are provided to patients at the majority of sites. Fourteen of 23 respondents (61%) stated that some fertility preservation services are not offered because of cultural and legal barriers. The growth of oncofertility and its capacity to improve the lives of cancer survivors around the globe relies on concentrated efforts to increase awareness, promote collaboration, share best practices, and advocate for research funding.

Conclusion This survey reveals global and regional successes and challenges and provides insight into what is needed to advance the field and make the discussion of fertility preservation and endocrine health a standard component of the cancer treatment plan. As the field of oncofertility continues to develop around the globe, regular assessment of both international and regional barriers to quality care must continue to guide process improvements.

J Glob Oncol 00. © 2017 by American Society of Clinical Oncology

INTRODUCTION

The primary goal of oncofertility is to increase access for patients with cancer to fertility counseling and fertility preservation options to improve the overall quality of life of cancer survivors.[1,2] As the field of oncofertility expands, a need exists to clarify the oncofertility services that are provided on a global scale and to define the challenges faced by providers and patients. Current barriers represent areas for improvement in this growing field and can be addressed through collaboration with professional societies and governments. For these reasons, we conducted a global oncofertility resource assessment survey to document the experiences of existing oncofertility centers within the Oncofertility Consortium (OC) Global Partners Network.

METHODS

Survey Design

A survey was sent to members of the OC Global Partners Network and international experts in the field to collect information about the fertility preservation services offered to patients with cancer and the barriers to oncofertility care at their centers. The survey was written in English because all potential participants were English speaking. Invited study participants were clinicians, researchers, nurses, patient navigators, and psychologists. A pilot survey was generated for attendees of the 2015 Oncofertility Conference and after cognitive debriefing, was subsequently converted to an electronic format through the use of SurveyMonkey software. The final version was e-mailed to 191 contacts of the OC Global Partners Network. The Northwestern University institutional review board determined that the study did not constitute research that involves human subjects; therefore, additional institutional review board review and approval was not required.

Survey Inclusion/Exclusion

Upon receipt of multiple responses from the same center, scores were averaged to generate mean

original report

Survey of Third-Party Parenting Options Associated With Fertility Preservation Available to Patients With Cancer Around the Globe

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Katharina Winkler-Crepaz
Kristin Smith

(continued)

Purpose In the accompanying article, "Analysis of Fertility Preservation Options Available to Patients With Cancer Around the Globe," we showed that specific fertility preservation services may not be offered at various sites around the world because of cultural and legal barriers. We assessed global and regional experiences as well as the legal status of third-party reproduction and adoption to serve as a comprehensive international data set and resource for groups that wish to begin oncofertility interventions.

Methods We provide data on the legalities of third-party assisted reproductive technologies and other family-building options in the 28 oncofertility-practicing countries surveyed.

Results We found regional and country differences that will be important in the development of tailored resources for physicians and for patient brochures that are sensitive to these local restrictions and cultural norms.

Conclusion Because many patients first consult Web-based materials, the formal assessment of the availability of these options provides members of the global oncofertility community with data to which they might otherwise not have ready access to better serve their patients.

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INTRODUCTION

Fertility management in the cancer setting (ie, oncofertility) is challenging for a variety of technical reasons that are associated with timing of cancer treatment, the invasive nature of some options, and the required links between cancer and fertility care.[1] In addition to these practice management and biologic hurdles, we identified the legal status of adoption and third-party reproduction as a barrier. We then assessed the specific roadblocks that exist in surveyed countries. The goal of this analysis is to deliver authoritative information to emerging practices that may receive information about the field from a variety of Web resources and that may be unaware of local barriers to the spectrum of options.

METHODS

The survey design, data collection, and analysis are described in the accompanying article.[1] Survey respondents were asked about barriers to counseling patients on and providing them with all existing parenting options in the face of a cancer diagnosis, gonadotoxic treatment, and possible consequent infertility. Answers provided specifics on challenges faced at their center and/or within their country, which motivated us to conduct additional research and present detailed data about the legality of surrogacy; adoption; and egg, sperm, and embryo donation. We listed the information in tables and conducted a literature search to fill in the gaps in the original data and to validate the information provided. All authors approved the information presented in the Data Supplement.

RESULTS

A significant barrier to oncofertility care noted in the survey responses[1] was the presence of legal, cultural, and regulatory restrictions. Adoption and third-party assisted reproductive technology (ART), including surrogacy and egg, sperm, and embryo donation, were consistently identified as associated with these restrictions. We assessed the prevailing laws in each country with regard to surrogacy; adoption; and egg, sperm, and embryo donation (Data Supplement).

Building Core Competency in Developing Countries: Experience from Egypt, Tunisia, Brazil, Peru, and Panama. Salama, Ataman, et al. In revision.

NATIONAL PHYSICIANS COOPERATIVE

the Oncofertility® Consortium
www.oncofertility.northwestern.edu

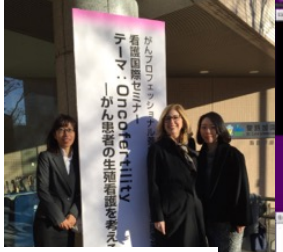
GLOBAL ONCOFERTILITY NETWORK

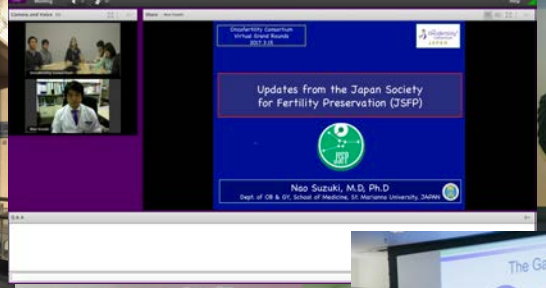
Welcome to New Partners

Global Engagement

- Virtual Grand Rounds from Brazil, Japan, Portugal
- Papers in Australia
- BOR Commentary
- Meetings in Japan, Australia, Peru, China, India
- Reviews from Japan
- Portuguese Oncology Recommendations
- Survey Study
- Resources in Spanish, French, and Turkish
- Developing Countries Publication
- Latin America Oncofertility Network

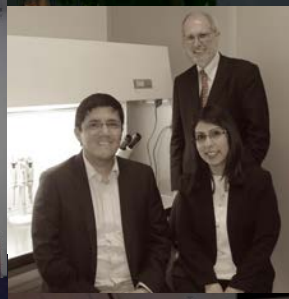

SPMR
SOCIEDADE
PORTUGUES
DE MEDICINA
DA REPRODU
Gabriela Sousa e Teresa Almeida Santos




Updates from the Japan Society
for Fertility Preservation (JSFP)
Nao Suzuki, M.D, Ph.D


存生育力提高班


The Gaps
"Before we can effectively counsel, educate and treat our patients, we need to train ourselves"



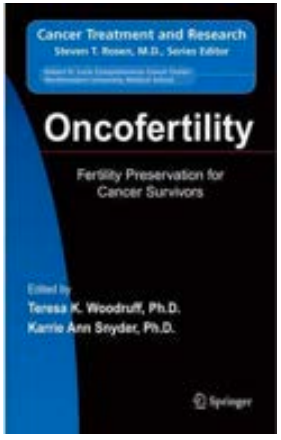

REVISTA PORTUGUESA DE
Oncologia
Órgão Oficial da Sociedade Portuguesa de Oncologia

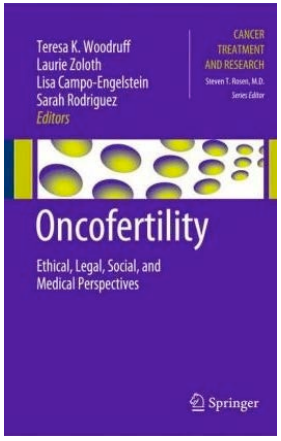

一般演題優秀賞 小泉 智恵
会長賞 小泉 智恵
ポスター優秀 杉本 公平

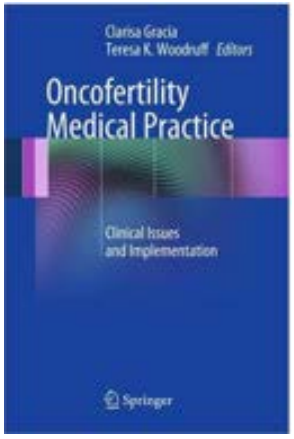

406

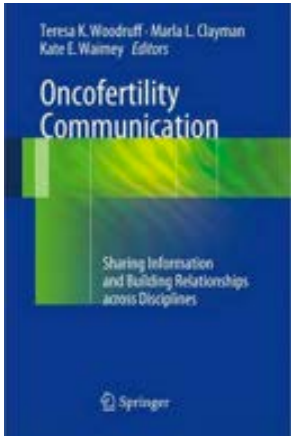

PROTECT 2016

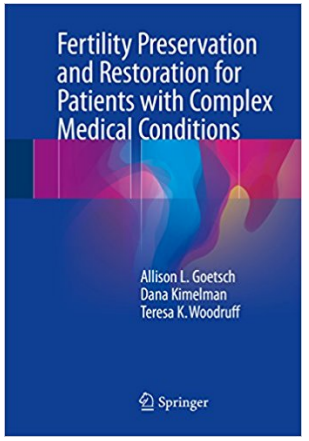
Authoritative Oncofertility Resources

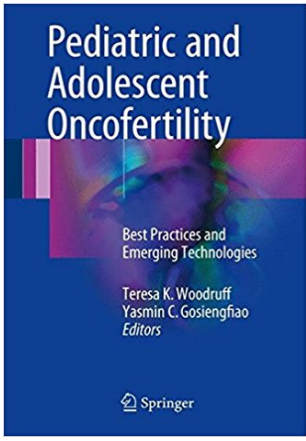


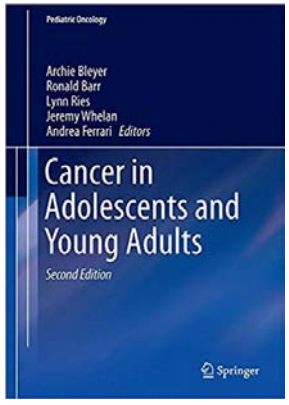


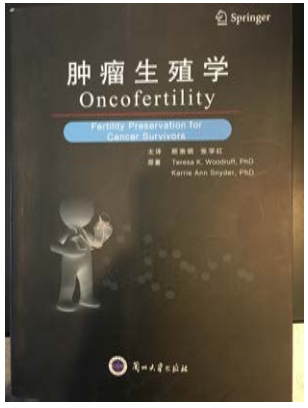


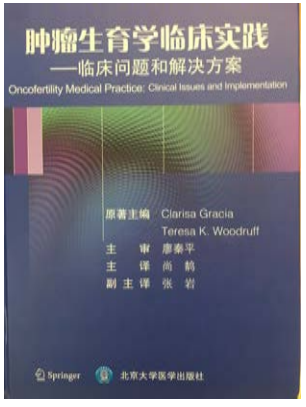


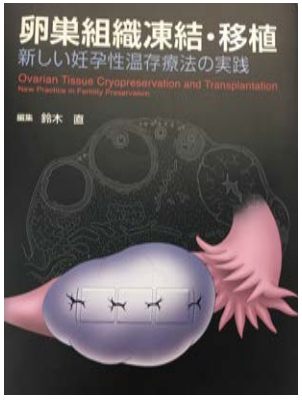












Breaking barriers on fertility preservation: Expanding forces around the globe focusing on Latin American countries

