



# Overrepresentation of verbal repetition deficits in aphasic men with stroke: systematic literature review and meta-analysis

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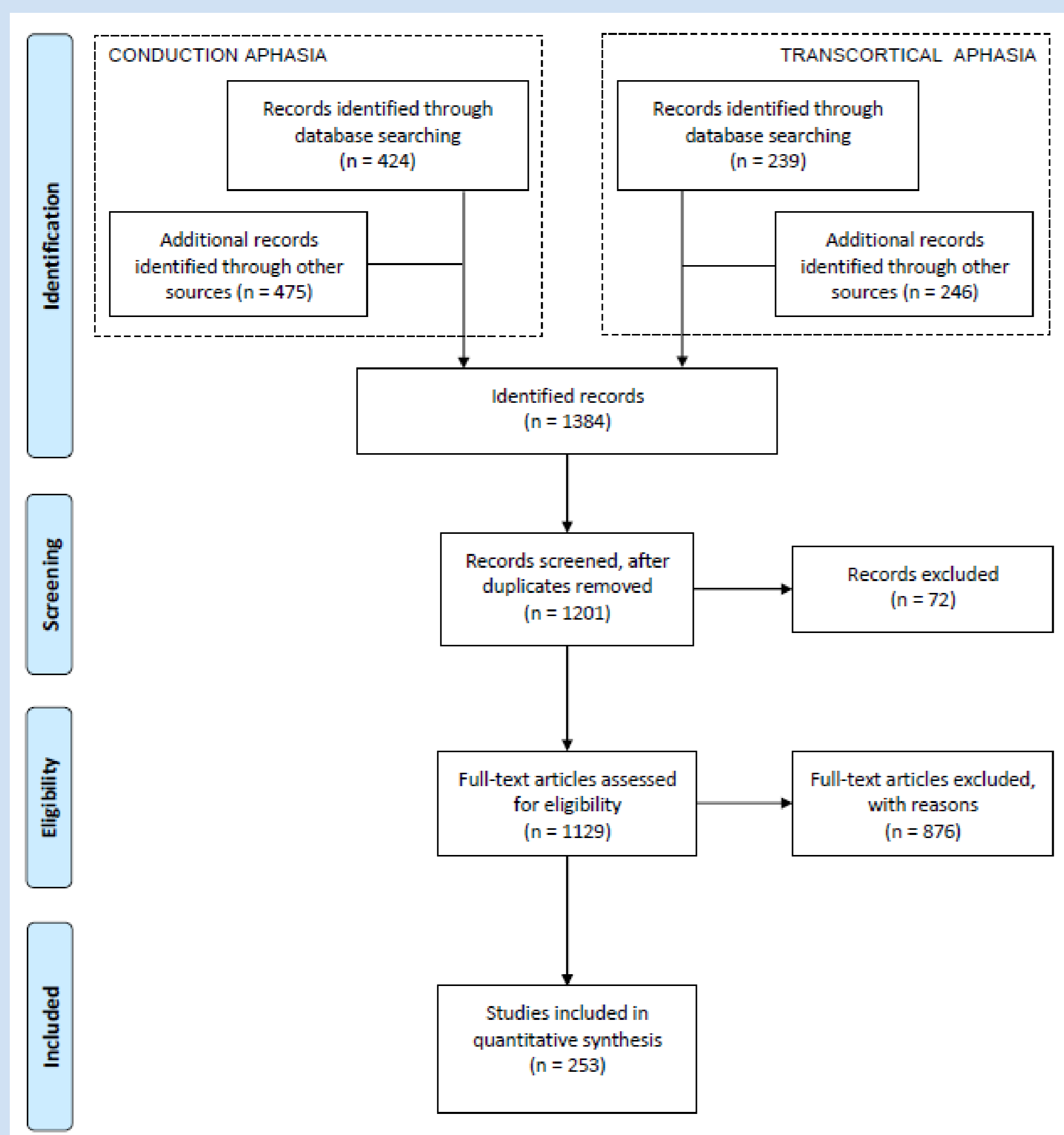
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## BACKGROUND

The arcuate fasciculus (AF) is a key component for language repetition. Neuroimaging evidence indicates a gender-dimorphic architecture of this white matter tract. Strong left lateralization of the direct segment of the AF is more frequent in men (85%), while mild lateralization or symmetrical bilateral representation (60%) is more prevalent amongst women. This predicts that men with aphasia due to left hemisphere damage will have less capacity than aphasic women to compensate repetition deficits and, consequently, aphasias associated to repetition deficits (e.g. conduction aphasia – CA) will be more prevalent in men. While this assumption is intuitively appealing, it has not been empirically tested up to now.

