

# Unique barriers to care and outcomes of pediatric acute lymphoblastic leukemia treatment in the Gaza Strip

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## Abstract

**Background:** Childhood acute lymphoblastic leukemia (ALL) is the most common pediatric cancer worldwide. Although children in high-income countries enjoy survival rates of approximately 90%, children in countries with limited resources suffer from survival rates of less than 35%. No published data on pediatric cancer incidence, management, or outcomes in the Gaza Strip are available. **Methods:** A retrospective cohort study was undertaken for pediatric ALL diagnoses admitted to the only pediatric cancer ward in the Gaza Strip between 2010 and 2015. Outcomes included Event-free survival (EFS) and overall survival (OS) calculated by Kaplan–Meier estimates. Events were defined as induction failure, relapse, and death. **Results:** The 3-year EFS estimate was 80% (95% confidence interval [CI], 66%–89%) (Figure 1). The EFS at 1 and 3 years for high-risk ALL was 55% (95% CI, 27%–76%) and 23% (95% CI, 4%–51%), respectively (Figure 1). The 3-year OS was 93% (95% CI, 82%–97%) (Figure 2). The 3-year OS for high-risk ALL was 69% (95% CI, 30%–90%). All 84 (100%) patients required referral to an OSH for definitive ALL diagnoses and induction therapy. Forty-four (52%) patients required at least one additional referral. **Conclusions:** The overall outcomes demonstrated relatively high survival rates at 3 years which may be artificially elevated due to exclusion of adolescents, limited follow up, and deceased patient charts unavailable. Structural determinants of health in Gaza lead to limited diagnostic and treatment capabilities, advanced medical training, and reliance on out-of-territory transfers for care. These barriers impact the access to comprehensive pediatric care in Gaza.

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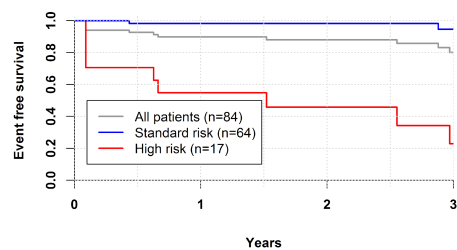
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**Figure 1**



**Figure 2**