Dr. Jhenifer Kliemchen Rodrigues, PhD

Cancer and life after ca

Before Concern about disease

Nowadays Concern about quality of life
Fertility preservation

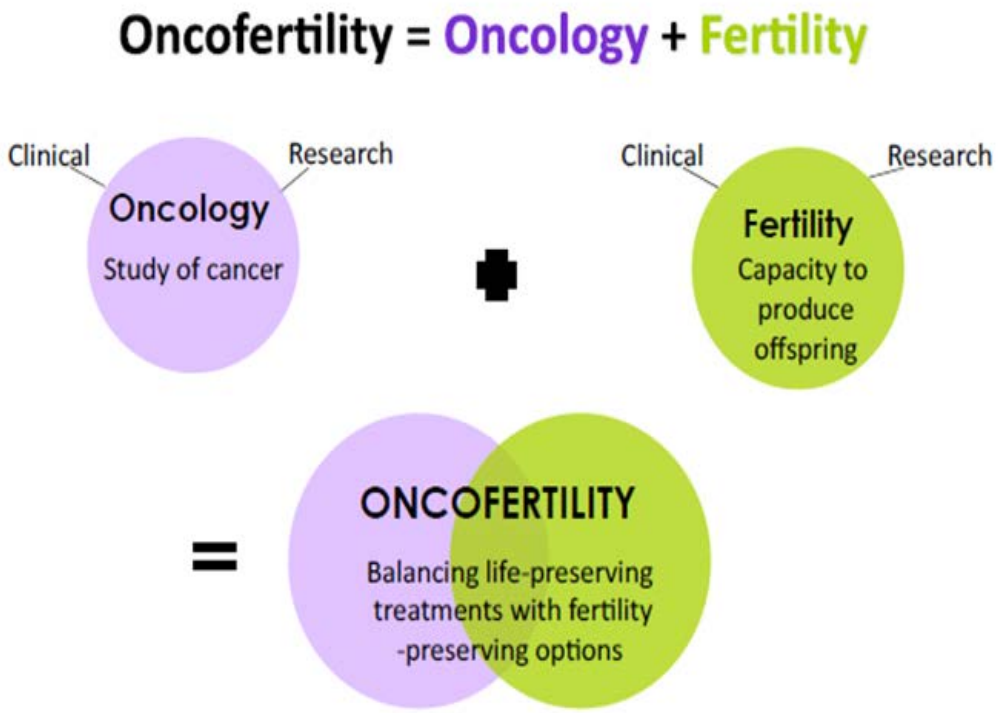
Life maintenance

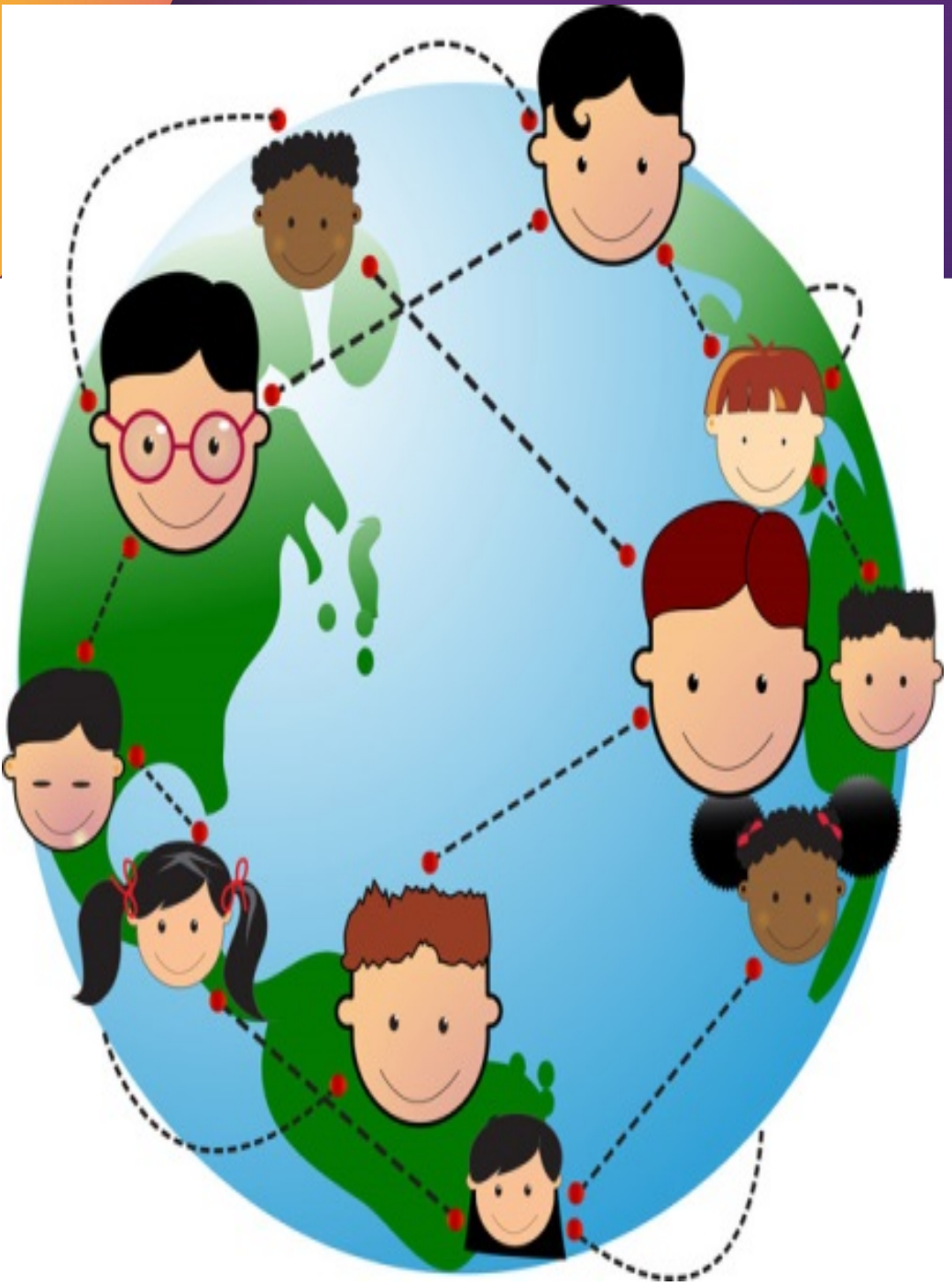
Quality of life

Procreation

What is Oncofertilility ?

Interdisciplinary area that involves Oncology and Reproductive Medicine, which aims to expand the options for fertility preservation for cancer patients.





Organized system of cooperation and action

The start

Dr. Woodruff is the Thomas J. Watkins Professor of Obstetrics and Gynecology at the Feinberg School of Medicine at Northwestern University. She coined the term oncofertility to describe a new discipline that bridges oncology and reproductive medicine in order to discover and apply new fertility preservation options for young patients with fertility-threatening diseases or treatments. Dr. Woodruff is also Chief of the Division of Fertility Preservation and Director of the Women's Healt stitute at Northwestern University

11 years ago …
Chicago/IL, United States
50 sites – United States

2013

BRAZIL

RUSSIA

- April, 12th, 2013: 1º Simpósio da Rede Brasileira de Oncofertilidade
  Talk of Dr. Teresa Woodruff, to oncologists, urologists, gynecologists and students.

- April, 11th: 1º Official meeting of members of the BOC

the Oncofertility® Consortium

Global Oncofertility Network

Dr. Teresa K. Woodruff, PhD

USA and Global Oncofertility Network

Global Oncofertility Partners Meeting

Low resource setting

GAPS

- Information
- Education
- Options avaiable
- Research
- Cultural issues

the Oncofertility® Consortium

LATIN AMERICA ONCOFERTILITY NETWORK

Members – Latin America Oncofertility Network

2013 – The start
6 centers

Brazil: 38 (ART Clinics and/or Research Institutes) + 1 Cancer clinic + 1 ONG

Peru: 2

Chile: 1

Argentina: 1

Panama: 1

Porto Rico: 1

Mexico: 1

Uruguay: 1

Dr. Flor Sanchez, PhD
Dr. Sergio Romero, PhD
Peruvian Oncofertility Network

Dr. Julio Mayorga, MD
Dr. Maite Bourlon, MD
Leadership - Mexico

Dr. Jhenifer K. Rodrigues, PhD
Brazil and Latin America Oncofertility Network

Dr. Anibal Scarella, MD
Leardership - Chile

Dr. Dana Kimelman, MD
Leardership - Uruguay

Oncofertility

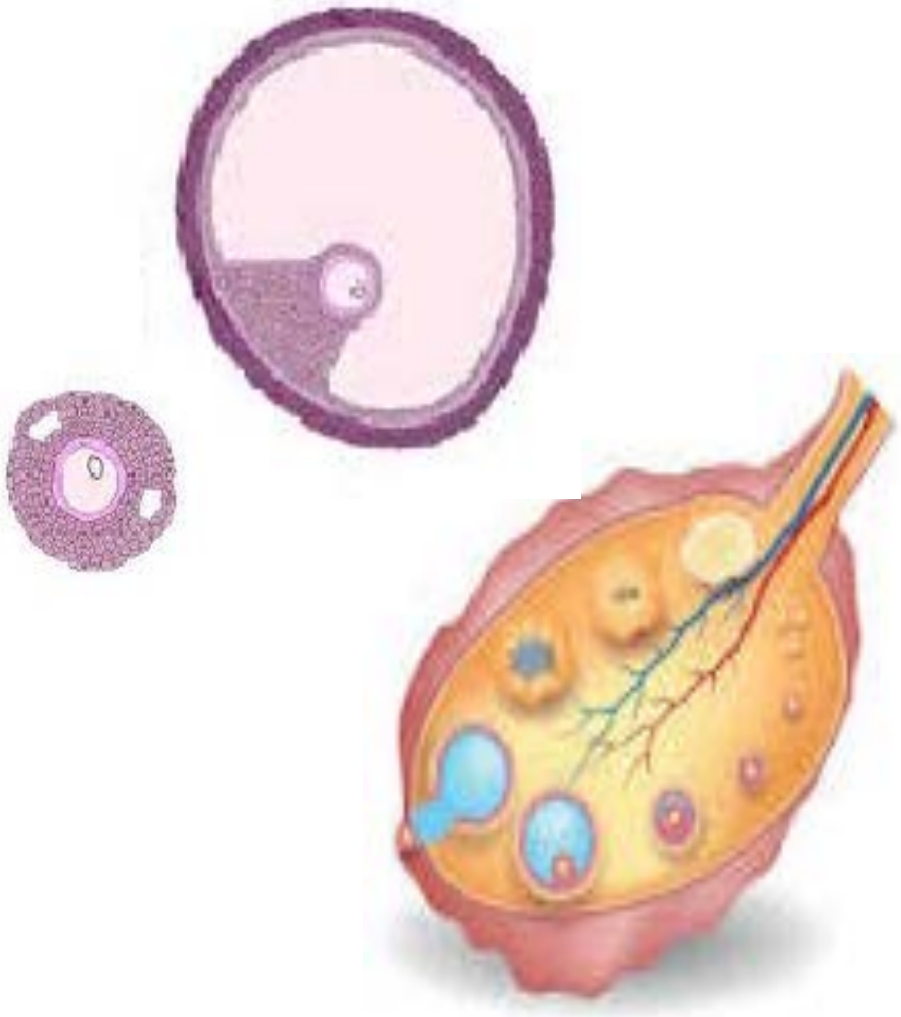
- Mistake: Offer fertility preservation and think that has an Oncofertility Program

- Oncofertility Program IS DIFERENT than only offer fertility preservation options

  - Service flowchart
  - Psychologist
  - Patient navigator (Nursing)
  - Know how about techniques
  - Partnerships with oncologists

WHAT OPTIONS WE OFTER FOR FERTILITY PRESERVATION IN LATIN AMERICA ??

Women



Embryo cryopreservation

Advantages

- Technique already established;

Disadvantages

- You need to have partner;
- Requires hormonal stimulation;
- Time: It takes on average 15 days to be carried out;
- It can be performed in children and young people.
- ethical / religious involved, related to the freezing of the excessive number of embryos.

Oocyte cryopreservation

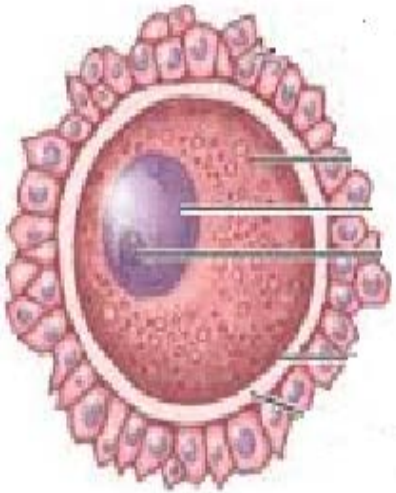
- Survival rate: 92,52%
- Ongoing pregnancy rate: 43,7%

- Approximately 20 oocytes are necessary to achieve a pregnancy.

- Live birth rate/vitrified oocyte: 5-7% Egg donation programs

Results can not be extrapolated for cancer patients.

Donnez e Dolmans, 2015



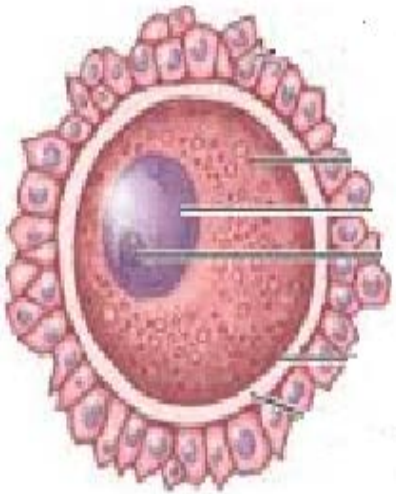
Oocyte cryopreservation

Advantages

- No need for partner;
- Technique already established (similar to fresh results);
- It can be performed in younger;
- No involvement of ethical / religious issues, it does not involv the freezing of embryos, gametes only.

Disadvantages

- Requires hormonal stimulation;
- Time: It takes on average 15 days to be carried out;
- It can be performed in children.



Oocyte cryopreservation

Brazil: 36 centers performs the method

Peru: 1

Chile: 1

Argentina: 1

Panama: 1

Porto Rico: 1

Mexico: 1

Uruguay: 1

live births reported – cancer patients

J Assist Reprod Genet (2014) 31:1397–1400
DOI 10.1007/s10815-014-0314-0

FERTILITY PRESERVATION

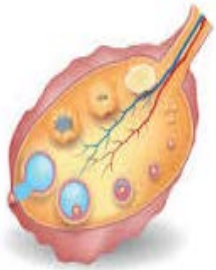
Live birth after 6 years of oocyte vitrification in a survivor with breast cancer

Eduardo Leme Alves da Motta · Monique Bonavita · José Roberto Alegretti · Maurício Chehin · Paulo Serafini

Received: 9 May 2014 / Accepted: 1 August 2014 / Published online: 22 August 2014

36 year old Breast cancer

Ovarian tissue cryopreservation



Advantages

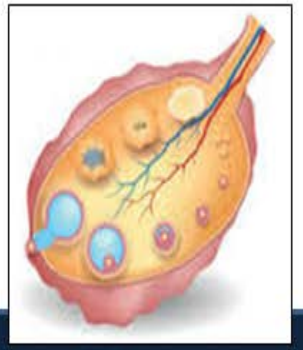
- You do not need to have partner / sperm collection;
- No need for prior hormonal stimulation;
- Time: It takes on average two days to be performed;
- It can be performed in children (prepubertal) or young;
- Preservation of more oocytes;
- No involvement of ethical / religious issues;
- Function can reverse hormone
- in vitro follicle maturation possibility.

Poirot et al., 2002; Dolmans et al., 2013

Disadvantages

- Technical not established still considered experimental;
- oncologic pathology recurrence risk;
- tissue ischemia risk after reimplantation;
- It is a surgical procedure to tissue removal and the other for reimplantation.

Varghese et al., 2008; Dolmans et al., 2013



The slow freezing has been effective in the preservation of ovarian tissue.

Sánchez et al., 2007

The glazing has been used successfully in ovarian tissue with minimal changes in tissue morphology.

Tao & Del Valle, 2008

?

NO consensus!

Kim, 2010

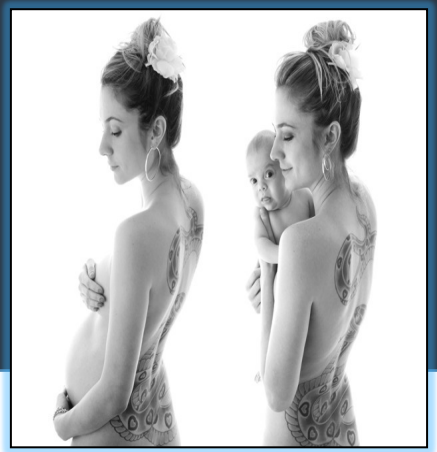
Ovarian tissue cryopreservation

Situação atual

86 live births and 9 ongoing pregnancies!

(84 slow freezing and 2 vitrification)

(Demeestere et al., 2010; Donnez et al., 2011a; Donnez et al., 2011b; Revel et al., 2011; Silber 2012; Dolmans et al., 2013, Sttop et a., 2014; Donnez e Dolmans, 2015; jensen et al., 2016)



J Assist Reprod Genet
DOI 10.1007/s10815-016-0843-9

FERTILITY PRESERVATION

86 successful births and 9 ongoing pregnancies worldwide in women transplanted with frozen-thawed ovarian tissue: focus on birth and perinatal outcome in 40 of these children

Annette Klüver Jensen[1] · Kirsten Tryde Macklon[2] · Jens Fedder[3] · Erik Ernst[4] · Peter Humaidan[5] · Claus Yding Andersen[1]

Received: 8 September 2016 / Accepted: 14 November 2016

Ovarian cortex transplantation: time to move on from experimental studies to open clinical application

LIVE BIRTH RATE AFTER OTC AND REIMPLANTATION IN A SERIES OF 111 WOMEN

TABLE 1

Results from five centers, allowing evaluation of pregnancy and live birth rates, because the number of transplants is known.

Team	Transplanted women	Women who conceived (%)	Women who gave birth	Live births (ongoing pregnancies)	Miscarriages
Donnez and Dolmans' team	19	7	5	8 (+1)[a,b]	1
Andersen's team	25	8	6	8[b]	2
Pellicer's team	33	8	4	6[a,c] (+3)	3
Dittrich's team	20	7	6	8[a]	1
Rozen's team	14	2	2	3[c]	0
Total	111	32 (29)	23	33 (+4)	7

Note: Data from references 2, 3, 4, and 7. Values are number, except where noted.

[a] One woman delivered twice.

[b] One woman delivered three times.

[c] One twin delivery.

Donnez. Ovarian cortex transplantation. Fertil Steril 2015.

