

08. Epidemiological Profile of Patients with Gynecological Cancers in Rwanda Military Teaching Hospital 2023-2024

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Background: Gynecological cancers (GCs) account for one-third of newly diagnosed cancers in women and 15.77% of female cancer-related deaths worldwide, with Eastern Africa bearing the highest incidence and mortality rates globally. Global GC incidence is expected to increase by 49.61% and mortality by 77.23% by 2050, with Eastern Africa facing an even more devastating rise of 164.6% and 172.3% respectively. In Rwanda, cervical cancer accounts for 22.6% of all female cancers with over 600 annual deaths, yet data on the full spectrum of GCs remain critically limited, hindering resource allocation and national cancer control planning. This study aimed to determine the frequency and distribution of GC types, analyse patients' demographic and clinical characteristics, and describe disease staging, presenting symptoms, treatment modalities, and short-term outcomes at Rwanda Military Teaching Hospital (RMTH). **Methods:** A retrospective cross-sectional census study was conducted of all 504 patients diagnosed with or referred to RMTH with GCs between January 2023 and December 2024. Sociodemographic, clinical, histopathological, staging, treatment, and outcome data were extracted from medical records. Descriptive statistics, chi-square tests, and multivariable logistic regression were applied to identify predictors of late-stage presentation (International Federation of Gynecology and Obstetrics stages III–IV; $p < 0.05$). **Results:** Cervical cancer dominated the cohort (80.4%), followed by corpus uteri (6.9%), ovarian (5.4%), vulvar (4.6%), and vaginal cancers (1.8%). Demographically, most patients were middle-aged (53.4% aged 46–65 years), grand multiparous (65.6%), and almost exclusively insured through community-based schemes (93.8%), predominantly from the Eastern Province (31.5%). Unexpectedly, human immunodeficiency virus (HIV) co-infection was documented in 43.4% of tested patients, approximately 15 times Rwanda's general adult prevalence, being highest in vulvar (68.8%) and cervical (41.7%) cancers. An alarming 67.7% presented with advanced-stage disease, far exceeding the 20–30% reported in high-income settings, with vaginal discharge (52.5%), post-menopausal bleeding (47.3%), and pelvic pain (32.1%) as the commonest presenting symptoms. Chemoradiotherapy was the predominant treatment modality (66.9%), with significant geographic variation ($p=0.001$). Interestingly, province of residence was the sole independent predictor of late-stage presentation; Eastern Province women faced nearly fourfold higher odds of advanced disease versus Western Province (odds ratio 3.98, 95% confidence interval 1.38–11.46, $p=0.010$), while age, parity, and HIV status showed no independent association. Median referral-to-treatment interval was 143

days, with 76.6% experiencing prolonged delays, and follow-up data were absent for 79.2% of patients.

Conclusion: GCs in Rwanda were characterised by cervical cancer dominance, near-universal late-stage presentation, disproportionate HIV co-infection, and geography-driven inequities in care access. Eastern Province residency emerged as the principal structural determinant of late diagnosis, contributing actionable evidence supporting Rwanda's 90-70-90 elimination targets through decentralisation of services and integration of cervical cancer care into HIV platforms. Future prospective studies with robust follow-up registries are essential to quantify survival outcomes and evaluate ongoing interventions.

Key Words: Uterine Cervical Neoplasms, Genital Neoplasms, Female, Epidemiology, Rwanda

FIGO Stage (n=468)	N	%
I	39	8.3
II	112	23.9
III	196	41.9
IV	121	25.9

Table: Stage at diagnosis

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