

Neurocognitive Functioning of Patients with Sinonasal and Nasopharyngeal Cancers Treated with Multimodality Therapy

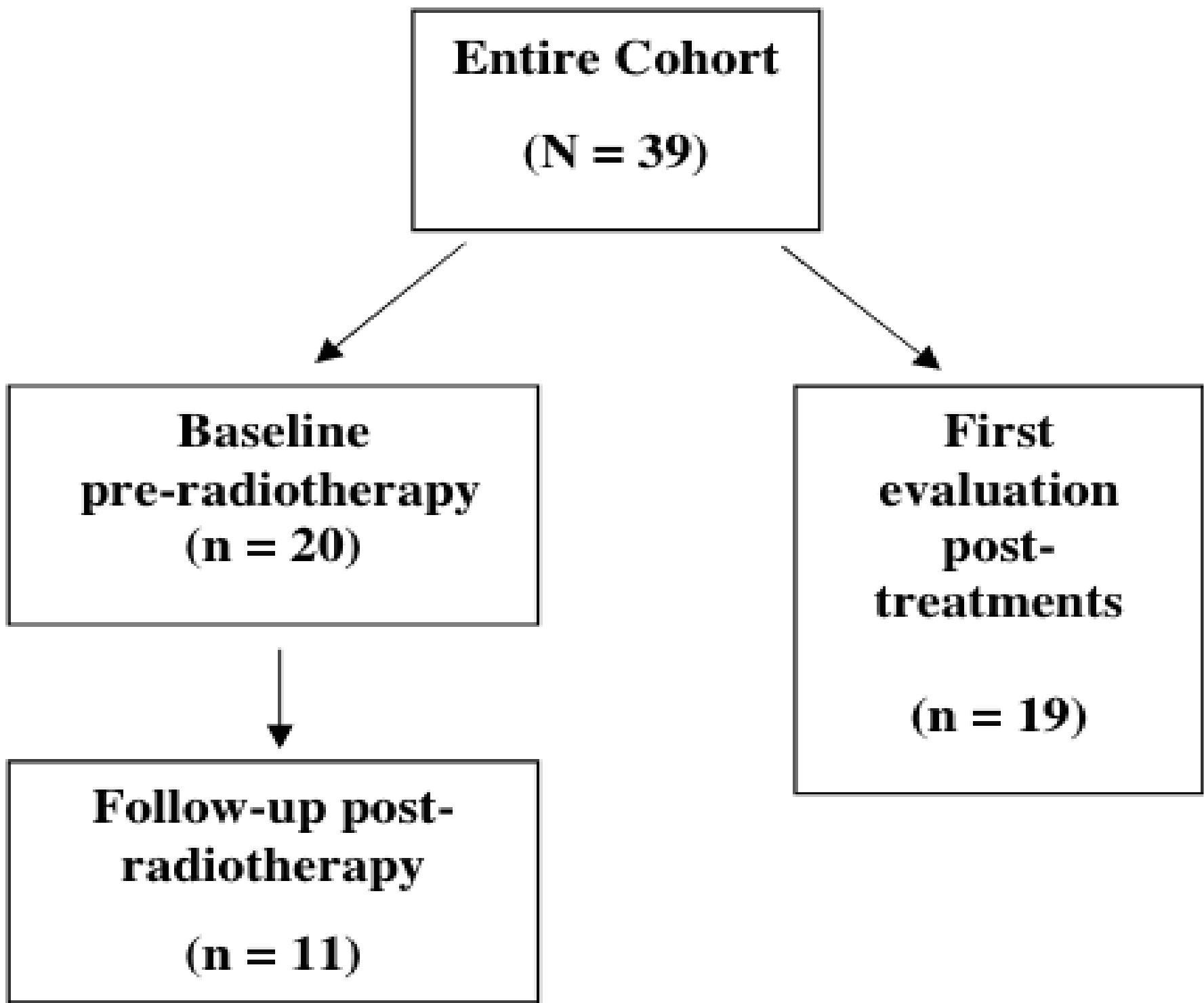
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OBJECTIVES

- To examine neurocognitive functioning (NCF) in patients with sinonasal and nasopharyngeal cancers (SNC and NPC) treated with multimodality therapy by determining:
 - Rates of NCF impairments prior to and following multimodality therapy
 - Declines in NCF following radiotherapy (RT)
 - Differences in NCF by demographic and disease variables (e.g., disease site)