Donnez et al., 2015

Ovarian tissue cryopreservation

Brazil: 5 centers that performs the method

Peru: 2

Chile: 1

Argentina: 0

Panama: 0

Porto Rico: 0

Mexico: 0

Uruguay: 0

1 transplantation (Good FSH for 3 months)
No live births reported yet

Training and knowledge – Europe (Eg: Claus Andersen) and USA (Eg. Mary Zelinksi)

Cryopreservation technique

Transplantation technique

TODOS JUNTOS CONTRA O CÂNCER

Frozen and Fresh Ovarian Tissue Require Different Culture Media to Promote *in Vitro* Development of Bovine Preantral Follicles

To cite this article:
Castro Simone Vieira, Carvalho Adeline Andrade, Silva Cleidson Manoel Gomes, Santos Francielli Weber, Campello Cláudio Cabral, de Figueiredo José Ricardo, and Rodrigues Ana Paula Ribeiro. Biopreservation and Biobanking. October 2014, 12(5): 317-324. doi:10.1089/bio.2014.0020.

Published in Volume: 12 Issue 5: October 23, 2014

THIEME OPEN ACCESS

Comparison between Slow Freezing and Vitrification in Terms of Ovarian Tissue Viability in a Bovine Model

Comparação da viabilidade do tecido ovariano após congelamento lento e vitrificação em modelo bovino

Ana Luisa Menezes Campos[1] Janaína de Souza Guedes[1] Jhenifer Klienchem Rodrigues[2] Walter Antônio Prata Pace[1] Renato Rinco Fontoura[3] João Pedro Junqueira Caetano[4] Ricardo Mello Marinho[1]

Human Reproduction, Vol.30, No.3 pp. 664–674, 2015
Advanced Access publication on January 6, 2015 doi:10.1093/humrep/deu335

human reproduction ORIGINAL ARTICLE *Reproductive biology*

Direct actions of androgens on the survival, growth and secretion of steroids and anti-Müllerian hormone by individual macaque follicles during three-dimensional culture

J.K. Rodrigues[1,2,3], P.A. Navarro[2], M.B. Zelinski[1,4], R.L. Stouffer[1,4], and J. Xu[1,*]

[1]Division of Reproductive & Developmental Sciences, Oregon National Primate Research Center, 505 NW 185th Avenue, Beaverton, OR 97006, USA [2]Department of Gynecology and Obstetrics, Faculty of Medicine of Ribeirão Preto, University of São Paulo, Av. Bandeirantes 3900, Monte Alegre, CEP, 14049, Ribeirão Preto, São Paulo, Brazil [3]Departamento de Pesquisa e Desenvolvimento, Pró-Criar Medicina Reprodutiva, Rua Bernardo Guimarães 2063, Lourdes, 30140, Belo Horizonte, Minas Gerais, Brazil [4]Department of Obstetrics & Gynecology, Oregon Health & Science University, 3181 SW Sam Jackson Park Road, Portland, OR 97239, USA

*Correspondence address. E-mail: xujn@ohsu.edu

Submitted on October 13, 2014; resubmitted on November 19, 2014; accepted on November 26, 2014

STUDY QUESTION: What are the direct effects of androgens on primate follicular development and functionat specific stages of folliculogenesis?

SUMMARY ANSWER: Androgen addition altered primate follicle survival, growth, steroid and anti-Müllerian hormone (AMH) production, and oocyte quality *in vitro*, in a dose- and stage-dependent manner.

WHAT IS KNOWN ALREADY: Androgens have local actions in the ovary, particularly in the developing follicles. It is hypothesized that androgen promotes early follicular growth, but becomes detrimental to the antral follicles in primates.

STUDY DESIGN, SIZE, DURATION: *In vitro* follicle maturation was performed using rhesus macaques. Secondary (125–225 μm) follicles were mechanically isolated from 14 pairs of ovaries, encapsulated into alginate (0.25% w/v), and cultured for 40 days.

PARTICIPANTS/MATERIALS, SETTING, METHODS: Individual follicles were cultured in a 5% O_2 environment, in alpha minimum

Combination of techniques

Ovarian tissue cryopreservation

+

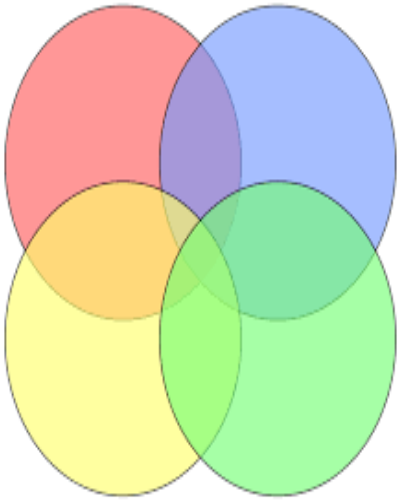
Puncture of small follicles (~ 5 mm),
followed by in vitro oocyte maturation

+

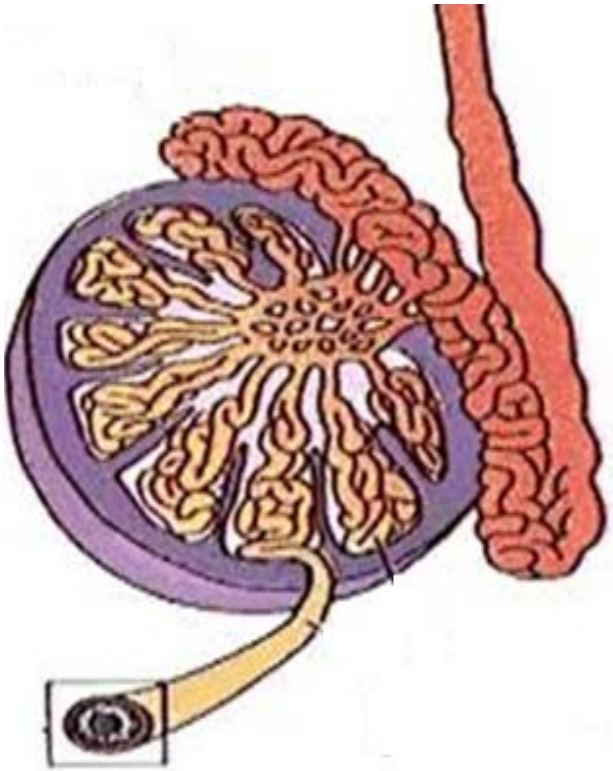
Ex vivo oocyte collection and in vitro oocyte maturation

+

Donnez and Dolmans, 2015



Man



Auger et al. Basic and Clinical Andrology (2016) 26:3
DOI 10.1186/s12610-016-0031-x

Basic and Clinical Andrology

RESEARCH ARTICLE Open Access

Semen quality of 4480 young cancer and systemic disease patients: baseline data and clinical considerations

Jacques Auger[1,2*], Nathalie Sermondade[3] and Florence Eustache[3,2]

TODOS JUNTOS CONTRA O CÂNCER

Abstract

Background: Except for testicular cancer and Hodgkin's disease, baseline data on semen quality in case of cancers as well as systemic pathologies of the young adult are scarce or based on low sample size.

Methods: Semen quality in patients having testicular cancer (TGCT, $n = 2315$), Hodgkin's disease (HD, $n = 1175$), non-Hodgkin's lymphoma (NHL, $n = 439$), leukemia (L, $n = 360$), sarcoma (S, $n = 208$), brain tumour (BT, $n = 40$), Behcet's disease (Behcet's, $n = 68$) or multiple sclerosis (MS, $n = 73$) was studied and compared to that of 1448 fertile men candidates for sperm donation (CSD) and 208 partners of pregnant women (PPW). All samples were studied following the same methodology in a single laboratory. Post freezing and thawing semen characteristics were also studied.

Results: The percentage of normozoospermic men was only 37 % for L patients and lower than 60 % for TGCT, NHL, S and BT. The level of sperm production was differently decreased according to pathologies, the median total sperm count in TC and L patients being four times lower ($p < 0.01$ when compared to CSD and PPW). The lowest percentage of progressively motile spermatozoa was found for L and BT patients (both, $p < 0.01$ compared to CSD and PPW). The percentage of morphologically normal spermatozoa was also reduced in cancer patients, especially in BT patients. Progressive motility after thawing in patients was about half that observed among candidates for sperm donation. In almost half of the semen of patients with testicular cancer or leukemia, the total number of motile spermatozoa per straw was less than 0.5×10^6 compared to 4.3×10^6 in CSD.

Conclusions: The present data confirm on large series the deleterious impact of various cancers of the young adult on semen quality, establishing thus baseline data for future studies. Owing to the post-thaw quality of the frozen straws, future fertility projects for the majority of the patients studied (in case there is no post-treatment recovery of spermatogenesis) should necessitate an ICSI to provide the best chance of paternity whatever the fertility check-up in the female partner.

Keywords: Cancer, Systemic disease, Semen quality, Sperm cryopreservation, Sperm banking, Assisted reproductive technologies

UFMG
UNIVERSIDADE FEDERAL DE MINAS GERAIS

Success reports

J Assist Reprod Genet (2012) 29:375–379
DOI 10.1007/s10815-012-9733-y

TECHNOLOGICAL INNOVATIONS

Cryopreservation of individually selected sperm: methodology and case report of a clinical pregnancy

Nina Desai · Jeffrey Goldberg · Cynthia Austin · Edmund Sabanegh · Tommaso Falcone

Review Article

Human Sperm Cryopreservation: Update on Techniques, Effect on DNA Integrity, and Implications for ART

Marlea Di Santo, Nicoletta Tarozzi, Marco Nadalini, and Andrea Borini

Tecnobios Procreazione, Centre for Reproductive Health, Via Dante 15, 40125 Bologna, Italy

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Academic Editor: James A. Brown


TIME FOR ACTION

ONGOING

ONGOING

Oncologists

Specialist Reproductive Medicine

Goals

- Partnership with Cancer treatment centers: solid connection to oncologists; ✓
- Partnership with Cancer National Societies; ✓
- Partnership with big (National) and small (Regional) cancer patient care non-profit association (Eg: GRAACC – Childhood cancer; Capec, etc) ✓
- To built a standardized guideline for oncofertility program implementation and use of the cryopreservation methods;
- Post-doc: Federal University of Minas Gerais – Clinical Hospital (Public service) To implement an oncofertilty program (connection between fertility specialist, oncologist and psychologist in the hospital). ✓
- Specific tools for Latin America countries (Website and books – 1st steps) ✓

Some of other achievements of our network, also supported by the Oncofertility Consortium were:

- Publication of the professional book on Oncofertility - preservation of fertility in cancer patients, published in 2015 in Brazil and in Portuguese language;
- Publication of many scientific articles in Brazilian scientific magazines, and also international scientific journals through partnerships between Brazil and Latin-American countries, and members of the Global Oncofertility Network;
- Partnerships with non-profit or non-governmental organizations in Brazil, as ABRALE (Brazilian Association of Lymphoma and Leukemia) and GRAAC (Support Group for Adolescent and Child with Cancer);
- Association with Cancer Treatment Institutions in Brazil, as AC Camargo Hospital São Paulo / SP and others are emerging;
- Specialization in cryopreservation and transplantation of ovarian tissue, through joint projects and technical visits in American and European centers (Brazil, Chile);
- Development of a project to help cancer patients to preserve their gametes using the public health system (in progress – Brazil and Chile);

PARTNERSHIP

abrale
ASSOCIAÇÃO BRASILEIRA
DE LINFOMA E LEUCEMIA

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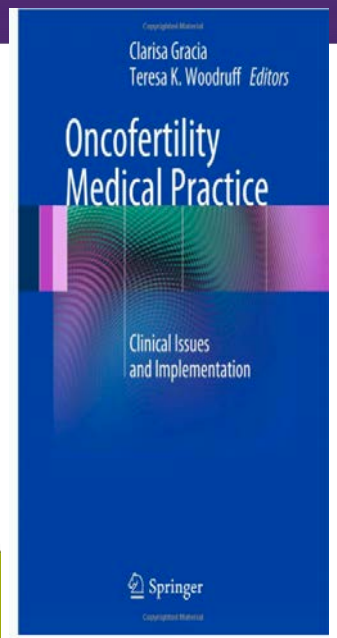

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João Pedro Junqueira Caetano

Jhenifer Kliemchen Rodrigues

the Oncofertility® Consortium

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SUMÁRIO

MARINHO, R. M. ; ROSA e SILVA, A. C. J. S. ; CAETANO, J. P. J. ; RODRIGUES, J. K. **Preservação da fertilidade: Uma nova fronteira em Medicina Reprodutiva e Oncologia**. 1. ed. Rio de Janeiro/RJ: Medbook Editora Científica Ltda, 2015.

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PARTICIPANTS/MATERIALS, SETTING, METHODS: Individual follicles were cultured in a 5% O_2 environment, in alpha minimum essential medium supplemented with recombinant human FSH. Follicles were randomly assigned to experiments of steroid ablation by trilostane

REPROD CLIM. 2014;29(3):123-129

ELSEVIER

Reprodução & Climatério

http://www.sbrh.org.br/revista

Artigo de revisão

Visão geral sobre preservação da fertilidade feminina depois do câncer

Bruno Ramalho de Carvalho[a,b,], Jhenifer Kliemchen Rodrigues[b,c], Jacira Ribeiro Campos[b,d], Ricardo Mello Marinho[b,c], João Pedro Junqueira Caetano[b,c] e Ana Carolina Japur de Sá Rosa-e-Silva[b,d]*

TODOS JUNTOS CONTRA O CÂNCER

special article

Creating a Global Community of Practice for Oncofertility

Lauren M. Ataman
Jhenifer K. Rodrigues
Ricardo M. Marinho
João P.J. Caetano
Mauricio B. Chehin
Eduardo L. Alves da Motta
Paulo Serafini
Nao Suzuki

executive summary

Fertility preservation in the cancer setting, known as oncofertility, is a field that requires cross
between physicians, basic scientists, clinical researchers, ethicists, lawyers, educators, and religiou
National Institutes of Health, the Oncofertility Consortium (OC) was formed to be a scientifically gr
altruistic resource, both intellectual and monetary, for building this new field of practice capable
needs of young patients with cancer. The OC has expanded its attention to include other nonmalig
threaten fertility, and the work of the OC now extends around the globe, involving partners who
community of shared effort, resources, and practices. The OC creates materials that are transl
amended by all participants in the field, and local programs of excellence have developed worldwi
and improve the quality of oncofertility research and practice. Here we review the global oncofe
capacity building activities that strengthen these research and clinical programs, ultimately impr

INTRODUCTION

disorders, gynecologic condi

JBRA Assisted Reproduction 2014;**18**(1):16-23
doi: 10.5935/1518-0557.20130087

Review

Strategies to preserve the reproductive future of women after cancer

Bruno R. de Carvalho[1,4], Jhenifer K. Rodrigues [2,4], Jacira R. Campos [3,4], Adelino A. Silva [1,4], Ricardo M. Marinho [2,4], Ana Carolina J. S. Rosa e Silva [3,4]

[1]GENESIS, Center for Assistance in Human Reproduction, Brasília, DF, Brazil
[2]Pró-Criar Reproductive Medicine, Belo Horizonte, MG, Brazil
[3]Service of Human Reproduction, Department of Gynecology and Obstetrics, Faculty of Medicine of Ribeirão Preto, University of São Paulo, Ribeirão Preto, SP, Brazil
[4]Brazilian Oncofertility Consortium

ABSTRACT

Malignant and cardiovascular diseases are the main causes of death in Brazil. Estimates for 2013 predict the occurrence of 189,150 new cases of cancer in Brazilian women. With advanced detection tools, patients are diagnosed and treated for cancer at a younger age and are more likely to survive. The cytotoxic action of chemotherapeutic agents and radiotherapy very frequently implies serious damage to the gonads, and consequences due to the hypoestrogenism, such as osteoporosis, infertility and premature ovarian failure, are expected. Oncofertility, then, appears as a new area of reproductive medicine, which is dedicated to the development of strategies for the reduction of therapeutic sequels in cancer survivals, ultimately aiming the maintenance of their quality of life and the possibility of biological maternity. This article aims to present an overview of possible options for female fertility preservation after cancer and future perspectives in oncofertility.

