

PREVALENCE OF PRE-EXISTING COGNITIVE IMPAIRMENT IN PATIENTS TREATED FOR CANCER AND IMPACT OF CANCER TREATMENT ON COGNITIVE OUTCOMES: A SCOPING REVIEW

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INTRODUCTION

- Pre-existing cognitive impairment (CI) is likely underreported in patients treated for cancer, and its prevalence remains unclear.
- Older adults with CI may have a greater risk of treatment failure and increased morbidity and mortality than patients with intact cognition.
- To our knowledge, there has not been a previous review summarizing data on the prevalence of pre-existing CI in patients with cancer.

THE REVIEW QUESTIONS ARE:

(1) What is the prevalence of pre-existing CI in patients treated for cancer?

(2) What is the impact of cancer treatment on cognitive outcomes among patients exhibiting pre-existing CI before planned cancer treatment?

METHODS

- We defined CI as a diagnosis of dementia, mild or unspecified CI before any cancer treatment including surgery. This scoping review followed the Arksey and O'Malley framework and adhered to Preferred Reporting Items for Systematic Reviews and Meta-Analyses Extension for Scoping Reviews (PRISMA-ScR) guidelines.
- Two reviewers independently screened titles, abstracts, and full-text articles, resolving disagreements with a third reviewer.
- The reviewers systematically searched MEDLINE, EMBASE, and CINAHL from inception until July 15, 2023, including original research focused on participants aged 60 or older, reporting the prevalence of pre-existing CI before any cancer treatment.

RESULTS

- Among the 10,490 screened citations, 23 studies met the inclusion criteria for both review questions.
- There were 11 prospective cohort studies and 12 retrospective studies with 4 retrospective studies reporting findings based on cognitive screening tool results similar to prospective cohort studies.
- Pre-existing CI was prevalent at a mean rate of **6% (range 3.8-14.7%)** in administrative database studies, while clinical studies employing pre-treatment cognitive screening tools, primarily the Mini-Mental State Examination (MMSE) and Mini-Cog, reported a higher mean prevalence of **26% (range 2.6 to 52%)**.
- Only one study reported postoperative delirium in 27.9% of patients with CI following cancer surgery, suggesting a higher risk of delirium in this population.
- Yet, none of the reviewed studies provided data on other cognitive outcomes, such as chemotherapy-related CI or treatment toxicity, in these individuals.



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CONCLUSIONS: Pre-existing CI is common but highly variable. The variability in reported prevalence rates can largely be attributed to significant differences in study inclusion criteria of participants and sample size, with many studies relying on regionally limited datasets.