## METHODS

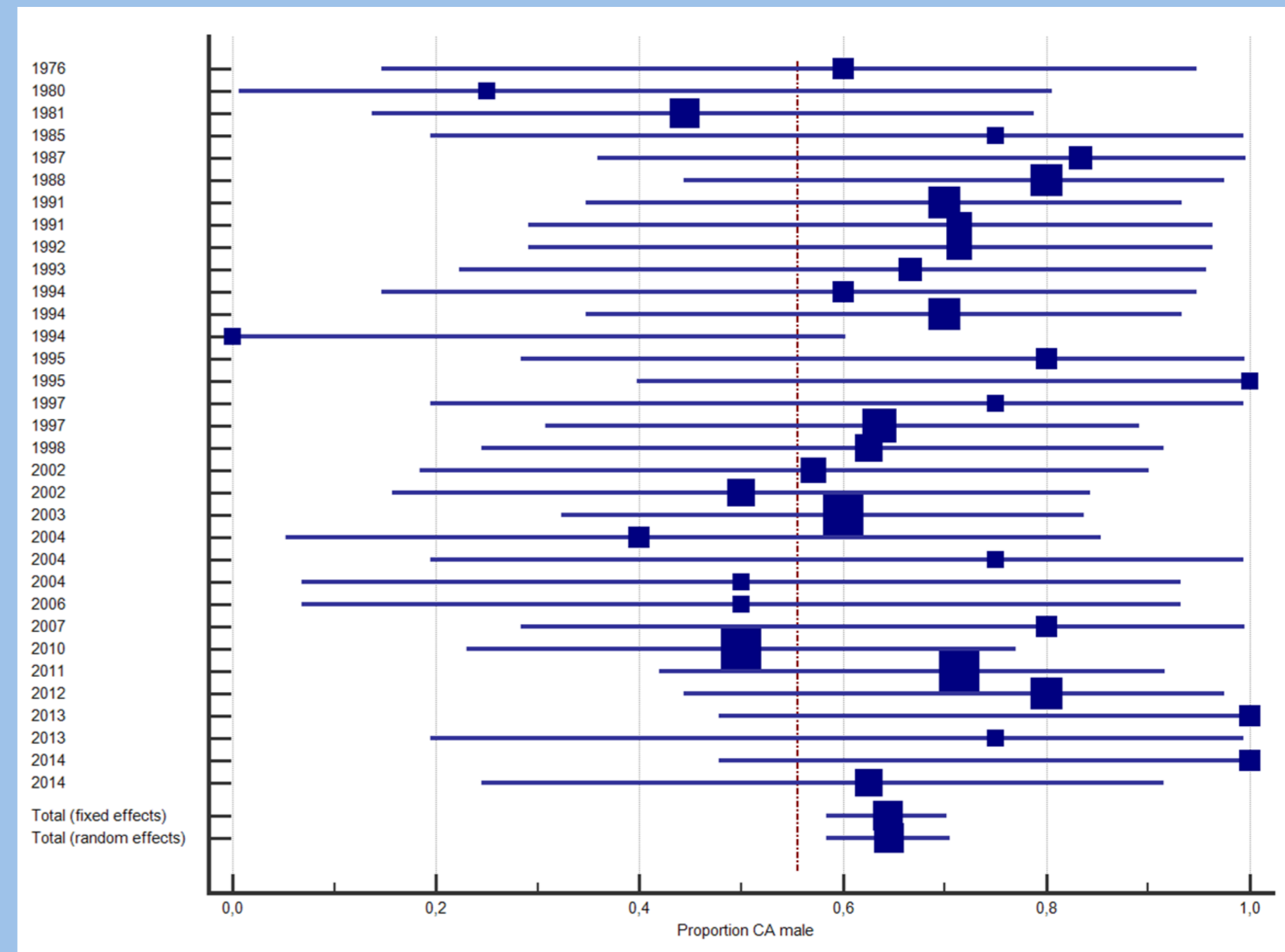
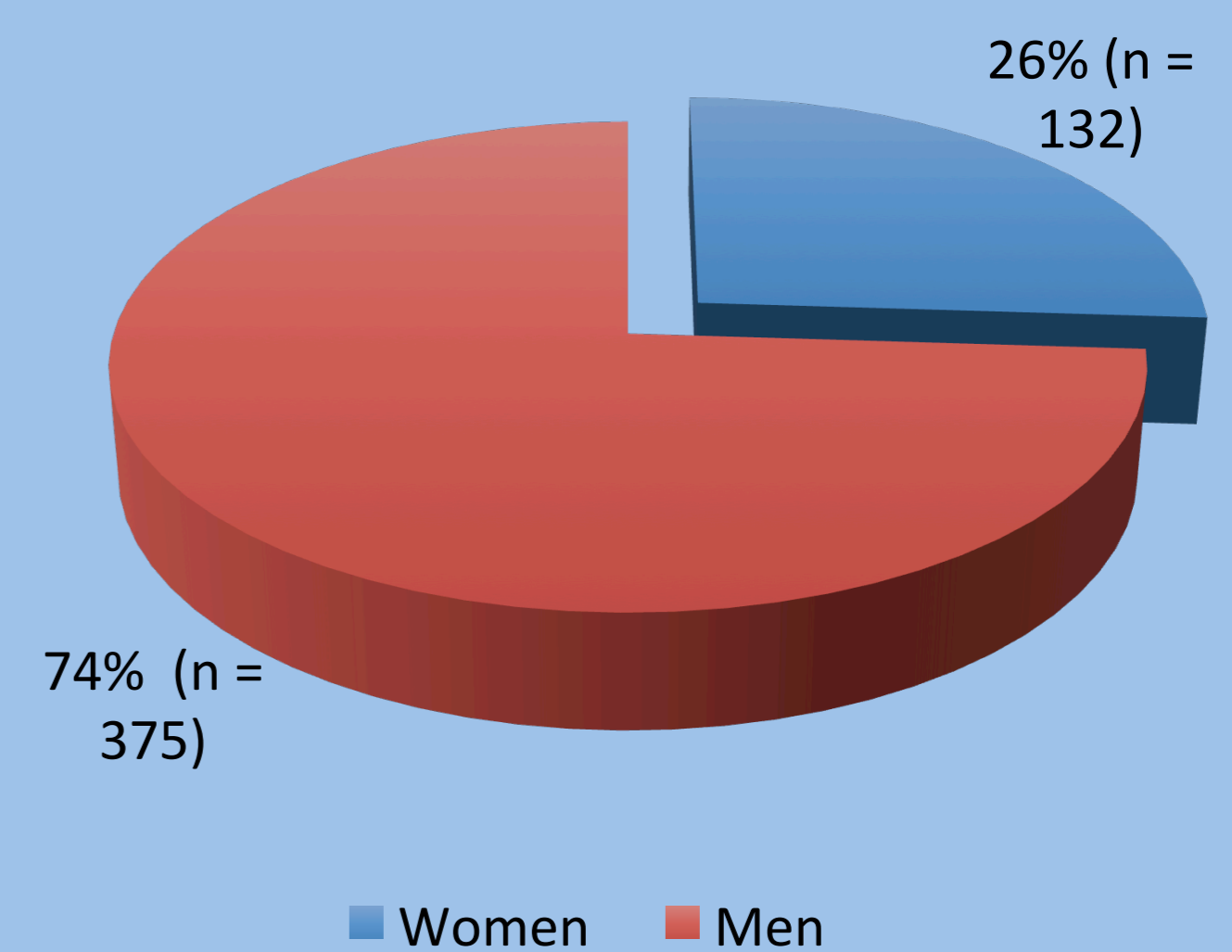
A systematic review and meta-analysis of published cases of CA and transcortical aphasia (TA) was performed. Adult patients with first-ever unilateral cerebrovascular event and no prior history of neurological or psychiatric disease were included in the database. The men:women proportion of CA and TA was calculated from the database, and compared with the men:women proportion of stroke prevalence. The group of patients with aphasias showing relatively preserved repetition (transcortical motor and sensory aphasias) was used as control. Patients with mixed transcortical aphasia were excluded because repetition is not fully preserved.



## RESULTS

Two hundred fifty three publications were included, gathering 799 cases of CA and TA. Males accounted for 74% (n = 375) of CA subjects (n = 507), while among TA (n=249, mixed TA excluded) men represented 62% (n=154) of subjects. Compared with 59% of male prevalence in stroke, men were overrepresented amongst CA (p<0.0001, 95% CI 68.91 to 76.82) in comparison with the control group (TA with exclusion of mixed TA, p= 0.2848, 95% CI 55.50 to 67.91).

Conduction Aphasia by gender



## DISCUSSION

Chronic repetition deficits are more prevalent in men than in women. This finding has important implications for the diagnosis and rehabilitation of aphasia in men, since verbal repetition is a major resource in language therapy.

## References

Catani M et al. PNSA (2007)104(43), 17163-17168.  
Berthier ML et al. Cortex (2012) 48, 133-143.