2010 one in every 250 adults was going to be a cancer survivor during childhood (Blatt, 1999).

The cytotoxic action of chemotherapeutic agents and radiotherapy very frequently implies serious damage to the gonads (The Practice Committee of the American Society for Reproductive Medicine, 2013). Despite the fact that temporary or permanent ovarian failure will depend on several factors, such as drugs and doses administered, route of administration and age at the time of treatment, long term consequences due to the hypoestrogenism, such as osteoporosis, infertility and climacteric symptoms, may be expected.

This context requires efforts for the reduction of therapeutic sequels in cancer survivals, ultimately aiming the maintenance of their quality of life, which instinctively includes the possibility of biological maternity. Oncofertility appears in this scenario as a new area of reproductive medicine, which is dedicated to the development of new strategies

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15 de janeiro de 2016 | Ciências | Nenhum comentário

Experimento amadurece óvulos em laboratório

Resultados oferecem avanços importantes às tecnologias de reprodução humana, como preservar fertilidade feminina em casos de câncer.

Avanço em tecnologia de reprodução assistid torna mais próxima a realidade de pacientes c câncer engravidarem após cura da doença. A resposta positiva veio de pesquisas da cientista brasile Jhenifer Kliemchen Rodrigues realizadas nos Laboratórios do *Oregon National Primate Research Cent* dos Estados Unidos, com cultivo *in vitro* de folículos ovarianos ainda em estágio inicial de desenvolvimento.

SAÚDE

Novo campo da medicina ajuda mulheres diagnosticadas com câncer a realizar o desejo de engravidar. Técnica consiste em reservar gametas antes de iniciar tratamento contra tumor

Aposta na oncofertilidade

JUNIA OLIVEIRA

Um novo campo da medicina, a oncofertili- ade, é esperança de uma gravidez depois da cu- de uma das doenças mais temidas da atuali- de – o câncer. A técnica consiste em reservar metas antes de começar o tratamento contra umor. Segundo médicos, nem todas as mu- res poderão ter filhos e tudo depende, pri- ramente, da área afetada. E, para aquelas indicação ao procedimento, uma gestação ntânea também não é descartada. Indepen- emente das possibilidades, o mais impor- é saber que, diante de uma neoplasia, nem está perdido quando está em jogo um dos entos mais importantes da vida de uma er: ser mãe. O assunto é tema da segunda agem do EM sobre mulheres e gravidez. ecialista em medicina reprodutiva e dire- Clínica Pró-Criar, João Pedro Junqueira aler- preservar a fertilidade não significa con- nbriões, mas sim óvulos, tecido ovariano rmatozoides. E ressalta os progressos nas duas décadas. Se há 20 anos a maioria heres submetidas à quimioterapia fica- reis, hoje não são todas a ter a função comprometida, embora o tratamento

simples: ele é encaminhado a uma clínica para a coleta do sêmen. Já as mulheres precisam de pelo menos 12 a 15 dias antes do começo da terapia para fazer o ciclo de indução de ovulação, a fim de se retirar a maior quantidade possível de óvulos para serem congelados. O ideal para esse procedimento é que a mulher tenha, no máximo, 36 anos. A partir daí é avaliado caso a caso, pois o resultado futuro pode ser pior.

"O que a paciente está fazendo é guardar gameta para usar no futuro, se necessário, num procedimento de fertilização in vitro", afirma o médico. Junqueira destaca que para uma chance razoável de se poderem usar os gametas são necessários de oito a 10 bons óvulos. "Congelar não é garantia de gravidez, mas do aumento da chance de uma gestação. Infelizmente, nem sempre o casal terá o filho desejado, porque fertilização in vitro não é 100%", reitera.

EXPERIMENTOS Quando o estágio da doença exige um tratamento urgente, não havendo possibilidade de esperar por uma quinzena de dias, uma alternativa é tirar um pedaço do ovário, que será amadurecido em laboratório. O procedimento é indicado também para adolescentes pré-púberes, que ainda não produzem óvulos

Especialistas avançam em técnica de preservação da fertilidade de pacientes com câncer

Clínica mineira de reprodução assistida e centros internacionais de pesquisa avançam em técnica de maturação de óvulos em laboratório para uso em pacientes com câncer

A A | G+1 0 | Curtir | Compartilhar 24 | Tweetar

Carolina Cotta - Estado de Minas
Publicação:21/09/2014 09:58

O adiamento da maternidade, o diagnóstico precoce e os avanços no tratamento de alguns tipos de câncer contribuíram para que um número cada vez maior de pacientes em fase reprodutiva sejam diagnosticados com a doença. É nesse contexto que a relativamente nova oncofertilidade, que envolve a medicina reprodutiva e a oncologia, tem avançado em técnicas que permitam a esses pacientes serem pais ou mães no futuro, já que o tratamento - com cirurgia, radioterapia e/ou quimioterapia - pode levar a quadros de subfertilidade ou infertilidade, transitórios ou permanentes.

Uma das esperanças vem de Minas. A Rede Pró-Criar Medicina Reprodutiva - em parceria com a

the Oncofertility® Consortium

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BLOG

INTRODUCING JHENIFER RODRIGUES

September 10, 2015 by Brigid Martz Smith

The Oncofertility Consortium welcomes Jhenifer Rodrigues as the coordinator of the Brazilian Oncofertility Consortium. Jhenifer is a biologist with a Bachelors in Biologic Sciences with specialization on Clinical Embryology by the Rede Latinoamericana de Reprodução Assistida (Red Lara) - Latin America Network of Assisted Reproduction. She also has a master's degree and PhD in Sciences - Biology of Reproduction by University of São Paulo. Her training was done at the Oregon National Primate Center/Oregon Health and Science University with Richard Stouffer, PhD and Mary Zelinski, PhD where she worked on the development of in vitro maturation conditions for primate follicles. She worked in

INTERESSA

Cientista cria técnica capaz de amadurecer óvulos em laboratório

Pesquisadora é líder de rede que busca informar especialistas

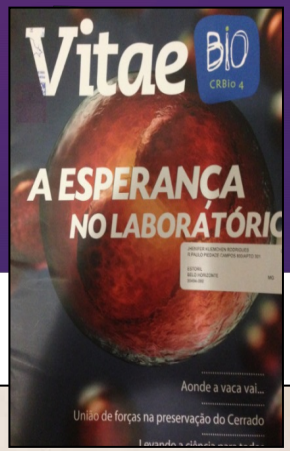
Novas possibilidades de gravidez pós-câncer

Estudo de cientista mineira propõe cultivo de folículos ovarianos em laboratório, adicionando a eles hormônios masculinos, que mostraram ter papel importante na maturação folicular. Técnica pode ser alternativa para mulheres que queiram engravidar depois de tratar tumor

ARQUIVO PESSOAL

"Os resultados contribuem para um melhor entendimento da foliculogênese em primatas, além de auxiliar na identificação das condições ótimas para o cultivo folicular in vitro, cuja melhora é fundamental para propiciar a obtenção de oócitos maduros saudáveis"

Jhenifer Kliemchen Rodrigues, pesquisadora e autora do estudo



Bióloga conduz pesquisas que buscam preservar a fertilidade em pacientes com câncer

ista, Louise Brown parece uma
m. Inglesa, 36 anos, casada e
ilhos. Seu nascimento, porém,
peculiaridade: Louise foi a
oa a nascer por meio da fertili-
técnica desenvolvida em 1978
Robert Edwards e pelo médico
e.
primeiras experiências com
n laboratório de oócitos de
rém, já tinham sido iniciadas
em experimentos com ratos e
as quase oito décadas de
cia evoluiu em uma velocida-
aginável. Basta dizer que o
de proveta do mundo
cinco milhões de
vanço se de
imento de
vulação, de
os meios de
ofisticados
os e controles de qualidade
Todos esses fatores, combi-
a taxa de sucesso de fertili-
s 5% para 60% em mulheres
or a 30 anos.
ons índices de sucesso e

A bióloga Jhenifer Rodrigues atua com FIV há três anos e há nove no campo da pesquisa

Crédito: Vitor Moreira

Os trabalhos são desenvolvidos em parceria da Pró-Criar com a Pós-graduação

www.latinamericaoncofertilitynetwork.com

TODOS JUNTOS CONTRA O CÂNCER

the Oncofertility® Consortium
www.oncofertility.northwestern.edu
GLOBAL ONCOFERTILITY NETWORK

the Oncofertility® Consortium
LATIN AMERICA ONCOFERTILITY NETWORK

Iniciativa interdisciplinar projetada para explorar o futuro reprodutivo de sobreviventes de câncer

Iniciativa interdisciplinaria diseñada para explorar el futuro reproductivo de los sobrevivientes de cáncer

Começar em português

Inicio en español

Project with colleagues/ Anvisa

CFM

(Brazilian Federal Council of Medicine)

Oncofertility Commitee of the Brazilian Society of Human Reproduction (SBRH)

Entire structure of the SBRH as the national and regional congresses, the scientific journal, newsletters and regional delegates to disseminate information on oncofertility.

GOALS:

- To promote scientific activities in oncofertility
- To disseminate scientific information, medical and laboratory protocols to SBRH members
- To promote integration between specialists in Reproductive Medicine, Oncologists. Mastologists, Urologists, Hematologists, Embryologists, Psychologists and Nurses involved with Oncofertility
- To provide information of oncofertility issues for patients and the general public

original report

Survey of Fertility Preservation Options Available to Patients With Cancer Around the Globe

Alexandra S. Rashedi

Purpose Oncofertility focuses on providing fertility and endocrine-sparing options to patients who undergo life-preserving but gonadotoxic cancer treatment. The resources needed to meet patient demand often are

Dr. Anderson Melo, PhD
CEFERP, Brazil
Survey Project coordinator

Online Surveys – Brazil and Latin America

Fertility in patients with cancer: An international survey of human reproductive centers' current knowledge and practice

Put data together about:

- number of cancer patients that ask information and/or go under the procedure for fertility preservation;
- number of centers that has an Oncofertility program well implemented;
- Type of protocols used;

Psychology Project – PSYCHO-ONCOLOGY

LOCAL PROJECT – Minas Gerais, Brazil

Dr. Patrícia Paula Santos, psychologist

Dr. Roberta Lobato, psychologist

Partnership with Cancer treatment clinics

Individual therapy

Group therapy

ONCOFERTILITY

Psychologists work on the context of Oncofertility in therapies

Leadership - Peru

Dr. Joahn Smitz, PhD Brussels, Belgium

Dr. Flor Sanchez, PhD
Dr. Sergio Romero, PhD

SUPPORT

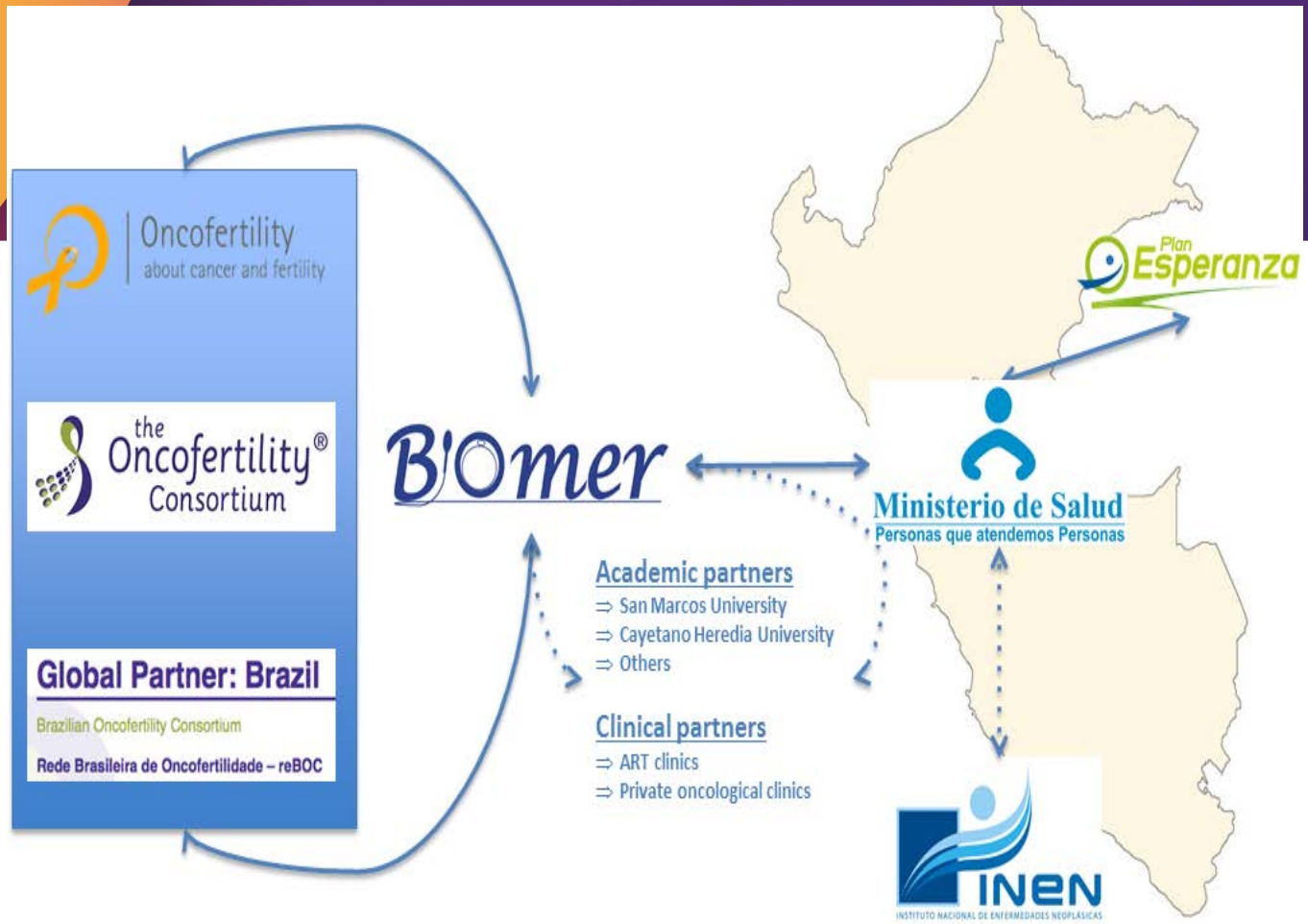
BIOmer

Centro de estudios en Biología y medicina Reproductiva (Peru):

Sergio Romero, PhD (Research embryologist, former member of the Oncofertility team in Brussels)

Flor Sánchez, PhD (Research embryologist, former member of the Oncofertility team in Brussels)

Johan Smitz MD, PhD (Researcher, Professor at Brussels Free University and team leader of the Brussels Oncofertility program)



TODOS JUNTOS CONTRA O CÂNCER

BIOMER aims to promote and lead the Peruvian Oncofertility initiative

=> Discussions have started at the governmental level => Ministry of health ⇔ National Cancer program (Plan Esperanza).

