The Future of Fertility and Oncology: A Virtual Approach to Education

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Introduction
With the increasing rate of survivorship among adolescents and young adults with cancer (AYA), including fertility as a part of cancer treatment planning has become a critical quality of life indicator. A virtual approach to training will foster necessary fertility-preserving conversations.

Scope of the Problem: Infertility and Cancer
- Among the 1.5 million people diagnosed with cancer annually, 10% are in their reproductive years and 12,000 are younger than 19 (Howlader et al., 2015).
- The childhood cancer survival rate is about 84% (Howlader et al., 2015).
- 14.5 million people live with a cancer history, expected to rise to 19 million by 2024 (NIH National Cancer Institute).
- Sustained infertility affects 50-95% of adult cancer survivors (Quinn et al., 2013).

Fertility Risk
- Approximately 11% of women in the general population are already at fertility risk, i.e., an impaired ability to get pregnant.
- This percentage increases for those diagnosed with cancer as chemotherapy, radiation, and surgery may impair reproductive domains.

(Centers for Disease Control and Prevention)

"I know I’m not a candidate for doing this, but I’m glad you addressed that portion of me that always wanted to become a mother.”
(Connell, Patterson, & Newman, 2006; Crawshaw, 2013; Griel, 1997; Quinn et al., 2003)

Psychosocial Distress of Infertility and Cancer
- Adult survivors of childhood cancer experience psychosocial distress such as grief, loss, and regret over finding out they are infertile from cancer treatment.
- Loss of self-esteem; depression
- Stress in multiple life areas
- Feelings of defectiveness and reduced competence
- Social stigma; feelings of alienation
- Statuslessness and ambiguity
- Regrets of not pursuing fertility options

(Connell, Patterson, & Newman, 2006; Crawshaw, 2013; Griel, 1997; Quinn et al., 2003)

Fertility preservation as a part of the planning for cancer treatment should be routine and best-practice. It fosters stability, understanding, and assurance that a patient’s needs are being considered and respected. Discussions should occur at multiple times through multiple providers.

Recommendations/Guidelines for Fertility Discussions
- The American Society of Clinical Oncology (2013)
- The American Society for Reproductive Medicine (2013)
- The Oncofertility® Consortium (2014)

Communication Barriers and Challenges
- Shock of cancer diagnosis trumps other topics
- Fertility treatment can be cost prohibitive; not often covered by insurance
- Uncertainty about how to start the conversation
- Many medical providers don’t have current or sufficient information, referral resources, or know of options for females
- A patient’s diagnosis or socioeconomic situation
- Perceived cultural or religious differences
- Gender and racial bias

(Quinn & Vadaparamphil, 2009)

What is Virtual Training?
Virtual training occurs in a computer-generated environment that mirrors realistic engagement. Virtual learning includes simulation and virtual reality.

Why Virtual Training?
- Overcomes issues of funding and time
- Practice discussing fertility conversations in safe, easily-accessible environment
- Repeated, realistic simulations
- Multiple levels of feedback are provided
- Preparation for culturally-respectful, age-appropriate conversations
- Increase confidence, comfort, and competency
- Promotes skill mastery
- Reduces threats of harm and/or miscommunication

How it works:
- Log into virtual training program from any computer; no additional software or equipment requirements.
- Begin the conversation with scripted prompts that vary in appropriateness.
- Immediate feedback informs how you proceed.
- Practice an endless number of possible initial conversations.