

REAL WORLD INSIGHTS INTO DEMOGRAPHIC AND BARRIERS TO HEMATOPOIETIC STEM CELL TRANSPLANTATION IN PAKISTAN: A SINGLE CENTRE EXPERIENCE

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INTRODUCTION

Pakistan, the fifth most populous country globally, allocates only **2.8%** of its gross domestic product to healthcare, posing significant challenges in the delivery of high-cost, life-saving therapies. Data exploring patient demographics and barriers to HSCT access in low-resource settings remain limited. This study presents a **single-center analysis** of HSCT evaluation and key factors limiting HSCT utilization at a major transplant center in Pakistan

Table 1: Potential factors impeding patient access to Hematopoietic Stem Cell Transplant

Poor Functional Status	18 (5.8%) patients ineligible due to comorbidities, poor performance status (ECOG score > or = 3), or organ dysfunction.
Disease Not in Remission	43 (13.8%) patients whose disease has progressed or relapsed to a degree that excludes them from being candidates for Hematopoietic Stem Cell Transplant.
Finances Not Available	42 (13.5%) patients who are unable to afford the cost of undergoing Hematopoietic Stem Cell Transplant
Donor Not Available	20 (6.4%) unavailability of matched donors, positive Donor specific Antibodies in case of haplo-matched donors denoting unsuitability of donor
Psychosocial Reasons	13 (4.2%) patients or their families declined the option of Hematopoietic Stem Cell Transplant, despite being informed of its potential benefits
Death	40 (12.9%) patients expired prior to proceeding with Hematopoietic Stem Cell Transplant.
Lost To Follow-up	26 (8.7%) Patient failed to respond to telephonic interview after communicating on three different days at three different times.
Transplant From Another Institute	2 (0.6%) Patient underwent Hematopoietic Stem Cell Transplant from an alternative institution.
Disease Improvement	9 (2.9%) Patients whose disease improved enough where it was no longer indicated to undergo Hematopoietic Stem Cell Transplant.