As part of the initiative, The Peruvian Oncofertility program :

=> will congregate multidisciplinary professionals.

=> will gather together Academic and clinical partners.

=> will promote research and clinical training.

Phase 1:

First half:

- **Project design**
- **Implementation of reference center**
- **Links to relevant entities**
- Communication plan for Oncofertility National Program

✓

Second half:

- Set-up of clinical and lab protocols and techniques
- **Research activities**
- Build the multidisciplinary Oncofertility expert team
- Program advertisement
- Dry tests

ONGOING

Phase 2:

- **Initiation of activities (Fertility preservation)**
- Training of new personnel
- **Research activities**
- **Academic activities**

Proposed Organogram for developmental phases of the National Oncofertility Program - Peru

Phase 3:

-**Fertility Restoration**
-Training of new personnel
-**Research activities**
-**Academic activities**

TODOS JUNTOS CONTRA O CÂNCER

BIOmer

Universitair Ziekenhuis Brussel

Oncofertility
about cancer and fertility

Actio

Evento sobre Oncofertilidade - Lima, Peru.

25/04/2016 | Jhenifer Kliemchen Rodrigues

Foi realizado na cidade de Lima, Peru de 14 a 16 de Abril de 2016, o evento, "VIII International Campus course: Updates on ART in the Andean Region Focus on Fertility preservation", organizado por Johan Smitz, PhD (UZBRUSSEL/VUB - Bélgica), Sergio Romero, PhD (CEFRA/BIOMER) e Flor Sánchez, PhD (BIOMER) - Peru.

A reunião contou com palestras, cursos práticos e simpósios sobre tópicos em Reprodução e Preservação da Fertilidade, direcionados a embriologistas, biólogos, tecnólogos, médicos ginecologistas, oncologistas, enfermeiros, psicologos, e estudantes ligados a área de Reprodução Assistida.

Dentre os especialistas que estiveram presentes e apr
palestras e cursos: os organizamores Johan Smitz (BE
(PE), and Flor Sánchez (PE), e os palestrantes convidad
(USA), Carlos Plancha (PT), Bruce Murphy (CA), Jhenifer
(BR), José Ricardo de Figueiredo (BR), Sandro Gerli (IT)
Escudero (PE), Ricardo Pella (PE), Jimmy Portella (PE),
(PE).


XVIII
CONGRESO PERUANO
DE MEDICINA
REPRODUCTIVA
12, 13 Y 14 DE OCTUBRE DE 2017
Con Participación:
Controversias en Obstetricia,
Ginecología & Infertilidad (COGI)
CURSO PRE CONGRESO:
PRESERVACIÓN
DE LA FERTILIDAD
EN PACIENTES
CON CÁNCER
11 DE OCTUBRE DEL 2017
Auditorio del LID, Univesidad Peruana Cayetano Heredia
Av. Honorio Delgado 430, Urb. Ingenieria. Lima
Coordinadores:
• Dr. Johan Smitz • Dr. Sergio Romero • Dra. Flor Sánchez
VÁLIDO PARA RECERTIFICACIÓN - 1 CRÉDITO


Ovarian Tissue Cryopreservation


Las técnicas eficientes para
restaurar la fertilidad:
FIV - IVM: un enfoque combinado


Gonadotoxicity per follicle stage

First Lab focused on Fertility Preservation

TODOS JUNTOS CONTRA O CÂNCER

Laboratorio de Investigación en Biología Reproductiva y Preservación de la Fertilidad

UNIVERSIDAD PERUANA CAYETANO HEREDIA

VUB VRIJE UNIVERSITEIT BRUSSEL

the Oncofertility® Consortium
Red Peruana de Oncofertilidad
Peruvian Oncofertility Consortium

INVESTIGACIÓN BÁSICA Y TRASLACIONAL EN BIOLOGÍA REPRODUCTIVA Y ONCOFERTILIDAD

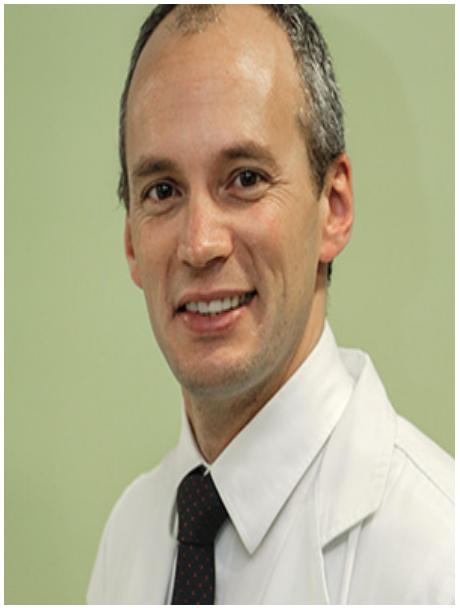
Actions

Discussing Oncofertility in Uruguay and the Start of a New Local Network | The Oncofertility...

On June 20th, representatives from the Latin America Oncofertility Global Partners Network met with other reproductive medicine specialists and oncologists at

Dr. Dana Kimelman, MD
Leardership - Uruguay

Actions - Chile



Dr. Anibal Scarella, MD
Leardership - Chile

Título: Preservación de la Fertilidad en la paciente Oncológica.

Título abreviado: Preservación de la Fertilidad

Autores: Anibal Scarella Chamy[1], Cesar Díaz García[2], Sonia Herraiz [2], Jhenifer Rodrigues[3]

MEDwave

Revisión clínica
Medwave 2017 Nov-Dic;17(9):e7090 doi: 10.5867/medwave.2017.09.7090

Preservación de la fertilidad en la paciente oncológica

Fertility preservation in the oncology patient

Autores: Anibal Scarella Chamy**[1,2]**, César Díaz-García**[3,4,5]**, Sonia Herraiz **[3,6]**, Jhenifer Kliemchen Rodrigues**[7,8,9]**

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E-mail: anibal.scarella@uv.cl

Accepted for publication !!

Education

Research

Assistance

TODOS JUNTOS CONTRA O CÂNCER

70 anos
SBRH
Sociedade Brasileira de Reprodução Humana

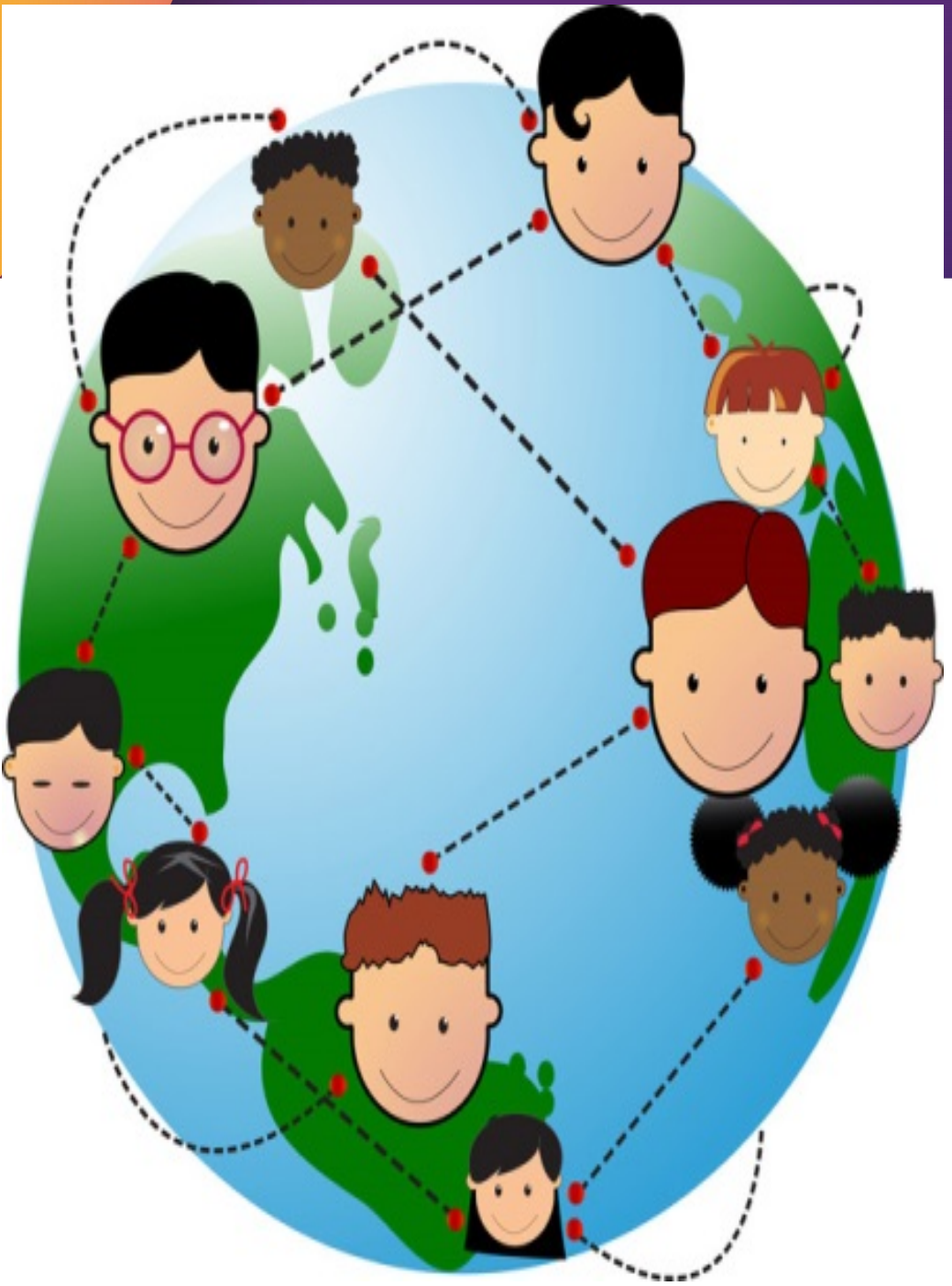
LAMOFOPA

SBRA
SOCIEDADE BRASILEIRA DE REPRODUÇÃO ASSISTIDA

the Oncofertility® Consortium
LATIN AMERICA ONCOFERTILITY NETWORK

FACULDADE de MEDICINA de RIBEIRÃO PRETO
SCIENTIA TERMINUM AMOVERE

UFMG
UNIVERSIDADE FEDERAL DE MINAS GERAIS



Organized system of cooperation and action

Group roles

Partnerships

Individual roles

Ideas, tools, actions…

Poster to be presented at the 2017 Oncofertility Consortiun meeting about one action from Brazil in partership with Uruguay

BREAKING BARRIERS ON FERTILITY PRESERVATION: EXPANDING FORCES AROUND THE GLOBE FOCUSING ON LATIN AMERICAN COUNTRIES

Dana Kimelman MD[1,5], Jhenifer K. Rodrigues PhD[2,3,4,5], Lauren Ataman MPPA[1,5], Teresa K. Woodruff PhD[1,5]

[1]Northwestern University, Chicago/IL, USA
[2]In Vitro Embriologia Clínica e Consultoria, Nova Lima/MG, Brazil
[3]Centro Médico Integrado Alphaville, Nova Lima/MG, Brazil
[4]Federal University of Minas Gerais, Belo Horizonte/MG, Brazil
[5]Global Oncofertility Consortium Network



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NORTHWESTERN UNIVERSITY

Vrije Universiteit Brussel

OHSU

LAMOFOPA




Thanks !

the Oncofertility® Consortium
LATIN AMERICA ONCOFERTILITY NETWORK

In Vitro Consultoria

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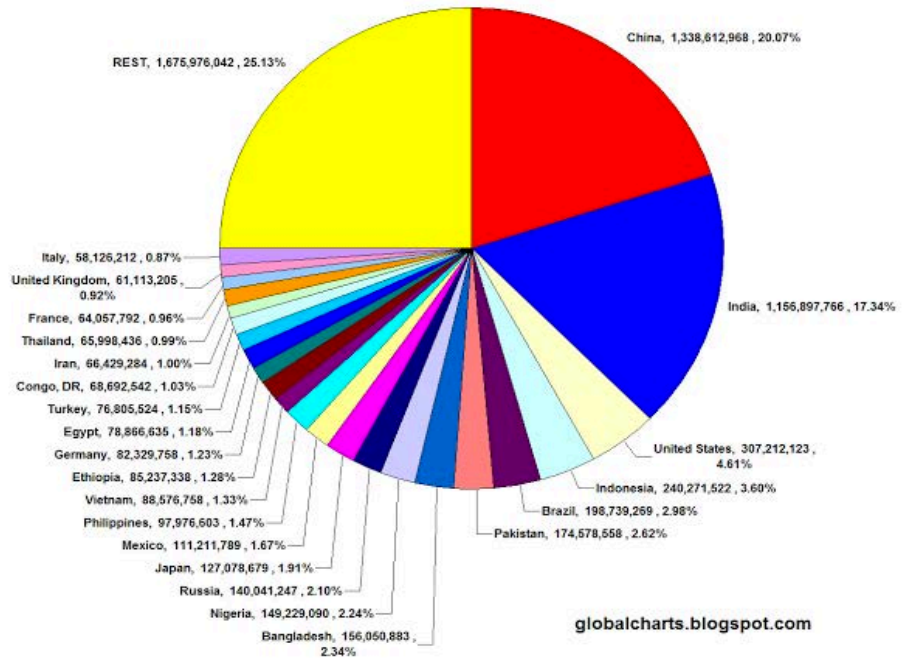
Jhenifer.rodrigues@hc.ufmg.br
55-31-98325-7959
55-31-3378-3016

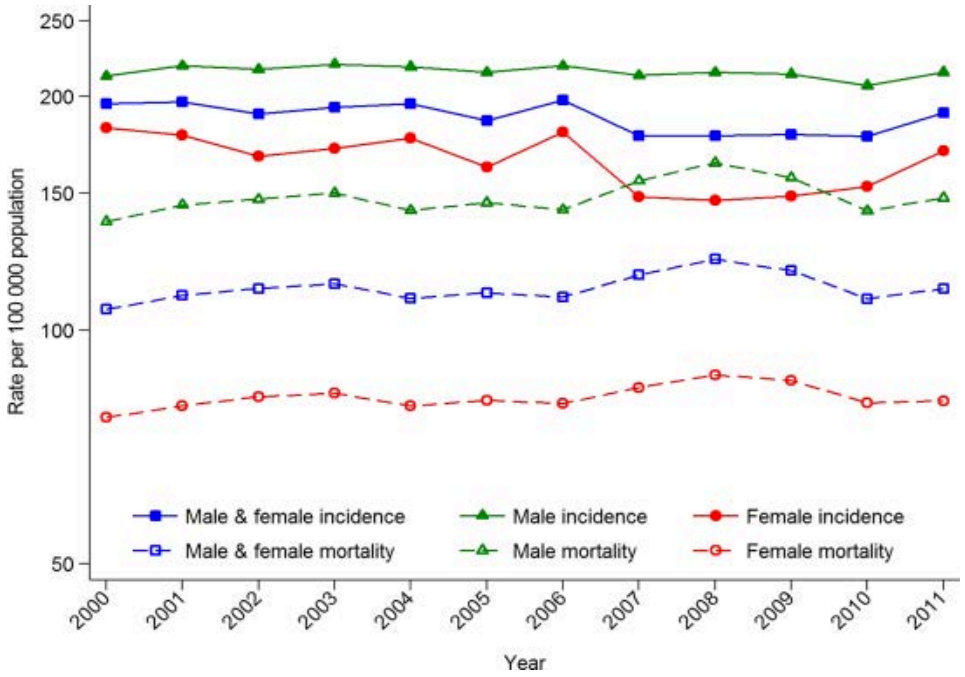
Oncofertility in China

Megan Kopp

Shuo Xiao, PhD
Department of Environmental Health Sciences
Arnold School of Public Health, University of South Carolina
Oncofertility Annual Meeting, November 14th, Chicago

