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abstract

Challenges in Oncofertility: Addressing the Gaps in Fertility Preservation for Pediatric Cancer Patients in Developing Countries

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Challenges in Oncofertility: Addressing the Gaps in Fertility Preservation for Pediatric Cancer Patients in Developing Countries

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Introduction: Several therapies increase the risk of infertility in children who survive cancer. Fertility preservation strategies include cryopreservation of mature oocytes, sperm, ovarian and testicular tissues, both for pubertal and prepubertal individuals. However, limitation in resources in low- and middle-income countries can be associated with financial barriers and unavailability of specialists skilled in fertility preservation procedures. We report the state of affairs in Armenia, and highlight the challenges in fertility preservation for children with cancer in a middle-income country.

Methodology: We assessed infertility risk and fertility preservation strategies used for patients diagnosed in 2024 with solid tumors (n=28) and hematological malignancies (n=40) at the Pediatric Cancer and Blood Disorders Center of Armenia. Patients were stratified into 3 groups based on their treatment regimen according to the ESMO-SIOPE 2022 guidelines: high, moderate and low risk. Patients whose gonadotoxic therapies put them at high or moderate infertility risk were considered eligible for fertility preservation.

Results: Of the 68 patients, 81% (n=55) received chemotherapy regimens containing high-risk medications, 16% (n=11) underwent moderate-risk and 2.9% (n=2) low-risk regimens. Cryopreservation was recommended only for pubertal males due to a lack of options for females and prepubertal males. The performance ratio, measuring the gap between recommended and actually executed procedures, was 10.6%, observed only in pubertal males (n=7) from the eligible group (n=66). The odds of undergoing preservation were 0% for females and 25% for males (7 out of 35 eligible males), with the odds ratio by gender being undetectable.

Conclusion: We highlight the issue with access restrictions in materials and specialists' qualification in fertility preservation procedures, resulting in the inability to refer to oncofertility services, especially in the female population. To address these challenges, there is a critical need for the establishment of a dedicated infrastructure that ensures equitable access to resources.