METHODS

- Retrospective chart review of 39 patients (49% nasal cavity; 31% maxilla; 20% nasopharynx) treated with multimodality therapy (any combination of chemo, RT, or surgery), see flow chart
- Patients completed comprehensive neuropsychological evaluations. Rates of NCF impairment (defined as $z \leq -1.5$) on standardized NCF tests were calculated for the pre-RT and follow-up evaluations
- Associations between the NCF, demographic, and disease variables were tested
- Decline from pre-RT to follow-up was defined on the basis of reliable change indices (RCI)



RESULTS

- For the entire cohort of 39 patients, the most frequently demonstrated impairments were in verbal memory (47%) and learning (43%) on the HVLT-R, executive functioning (33%) on Trails B, and verbal fluency (22%) on COWA. (Fig 1)
- At post-RT follow-up, the most frequently observed declines were in verbal learning (46%) and memory (18%). (Fig 2)
- Demographic and disease variables were not significantly associated with NCF at pre-RT or post-RT

DISCUSSION

- A large percentage of patients exhibited NCF impairment before and after RT. The most frequent NCF impairments were in verbal learning and memory and executive functioning.
- A proportion of patients experienced declines in learning and memory following RT, which be related to incidental radiation to the temporal lobes.
- Larger, prospective, longitudinal studies may be helpful in determining effects of disease factors, demographics and specific treatments on NCF in this at risk population.