Cancer facts in China



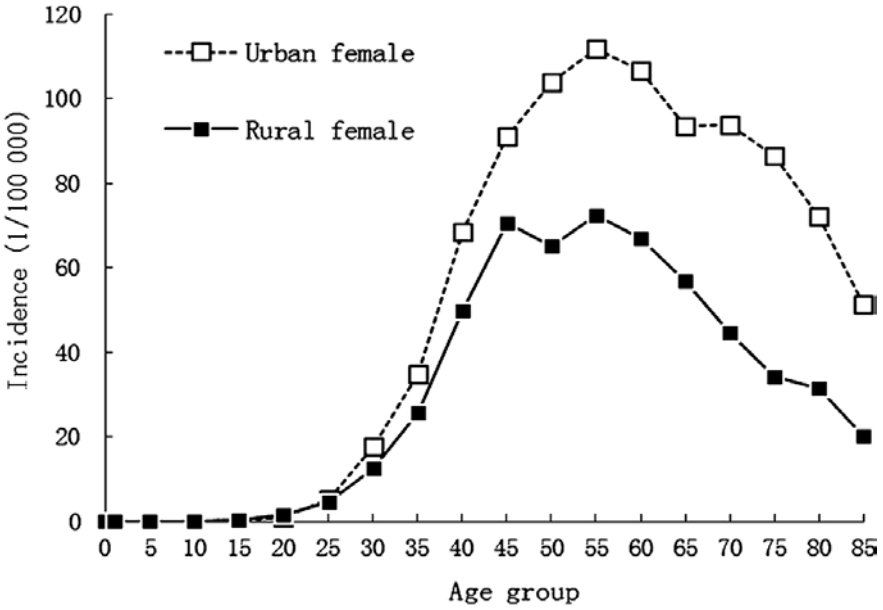


- China has the largest population in the world: 1.4 billion and 20% of world's population;
- There are 4.3 million newly diagnosed cancer cases in 2015 (12,000 per day);
- 9.5% (0.4 million) of new cancer cases are younger than 45 years of age and are within or before reproductive age.

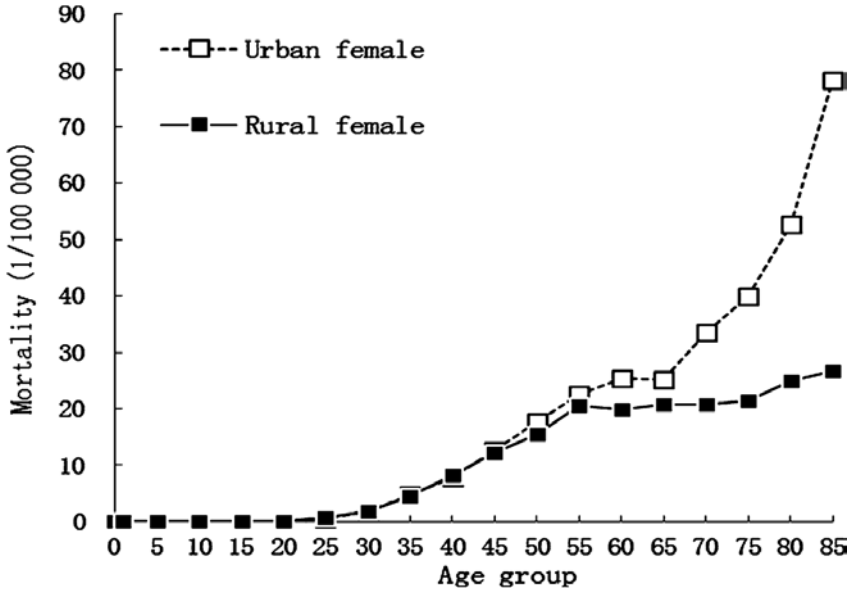
http://www.who.int/mediacentre/factsheets/fs297/en/

Cancer facts in China

Breast cancer incidence in China



Breast cancer mortality in China



- There were 184,900 new female breast cancer cases in 2015, accounting for 19.32% of all new cancer cases;
- Although the females with the highest risk of breast cancer development are between 55-60 years of age or older, there is a significant population of them that are younger than 45 because of the higher survival rate.

http://onlinelibrary.wiley.com/doi/10.1111/1759-7714.12426/full

Oncofertility challenges in China

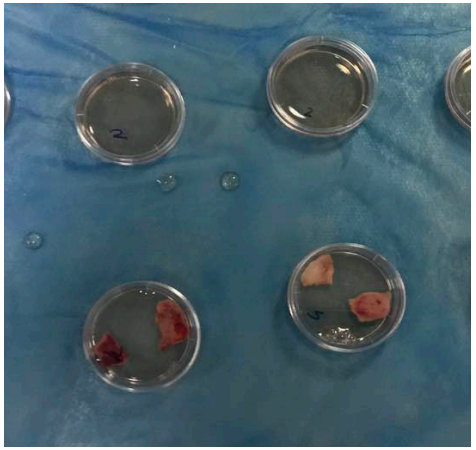
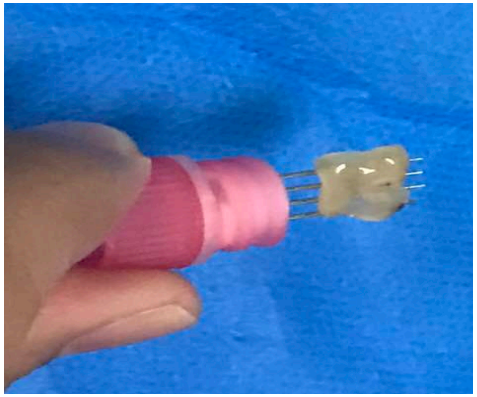
- China has the most new cancer cases worldwide and it is expected to be 50% in 2030;
- China has the second largest population of cancer survivors in the world which will become the largest in the near future;
- The largest developing country, the environment, the economy, and the life styles are experiencing dramatic changes now;
- Around 10% of couples have difficulties obtaining natural pregnancy which could be caused by multiple factors such as environmental pollution and stress;
- China ended the One-child policy in 2015 and more women at the late stages of reproductive age are planning to have a second child;
- Oocyte cryopreservation is not available for unmarried women and is restricted for married women;

http://www.who.int/mediacentre/factsheets/fs297/en/

Oncofertility in China

- In the Fall of 2017, the first Oncofertility research center was established in Xiamen University The First Affiliated Hospital.

Oncofertility in China


- Now, ovarian tissues from three patients with cervical cancers have been cryopreserved by vitrification;
- Qualities of tissue transport, processing, and vitrification are being tested.

Xiao et al unpublished

Oncofertility in China

Oncofertility research center

- Fertility preservation and Oncofertility are new worlds for clinicians, cancer patients, and general public in China. We therefore designed questionnaires to assess the Oncofertility knowledge targeting different populations.

A Pilot Study to Assess Oncofertility Knowledge in Obstetricians and Gynecologists in Fujian, China

Questionnaire Developed

Questionnaire Distributed

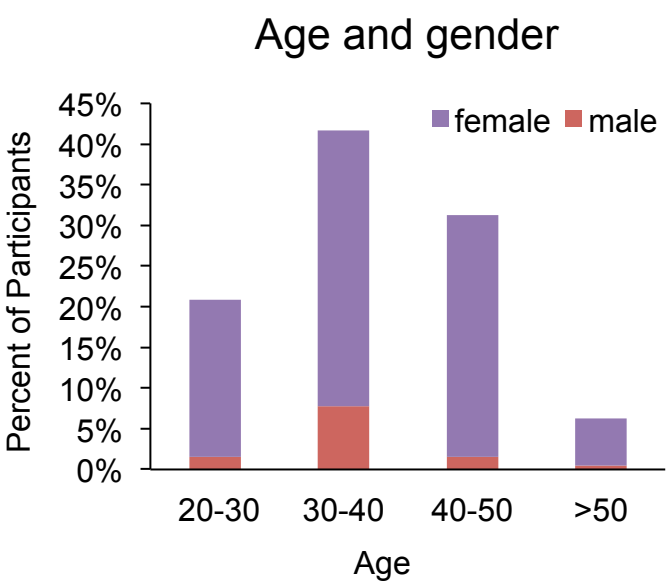
Results Analysis

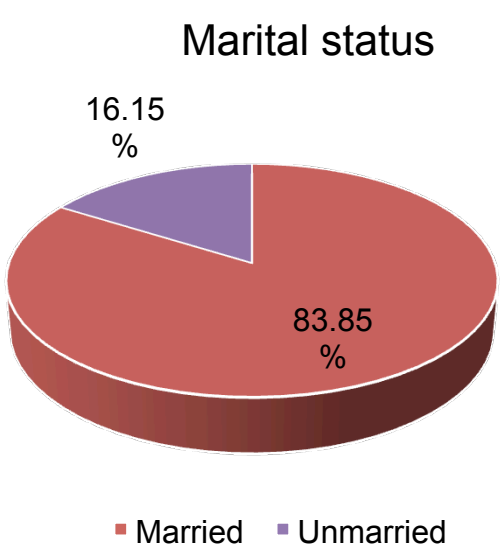
Questions for Reproductive and Endocrinologist

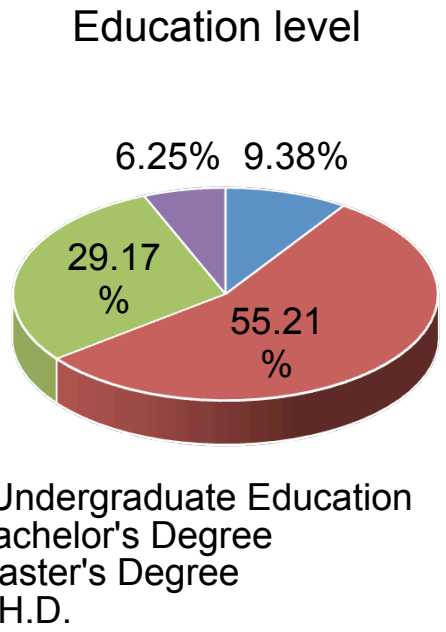
- What is your gender?
  A. Male B. Female
- What is your age?
  A. 20-30 B. 30-40 C. 40-50 D. > 50
- What is your educational background?
  A. 大学本科以下 B. 大学本科 C. 硕士 D. 博士
- Are you married?
  A. Yes B. No
- How many child/children do you have?
  A. 0 B. 1 C. 2 D. 3 or more
- What is the level of the hospital you are working on?
  A. 三级甲等 B. 三级乙等 C. 二级甲等 D. 二级乙等及以下
- What is your specialty?
  A. Obstetrics B. Gynecology C. IVF D. Others

- The questionnaire includes 21 questions regarding their practices and demographics and 12 questions assessing their background knowledge;
- The questionnaire was translated to Mandarin and distributed via WeChat, a Chinese social media platform, to OB/GYN's throughout the Fujian province of China.

A Pilot Study to Assess Oncofertility Knowledge in Obstetricians and Gynecologists in Fujian, China



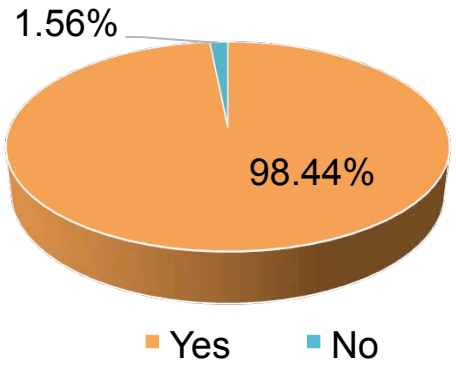




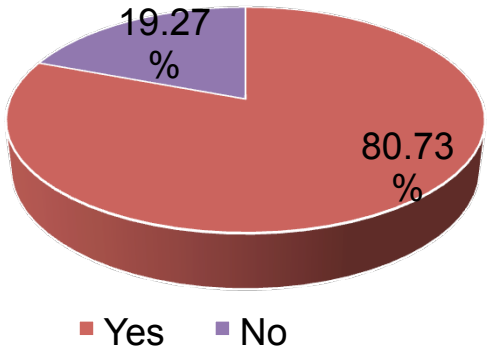
- There are 195 OB/GYN's submitted the survey;
- Participants have different backgrounds on gender, age, marriage status, and education levels, years of working experiences, and hospital levels.

A Pilot Study to Assess Oncofertility Knowledge in Obstetricians and Gynecologists in Fujian, China

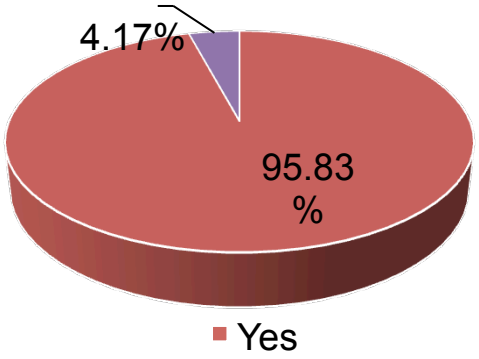
Can chemotherapy and/or radiation damage female patients' reproductive functions?



Have you heard of fertility preservation?



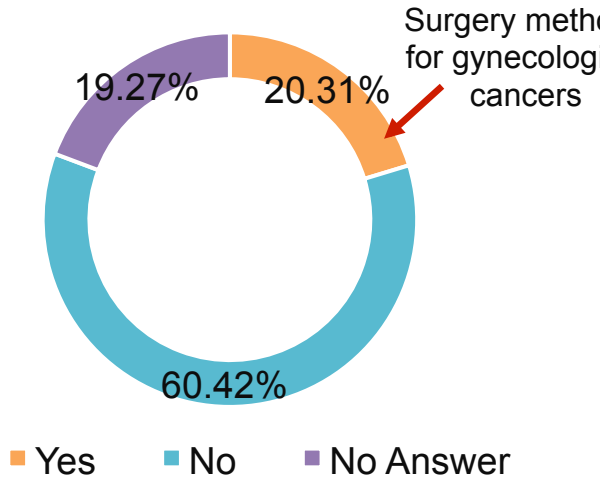
Have you had patients consult with you about infertility?



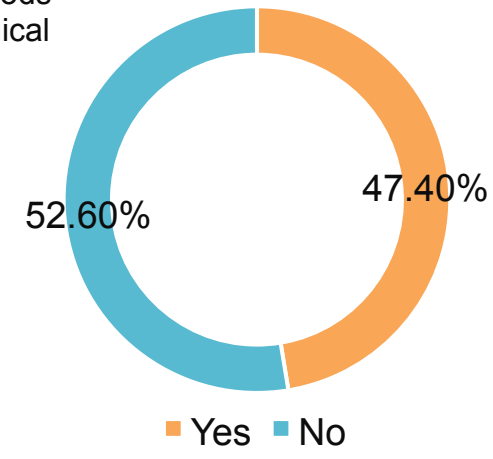
- A majority of the participants know that anti-cancer treatments can damage patients' fertility, have heard of fertility preservation, and had patients consult with for infertility.

