AUCTORES
Globalize your Research

Psychology and Mental Health Care

Saumya Pandey *

Open Access

Editorial

Fertility Preservation in Cervical and Breast Cancer Patients of Varying Genetic Landscapes: Psycho-Sexual Health Impact

Saumya Pandey

Head-Department of Clinical Research, IndiraIVF Hospital, Udaipur-Lucknow, India (formerly)

***Corresponding Author**: Saumya Pandey, Department of Clinical Research, IndiraIVF Hospital, Udaipur-Lucknow, India.

Received date: June 17, 2025; Accepted date: June 26, 2025; Published date: June 30, 2025

Citation: Saumya Pandey, (2025), Fertility Preservation in Cervical and Breast Cancer Patients of Varying Genetic Landscapes: Psycho-Sexual Health Impact, *Psychology and Mental Health Care,* 9(5): **DOI**:10.31579/2637-8892/338

Dear Editor

Infertility has emerged as a major public health problem worldwide, including the Western world and Asian Pacific region including India. Biomedical researchers are currently endeavoring to strategically address fertility preservation in cancer patients exposed to chemo-/radio-therapy regimens, and develop cost-effective fertility-sparing/preserving patient-centric risk- assessment protocols for enhancing the overall quality of life and survivorship; there may be increased susceptibility to HPV-mediated cervical, breast, ovarian and endometrial cancers with increasing usage of ovulation induction- and/or ovarian stimulation-related fertility medications for *in-vitro fertilization* in the treatment of female infertility [1-4]. "Infertility" is defined as the inability to conceive following 12 months of regular unprotected sexual intercourse; psychosexual counseling-based intervention(s): marital-relationship counseling/therapy, timely referrals for psychological assessments, psychiatric treatments, primarily cognitive impairment, obsessive compulsive disorder, schizophrenia, and/or clinical depression are immensely beneficial in overall psychological well-being of patients symptomatic of psychosexual disorders [9, 11]. The overwhelming disproportionate share of psychological problems associated with fertility preservation in symptomatic cervical and breast cancer women of diverse ethnicities warrants innovative mental-holistic cancer care with cost-effective patient-friendly management regimens. My expert opinion article aims to briefly comment on the ongoing clinical research efforts in oncofertility. There is an urgent need of tailor-made personalized fertility preservation treatment modalities in cancer management amongst reproductive-aged women of ethnically disparate cohorts; public health research collaborations amongst radiation oncologists and infertility/reproductive medicine experts are warranted to promote cancer awareness, cancer-risk assessments, regular follow-up and surveillance of adverse effects of cytotoxic agents/drugs'-based treatment-related reproductive risks in women undergoing radiation therapy/polychemotherapy. A retrospective cohort study in statistically significant sample size of 9419 young women aged <50 years with early stage cervical cancer (FIGO stage IA) demonstrated that ovarian conservation at hysterectomy was associated with diminished mortality including death resulting from cardiovascular disease /other chronic ailments [5]. Another study evaluated the oncologic and obstetric outcomes/complications after abdominal trachelectomy, a fertility-sparing surgery for early-stage cervical cancer in patients of child-bearing age; oncologic outcome was remarkable but infertility treatment was necessary for conceptions/live birth rates, and preterm premature membrane rupture and premature delivery were frequently observed [6]. Utilization of a GnRH-agonist trigger increased the number of MII oocytes and 2 pro-nuclei embryos available for cryopreservation in cancer patients undergoing controlled ovarian stimulation for fertility preservation [7]. Interestingly, fertility-preserving surgeries have been successfully performed in China in patients with stage IA of epithelial ovarian tumor and patients with germ cell tumor and/or borderline ovarian tumor. Future clinical research in "oncofertility" may provide spectacular gains in overall fertility-preserving tailor-made, individualized, patient-centric cancer treatment protocols for identification of predictive biomarkers for women's cancer/infertility using gene-polymorphisms based pharmacodynamics and/or pharmacogenomics strategies utilizing animal models of disease and histopathologically-confirmed cancer patients of American (Whites, Hispanic, Caucasian, African American), European (Swedish, British, Danish, etc.), Latin American, Australian, African and Asian (Indian, Korean, Chinese, Japanese) ethnicities at the population level(s). Questionnaire-based research proformas may be designed for educating adolescents and reproductive-aged women about the reproductive risks associated with prolonged high-fractionated radiation dosages and cytotoxic chemical compounds/cancer drugs; the core tenets of good practice research, including informed consent of patients, should be duly taken. Evidence-based pragmatic timeline-driven dynamic innovative collaborations are essential for intricately dissecting the complex biochemical-molecular-metabolic regulatory networks underlying "psychosexual disorders" amongst Toll-Like Receptors [8-11] triggered infertility in Asian-Indian and American ethnicity women in the