Figure 1. NCF following Multimodality Therapy

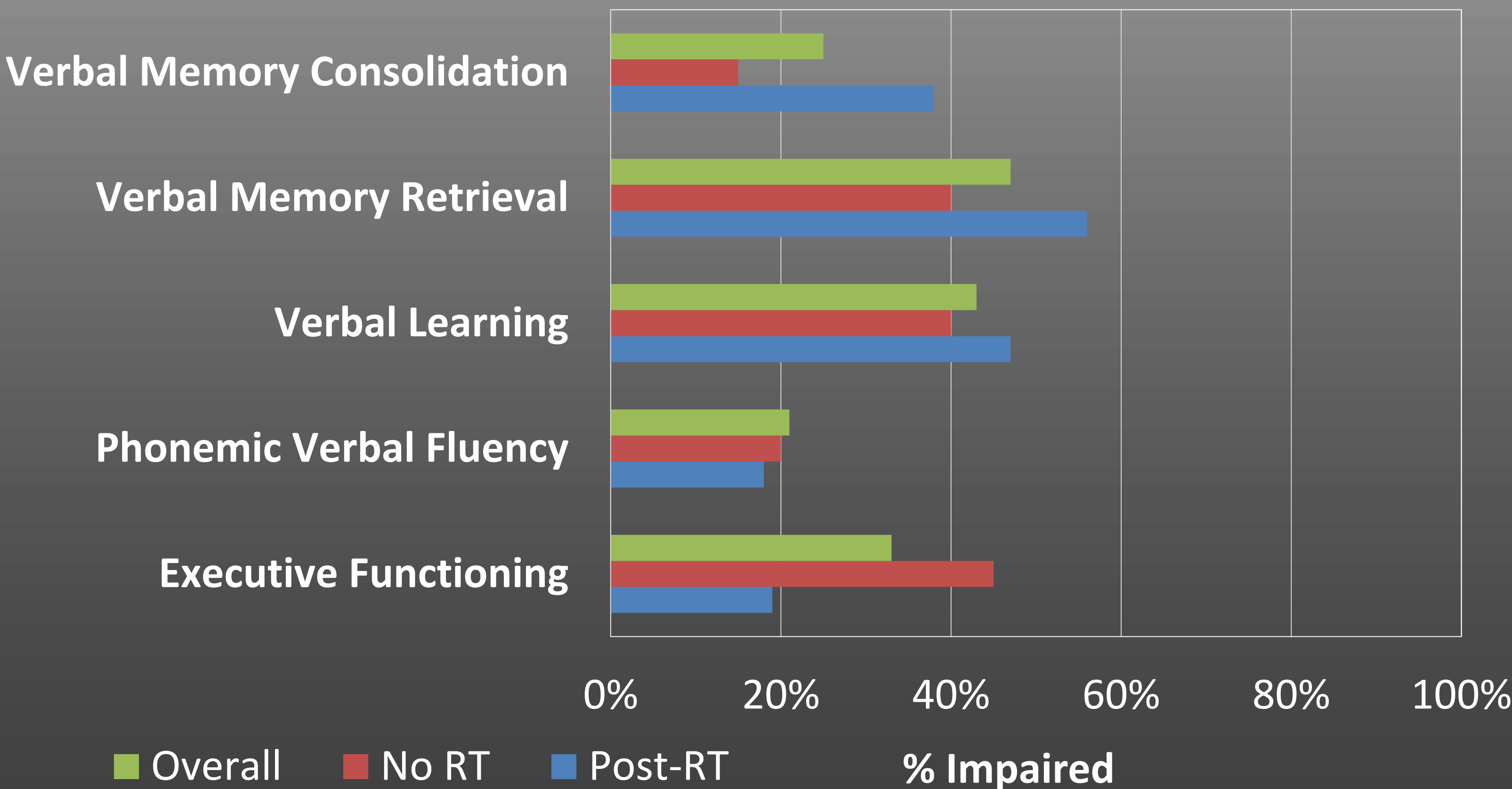
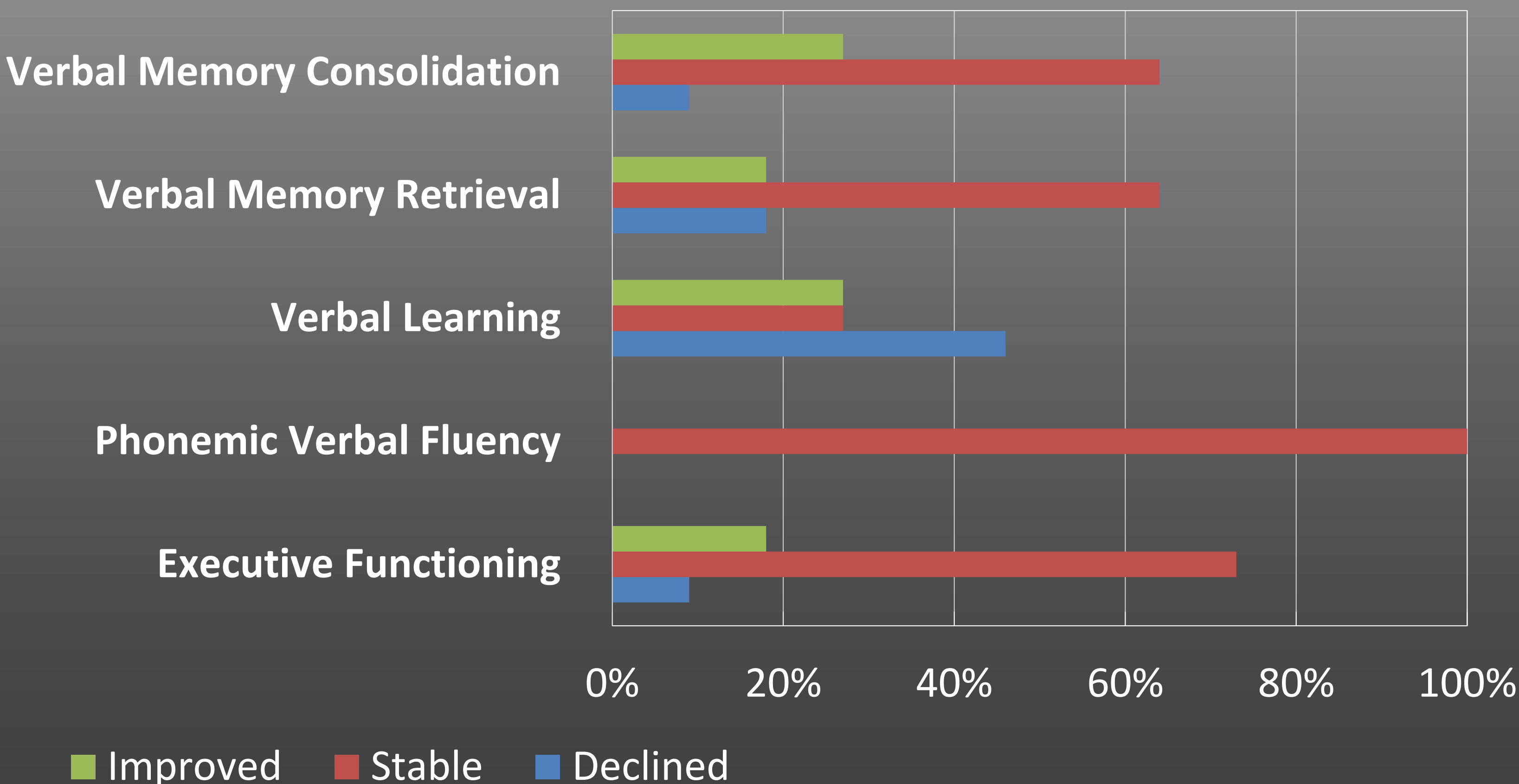


Figure 2. NCF Pre- to Post-Radiotherapy



AFFILIATIONS

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