A Pilot Study to Assess Oncofertility Knowledge in Obstetricians and Gynecologists in Fujian, China

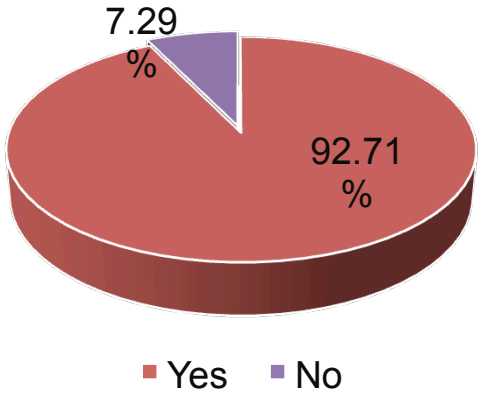
Does your hospital provide fertility preservation for female cancer patients?



Have you had an oncologist consult with you about patients' fertility



Do you want to collaborate with oncologists on protecting and preserve patients' fertility



- A majority of the participants realize the importance of fertility preservation and are willing to help patients for preserving their fertility;
- However, the resources for fertility preservation is limited.

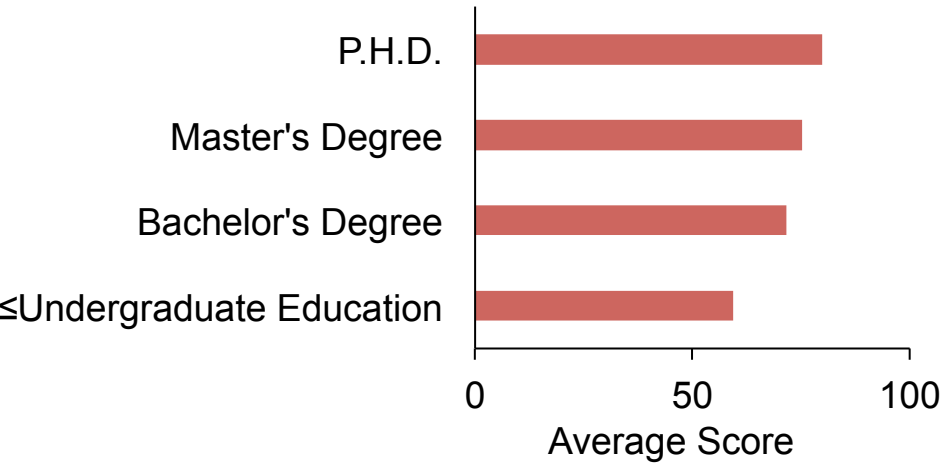
A Pilot Study to Assess Oncofertility Knowledge in Obstetricians and Gynecologists in Fujian, China

True/False questions utilized to assess fertility preservation knowledge:		
1	All cancer treatments result in infertility or premature menopause.	False
2	A patient must have a spouse in order to pursue fertility preservation treatment.	False
3	All fertility preservation treatments have similar success rates at achieving pregnancy.	False
4	Insurance usually covers fertility preservation treatments.	False
5	Fertility preservation methods are the same before and after cancer treatment.	False
6	Women who utilize fertility preservation methods increase their risk of cancer recurrence in the future.	False
7	Egg freezing and embryo freezing have the same chances of future pregnancy.	False
8	A woman who freezes her eggs will have access to them whenever she is ready to use them in the future.	**True**
9	Future pregnancy is guaranteed with frozen eggs.	False
10	Future pregnancy is guaranteed with frozen embryos.	False
11	IVF with embryo freezing is a treatment used in patients without a cancer.	**True**
12	The risk of birth defects in future children increases with chemotherapy treatments.	False

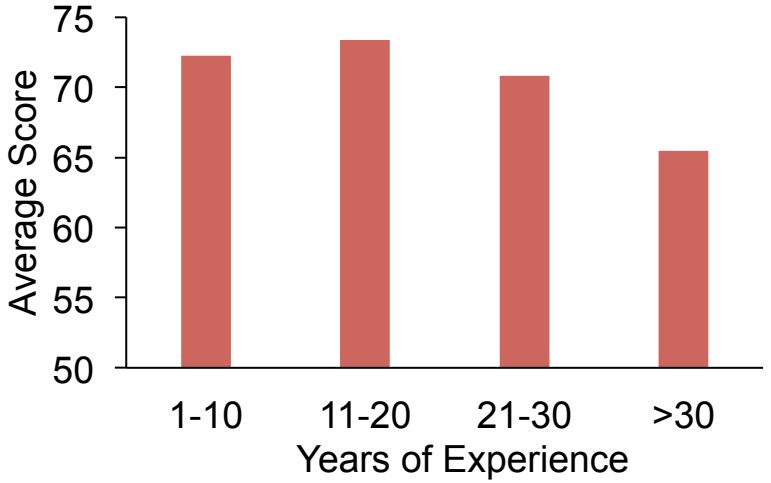
- Each response for question 22 was scored based off of accuracy and the average score was 72.1.

A Pilot Study to Assess Oncofertility Knowledge in Obstetricians and Gynecologists in Fujian, China

Scores increased along with the educational levels



OB/GYN's with the greatest years of experience received the lowest scores



- Education levels and years of the working experience affect the Oncofertility/fertility preservation knowledge.

Summary

- This pilot study indicates that OB/GYN doctors in Fujian, China are willing to help cancer patients preserve and/or protect their fertility and the Oncofertility awareness and knowledge varies in participants with different background (Poster 45).

Acknowledgements

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Shuo Xiao, PhD
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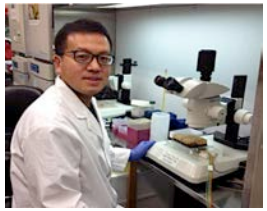
Jinlan Yang, MS
Megan Kopp
Katherine Farrell



the Oncofertility® Consortium

Northwestern University
Teresa Woodruff, PhD
Lauren Ataman
Woodruff lab

Xiamen University First Hospital
Qionghua Chen, MD
Yaxian Wang, MD
Rong Jiao, MD

Fudan University
School of Public Health
Dr. Weiwei Zheng's research team

Multimodal cultural competence development tools for oncofertility

November 14

Yuriko Iwahata M.D.

Northwestern University, Woodruff Lab

Self-Introduction

- Yuriko Iwahata, M.D.
- Graduated from St.Marianna University of Medicine in Japan
- Finished 2 years of residency in Japan
- Joined Woodruff lab in this April, 2017

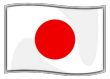
Outline

- To understand the need for cultural competence in oncofertility
- To define cultural competence in oncofertility
- To understand the process of becoming a more culturally competent clinician
- To learn tools and techniques that help achieve cultural competence

What is cultural competence?

- How do we take all the materials that people are making and allow for them to be translated into a community, not only in language?

- How can they be useful in each different country?



What is cultural competence?

- How do we take all the materials that people are making and allow for them to be translated into a communit
- How c t country?

"What would be some framing rules that we could use and how can we work together toward that?"

The barriers to cultural competence

- Individual person:
  The way that the science done is individualized.

- Individual places:
  The science is done in the individual location

- Structure of science is through publication rather than conversion model where we all contribute

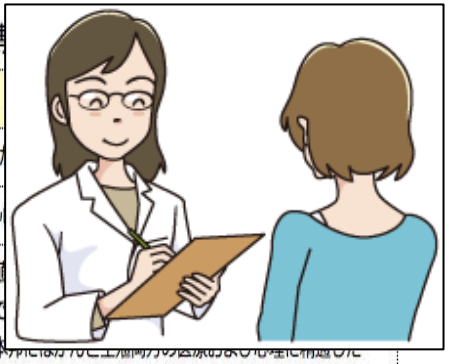
The barriers to cultural competence

- Individual person:
  The way that th… is
  individuali…
- Individual p…
  The science is done in the individual location
- Structure of science is through publicatio… rather than conversion model where we all contribute

Developing human resources of nurses for Oncofertility

Nurses

Psychotherapists



概 要

主 催	日本生殖心理学会 理事長 森本義晴/日本
責任者	日本生殖心理学会 副理事長/がん生殖保存
目 的	がんによる生命の危機とがん治療による生殖 らにがん治療までの短い限られた時間の中で サポートが必要かつ求められますが、現在本 専門の心理士は存在せず、その育成が急務となっている。

Total of 33 hours of seminars and exercises

+

Oncofertility outpatient clinic for 1 day.

↓

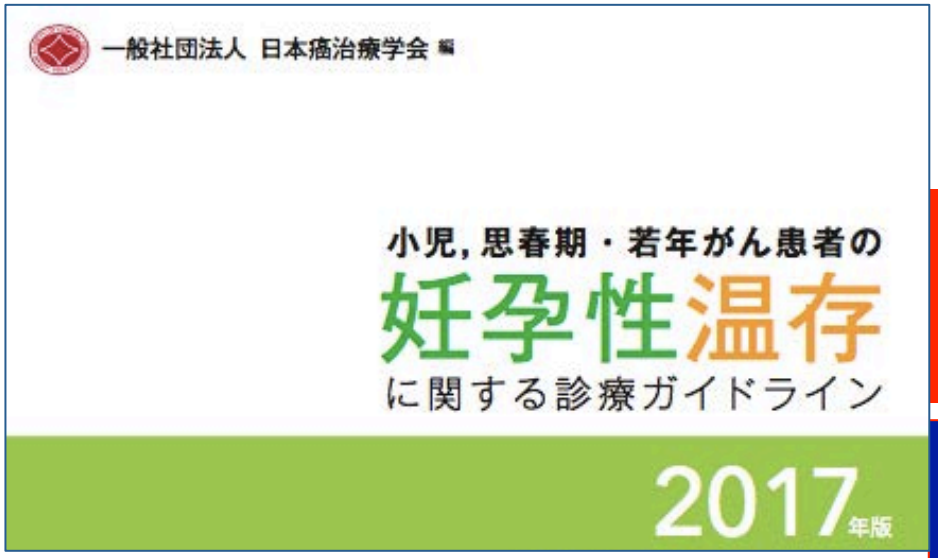
An accreditation test

↓

a certificate is issued.

This Slide is given by Dr.Nao Suzuki, St.Marianna University, Japan

Guideline for fertility preservation of CAYA cancer



2017 JSCO
(Japan Society of Clinical Oncology)
Guideline

CAYA cancer patients in 8 different fields (gynecologic cancer, breast cancer, hematologic cancer, childhood cancer, male cancer, bone and soft tissue cancer, brain cancer, and gastrointestinal cancer)

Chairman: Professor D. Aoki (Keio University School of Medicine)
Vice-chairman: Nao Suzuki (St. Marianna
cine)

Clinical Question 2

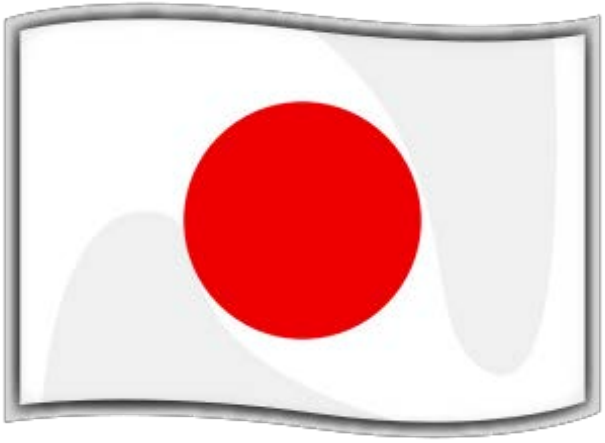
What kind of fertility preservation recommended for cancer patients who really want to have a baby in the future?

1. Oocyte cryopreservation (grade B)
2. Embryo cryopreservation (Grade B)
3. Ovarian tissue cryopreservation (Grade C1: experimental procedure)

This Slide is given by Dr.Nao Suzuki, St.Marianna University, Japan

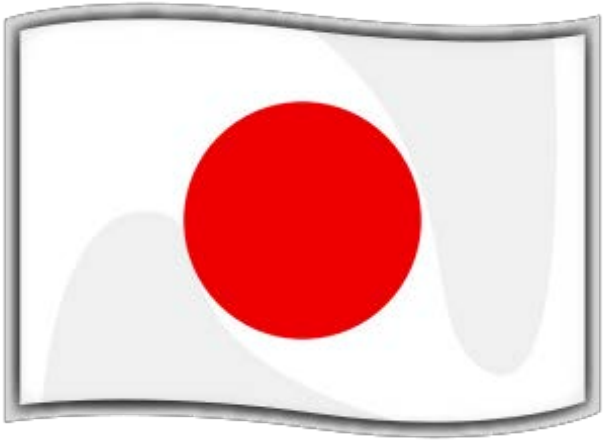
What does cultural competence do?

Slow



Slow

What does cultural competence do?

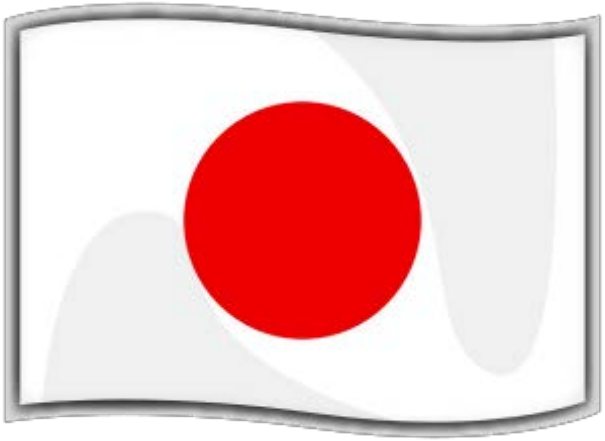


Cultural competence increases the rate, the speed at which you can have transferance.

What does cultural competence do?

How do we take the materials from other countries and be able to use them around the globe?

“ the speed of uptake ”



Cultural competence increases the rate, the speed at which you can have transferance.

What does the global community have?

Survey of Third-Party Parenting Options Associated With Fertility Preservation Available to Patients With Cancer Around the Globe

Alexandra S. Rashedi, Saskia F. de Roo, Lauren M. Ataman, Maxwell E. Edmonds, Adelino Amaral Silva, Anibal Scarella, Anna Horbaczewska, Antoinette Anazodo, Ayse Arvas, Bruno Ramalho de Carvalho, Cassio Sartorio, Catharina C.M. Beerendonk, Cesar Diaz-Garcia, Chang Suk Suh, Cláudia Melo, Claus Yding Andersen, Eduardo Motta, Ellen M. Greenblatt, Ellen Van Moer, Elnaz Zand, Fernando M. Reis, Flor Sánchez, Guillermo Terrado, Jhenifer K. Rodrigues, Joao Marcos de Meneses e Silva, Johan Smitz, Jose Medrano, Jung Ryeol Lee, Katharina Winkler-Crepaz, Kristin Smith, Lígia Helena Ferreira Melo e Silva, Ludwig Wildt, Mahmoud Salama, María del Mar Andrés, Maria T. Bourlon, Mario Vega, Maurício Barbour Chehin, Michel De Vos, Mohamed Khrouf, Nao Suzuki, Osama Azmy, Paula Fontoura, Paulo Henrique Almeida Campos-Junior, Peter Mallmann, Ricardo Azambuja, Ricardo M. Marinho, Richard A. Anderson, Robert Jach, Roberto de A. Antunes, Rod Mitchell, Rouhollah Fathi, Satish Kumar Adiga, Seido Takae, Seok Hyun Kim, Sergio Romero, Silvana Chedid Grieco, Talya Shaulov, Tatsuro Furui, Teresa Almeida-Santos, Willianne Nelen, Yasmin Jayasinghe, Yodo Sugishita, Teresa K. Woodruff

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the Oncofertility® Consortium

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How do we go from existing data that can go on a table To new intellectual thought it would be basic and new clinical modalities?

