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*abstract*

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## **Multidisciplinary Tumor Boards (MDTs) Significantly Alter Treatment Decisions and Improved Guideline Adherence in a Resource-Limited LMIC Cancer Center in a Low Resource Setting**

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**Introduction:** Multidisciplinary Tumor boards (MDT) are integral to modern oncology, optimizing limited resources in low- and middle-income countries (LMICs). While MDTs improve outcomes in a high-income setting, robust evidence in LMICs remain sparse. This retrospective study evaluates the real world impact of MDTs on treatment decision-making, guideline adherence, and clinician satisfaction in a resource-constrained radiotherapy center.

**Methodology:** This was a retrospective cohort study conducted at Ahsania Mission Cancer and General Hospital, Dhaka, Bangladesh, from January 2023 to June 2025. All patients (n=370) discussed in MDTs were included. Data collected about demographics, cancer type, pre- and post-MDT treatment plans changes in modality/sequence, clinician satisfaction (via validated 5-point Likert survey), treatment changes were classified as major (modality switch) or minor (sequencing/dose adjustments). Adherence to NCCN/ESMO guidelines which was assessed pre- and post MDT.

**Results:** Of 370 patients, 60 % patients had breast and lung cancer, however rest were head neck, GIT and Sarcoma cases. MDT altered treatment in 64% of cases (n=237): 28% major (e.g, surgery, neoadjuvant chemo), 36% minor (e.g., chemo, RT sequence). Guideline adherence increased from 52% to 89%. Clinician satisfaction with MDT recommendations was 4.6/5 (response rate: 92%). Challenges included specialist unavailability (18% of cases) and logistics, yet recommendations were followed in 91% of cases. In 91% cases MDT recommendations implemented. Main Barriers were specialist availability gaps (18%), scheduling constraints and coordination logistics.

**Conclusion:** Despite resource constraints, MDTs significantly improve treatment decision-making and guideline adherence in LMIC settings. This study provides actionable evidence for integrating MDTs as a core component of cancer care in low-resource environments.

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