post-Covid-19 global pandemic/mass-vaccination era. Future multi-centric sexual medicine research studies for critically addressing the marital relationship/spouse compatibility issues, psychological factors, psychiatric disorders in infertile Asian-Indian and American women presenting with cervical and breast cancer, and perceived financial distress/hardships owing to exorbitant cost of infertility treatment in Indian Rupees (INR) and American Dollars (USD) coupled with referrals to mental health-psychiatric/sexual medicine clinics for an overall holistic-healing care with eventual long-term efficacy-based psychosexual outcomes in terms of successfully fulfilling the long cherished dream of having a family with the inherent satisfaction of nurturing a baby, are warranted for eventual design of "tailor-made" psycho-sexual therapeutics and predictive biomarkers in psychosexual disorders amongst genetically susceptible women of varying ethnic landscapes and lifestyles. Further, bio-specimens viz. human cancer patients' blood, tissue, DNA, sperms and oocytes may be collected and frozen/stored for long-term usage in individualized pregnancy/family-planning post-cancer treatment and/or conducting multi-centric public health-research studies in fertility preservation amongst cervical and breast cancer patients/susceptible women of varying genetic landscapes and socio-cultural exposures.

Acknowledgements

The author Dr. Saumya Pandey (Ph.D.), wishes to acknowledge the appreciation received for her ongoing clinical research efforts in Asia-Pacific India and States of Texas, New York and Nebraska, USA from Dr. Vedant Kabra, Director-Oncology, Fortis Healthcare, Gurgaon, Delhi, India.

References

1. Chan JL, Wang ET (2017). Oncofertility for women with gynecologic malignancies. *Gynecol Oncol,* 144, 631-36.
2. Kroener L, Dumesic D, Al-Safi Z (2017). Use of fertility medications and cancer risk: a review and update. *Curr Opin Obstet Gynecol.,* 29, 195-201.
3. Liu CY, Li HJ, Lin H, Ling B (2015). Fertility-Preserving Treatments in Patients with Gynecological Cancers: Chinese Experience and Literature Review. *Asian Pac J Cancer Prev.,* 16, 4839-41.
4. Lundberg FE, Iliadou AN, Rodriguez-Wallberg K, Bergh C, Gemzell-Danielsson K.et.al.(2017). Ovarian stimulation and risk of breast cancer in Swedish women. *Fertil Steril.,* 108, 137-144.
5. Matsuo K, Machida H, Shoupe D, et al (2017). Ovarian Conservation and Overall Survival in Young Women With Early-Stage Cervical Cancer. *Obstet Gynecol,* 129, 139-51.
6. Okugawa K, Kobayashi H, Sonoda K, et al (2017). Oncologic and obstetric outcomes and complications during pregnancy after fertility-sparing abdominal trachelectomy for cervical cancer: a retrospective review. *Int J Clin Oncol,* 22, 340-46.
7. Pereira N, Kelly AG, Stone LD, Witzke JD, Lekovich JP, Et.al.(2017). Gonadotropin-releasing hormone agonist trigger increases the number of oocytes and embryos available for cryopreservation in cancer patients undergoing ovarian stimulation for fertility preservation. *Fertil Steril.*, 108, 532-38.
8. Pandey S (2021). Human Chorionic Gonadotrophin (hCG)-trigger mediated Ovulation induction in Infertility management in South Indian women undergoing in vitro fertilization/Intracytoplasmic Sperm Injection Regimens: A Pilot Sexual Medicine Study with Public Health Perspective. *Journal of Psychosexual Health* 3(1): 57-64.
9. Pandey S, Murdia K, Murdia A (2017) Tobacco as a significant predictor of infertility: A public health perspective in an Indian scenario. *Fertility Science and Research* 4(1): 15-21.
10. Pandey S (2020). Toll-Like Receptor-2 and Tissue Inhibitor of Matrix Metalloproteinase-2 Genetic Variants as Predictors of Tobacco-Mediated Female Infertility Amongst *Mycobacterium tuberculi*-Positive Asian Indian Cohort. *Fertility and Sterility* 114(3): e536.
11. Pandey S (2015) Dissecting toll-like receptor molecular regulatory network(s) in reproductive medicine,
12. primarily infertility: a snapshot. *Fertility Science Research* 2(2): 95-101.

DOI:10.31579/2637-8892/338