What are the matrix of success?

- The matrix of success is that you have thing are unique, distinctive, and forward thinking that actually make a difference.

- We need things that can be useful to a patient and important to basic science.

What are the global contexts that we should be aware of?

Cross-cultural Communication	Structural(Process of care)	Clinical
1. Language 2. Region (rural, suburban, urban) 3. Beliefs/customs 4. Ethnicity 5. Religion 6. Education of the patients and the clinical staff	1. Legal/regulatory restrictions -Donor gametes -Donor embryos -Donor anonymity -Posthumous 2. Lack of insurance cover -Full/ Partial/ No 3. Access to a psychologist during the fertility preservation 4. Economical background 5. Lack of infrastructure 6. Information dissemination 7. Age limit (Adult v.s. pediatrics) 8. Variation in drugs 9. Variation in cancer treatment modality	1. Lack of providers 2. Lack of knowledge among oncologists 3. Lack of awareness of oncofertility developments 4. Lack of time 5. Lack of site-specific guidelines 6. A hesitance of patients to bring up their desire to preserve their fertility 7. Resistance among oncologists to discuss fertility issues (e.g. to child, to poor prognosis) 8. The inability to delay treatment of aggressive cancers/delay in diagnosis 9. The ways that cancer drugs are changed

The definition of cultural competence in global oncofertility

The ability of system to provide rapid care to patients with…….

- Diverse models
- Economic options
- Navigation options
- Age appropriate care
- Practical options
- Referral pathways
- Access to oncofertility information
- Language translation
- Education

To meet patient's social, cultural, and linguistic needs for the better QOL

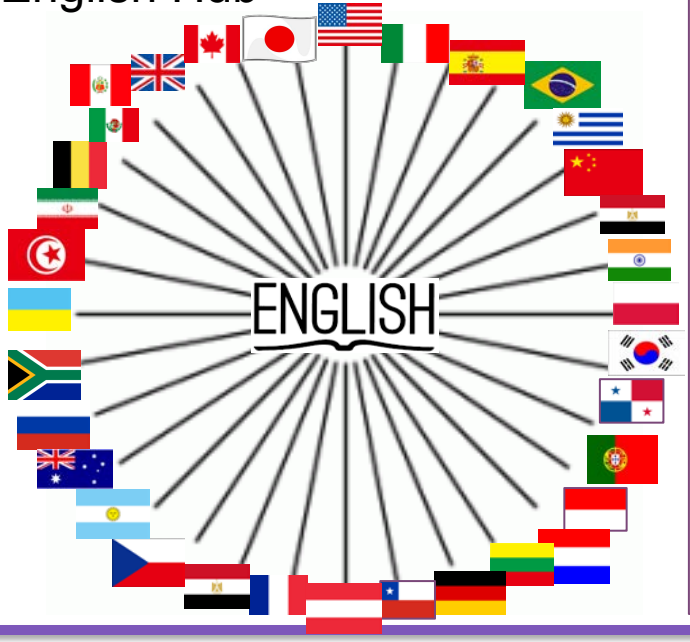
Initial recommendations and thoughts

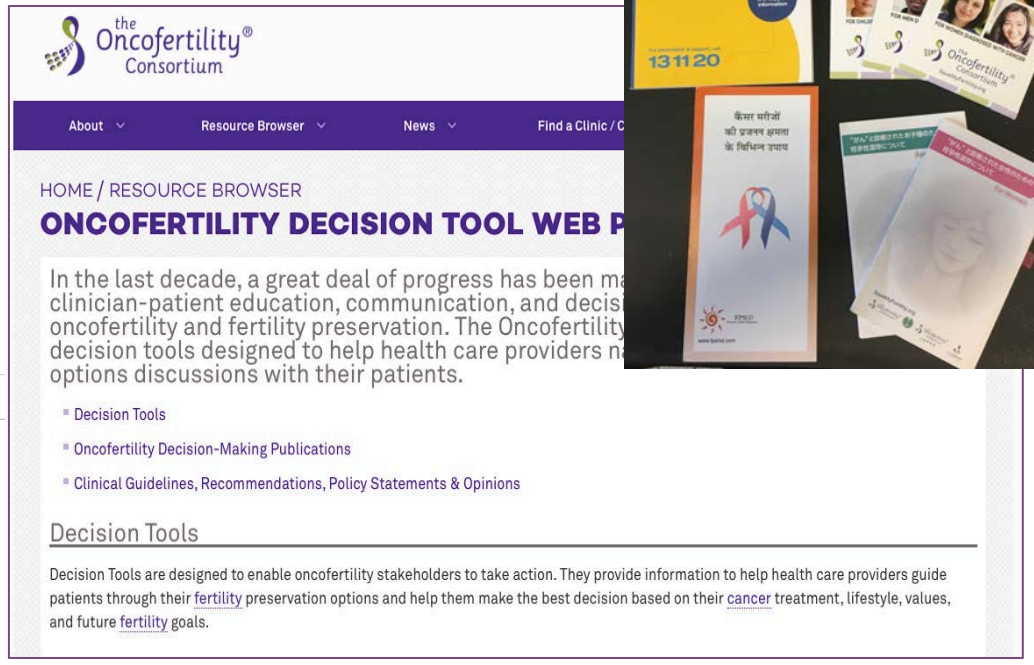
Tools and techniques that help achieve cultural competence

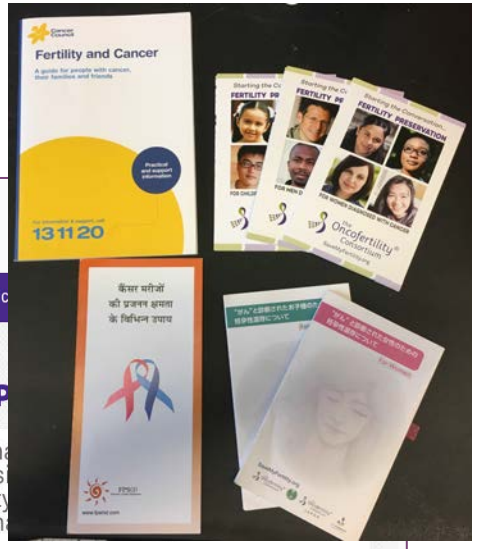
To overcome cross cultural communication barriers:

- Use English hub
- Prepare educational tools in various regional languages
- Web open source

English Hub







To overcome Structural barriers:

- Understand the differences between countries, cultures, regions and ethnicity through the table of global contexts and through the people.

To overcome Clinical barriers:

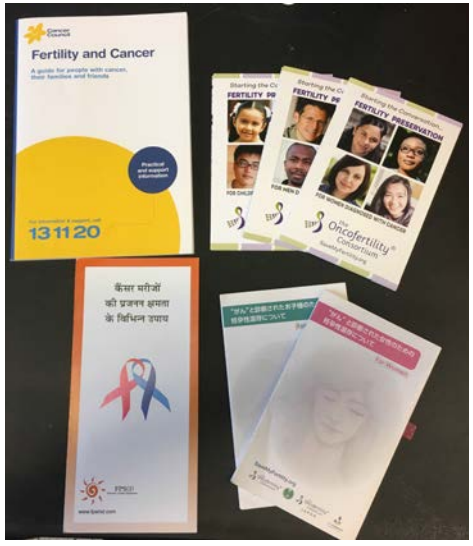
- Educational tools (e.g. textbook, leaflets, videos, websites…)can overcome the discussion barriers such as lack of time and professional hesitancy.

- Guidelines/policies

- Educate physicians, nurses, counselors, Pharmacologists and para-medical staff.

- Use familiar language with the patients and parents while counseling

- Create awareness of oncologists through seminars and symposium



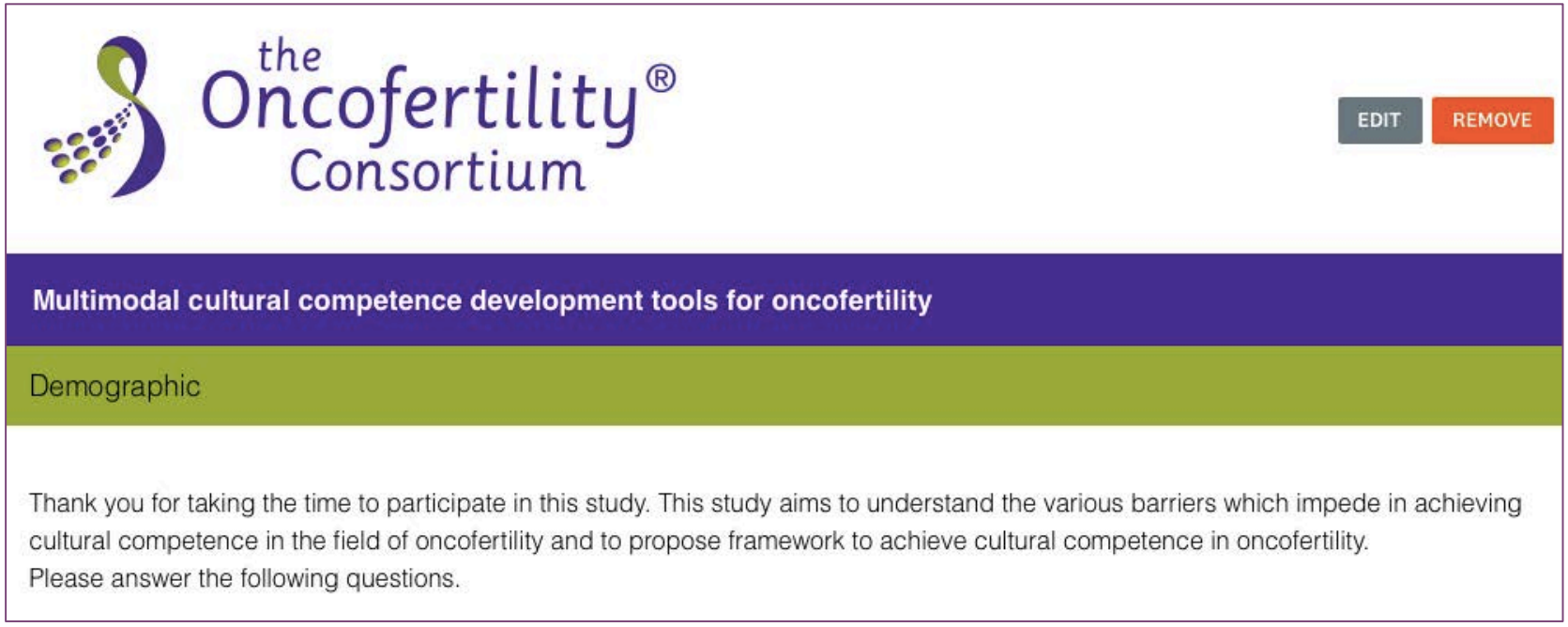
Oncofertility Consortium: A global committee

- Identify what the elements are.
- A global committee of cultural competence to "harmonize" and distribute

This makes oncofertility unique, distinctive, and forward thinking. It is leading science and medicine to a new way of working.

Evaluation of cultural competence

Evaluation surveys from global collaboration members can provide useful feedback to framework cultural competence in global oncofertility.



Steps

Assemble the information from this meeting

Get IRB approval for the survey

Send the survey to global community

Finish analysis the data

Write the paper with global community

Acknowledgement

Woodruff Lab Enterprise
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Megan Connolly
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Manipal University in India
Shubhashree Uppangala Ph.D.

Fakultas Kedokteran University
In Indonesia
Putri Deva, M.D.

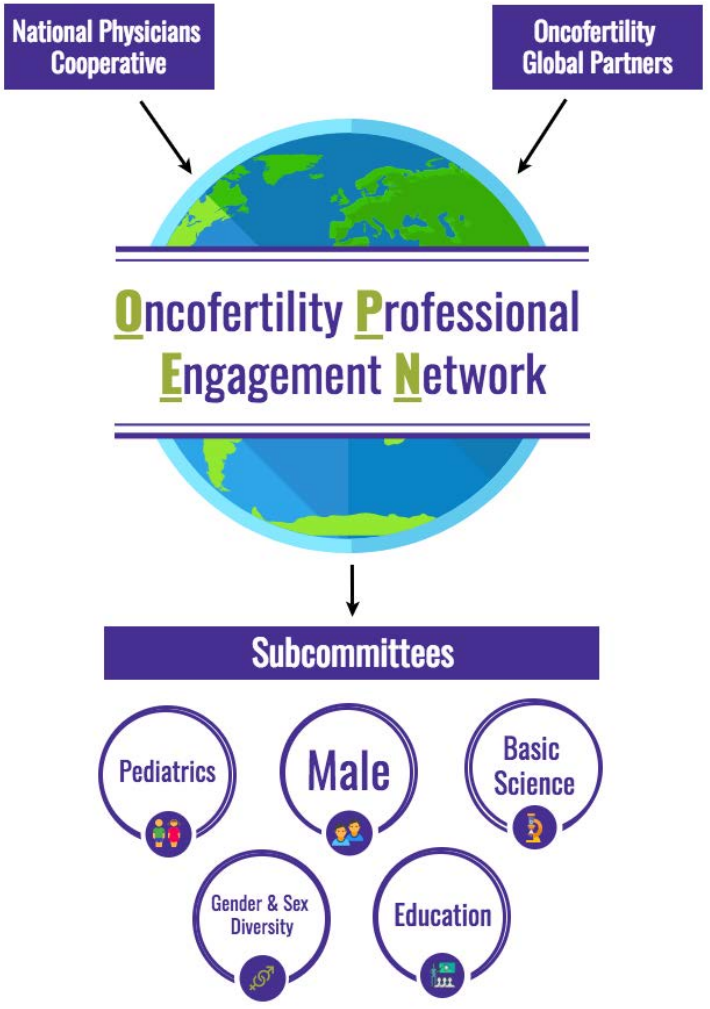
Thank you
Questions and comments?

The Future of the Global Partners Network

OPEN will **bridge the gap** between domestic and international programs to **establish a strong global network** where members share resources, methodologies and experiences. It will build upon the **strong framework** of the NPC and Global Partners and **maintain the valuable subcommittees** where highly-engaged peers meet (both in person and virtually) to **develop new research protocols, identify best practices, and discuss challenges and pathways to success**.

OPEN Benefits

- Global Partners access to all NPC subcommittees
- Create new subcommittees based on contemporary needs in global setting
- Nominations for Global Liaison each year
- More networking and more powerful connections!



Opportunities to Participate

- Be a local champion of change!
  - Host a meeting
  - Participate in monthly Virtual Grand Rounds
  - Attend annual Oncofertility Conference
  - Provide updates for quarterly newsletter
  - Join relevant subcommittees
  - Develop survey studies for a deeper understanding of oncofertility in your country
  - Publish papers
  - Translate materials to native language

Oncofertility Resources:

- Oncofertility.northwestern.edu
- savemyfertility.org
- Myoncofertility.org
- Preservefertility.northwestern.edu
- Reprotopia.northwestern.edu

Thank you!