RESULTS

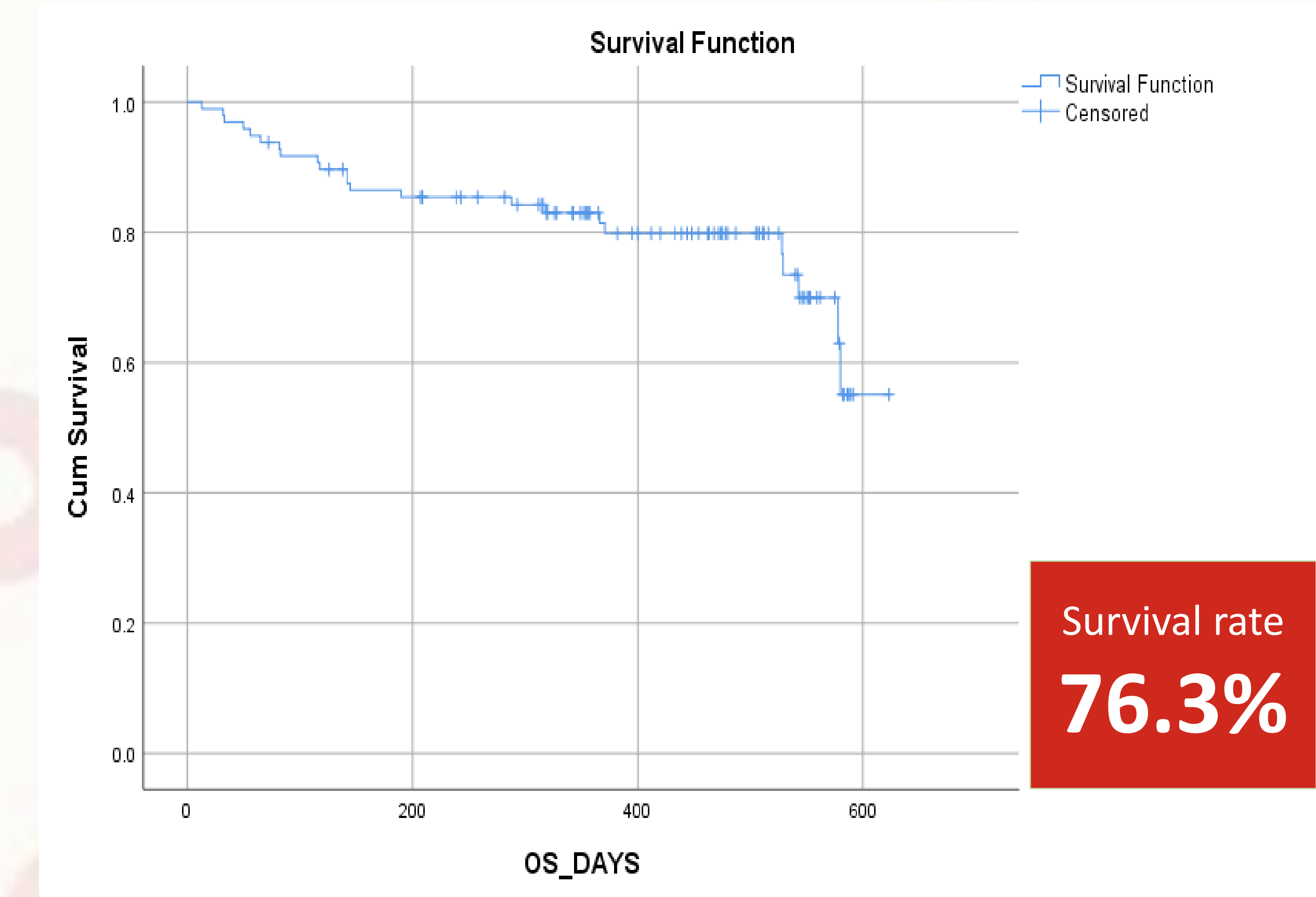
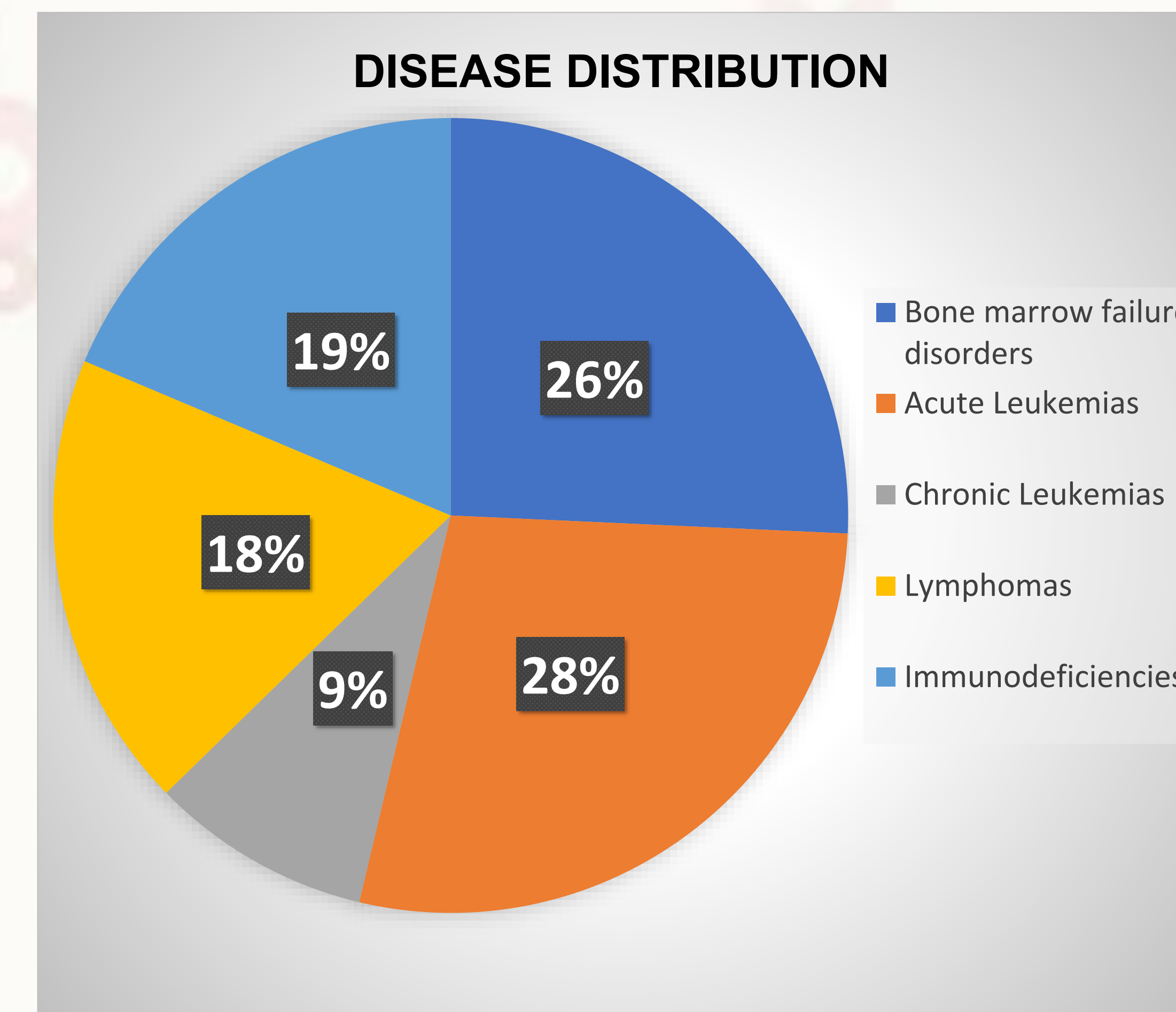
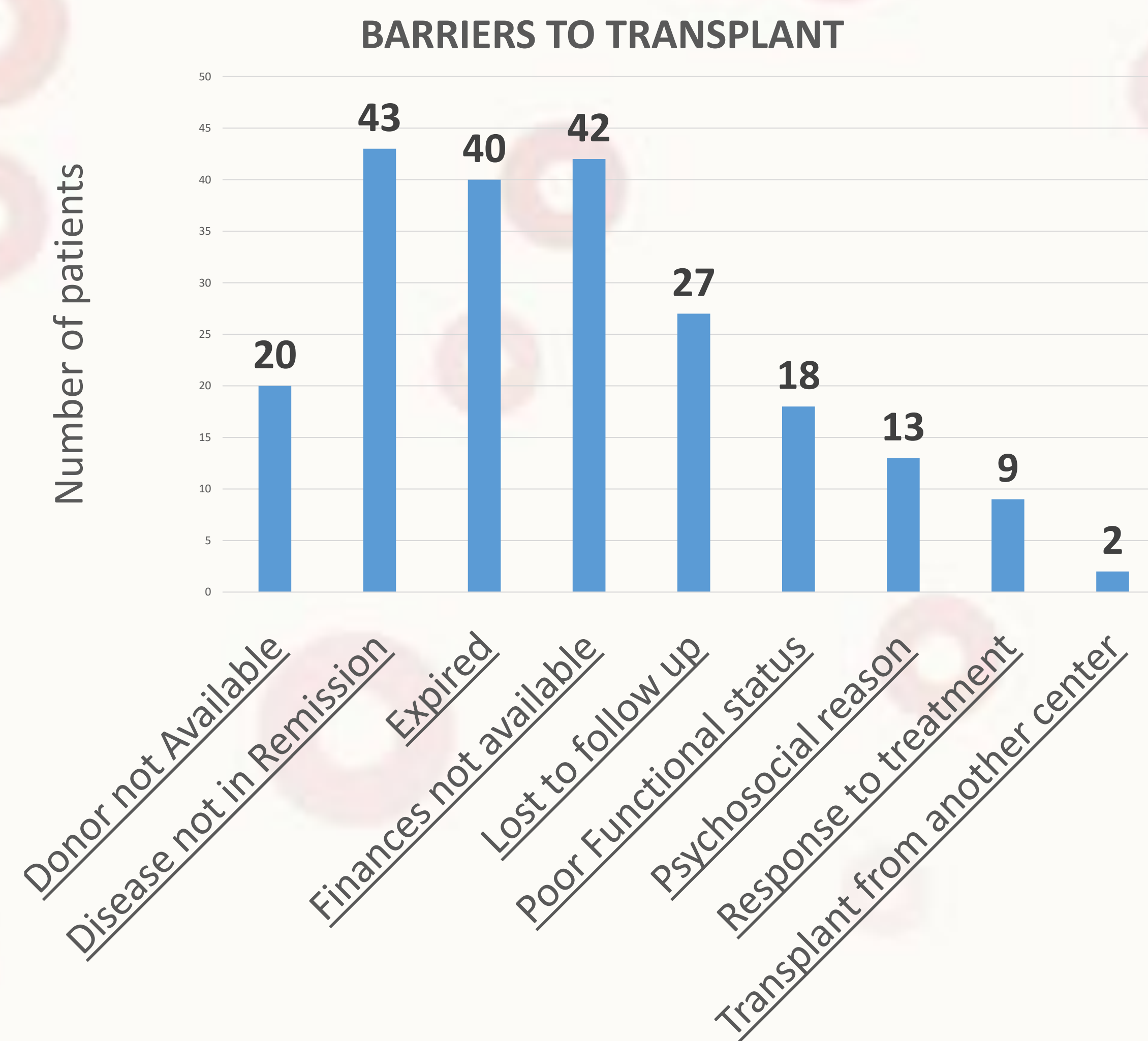


Figure 1: overall survival of transplant patients

AIM

To identify the key **barriers** preventing the eligible patients from proceeding to transplant.

METHODOLOGY

This **retrospective**, descriptive, single-center study was conducted at the Armed Forces Bone Marrow Transplant Centre (**AFBMTc**), Rawalpindi, Pakistan. Using non-probability convenience sampling, data was collected for patients evaluated for HSCT between **January 2024 to December 2024** with 1-year follow-up time. Patients with hemoglobinopathies were excluded due to the absence of formal transplant evaluation and discussion. Analysis was performed using **SPSS V.25**.

CONCLUSION

This real-world analysis reveals a substantial gap between HSCT eligibility and actual transplant delivery in Pakistan, with nearly two-thirds of evaluated patients unable to access transplantation. **Financial constraints**, delayed disease control, and limited supportive infrastructure remain the predominant obstacles. These findings complement national transplant activity surveys by highlighting an urgent need for healthcare policy reforms and underscore the need for integrated national funding models, early referral pathways, establishing **donor registries**, and psychosocial interventions to improve equitable access to HSCT in Pakistan.

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