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INTRODUCTION

- Trigeminal neuralgia (TN) is a chronic neurological disorder characterized by recurrent episodes of severe, paroxysmal facial pain in one or more trigeminal nerve divisions¹
- The global pooled incidence of TN is estimated at 25.33 per 100,000 person-years (95% CI: 11.87–54.02), with a higher incidence in females compared with males²
- Given its chronic nature and severe pain burden, TN is expected to substantially impact health-related quality of life (HRQoL), highlighting the need for systematic evaluation of HRQoL outcomes

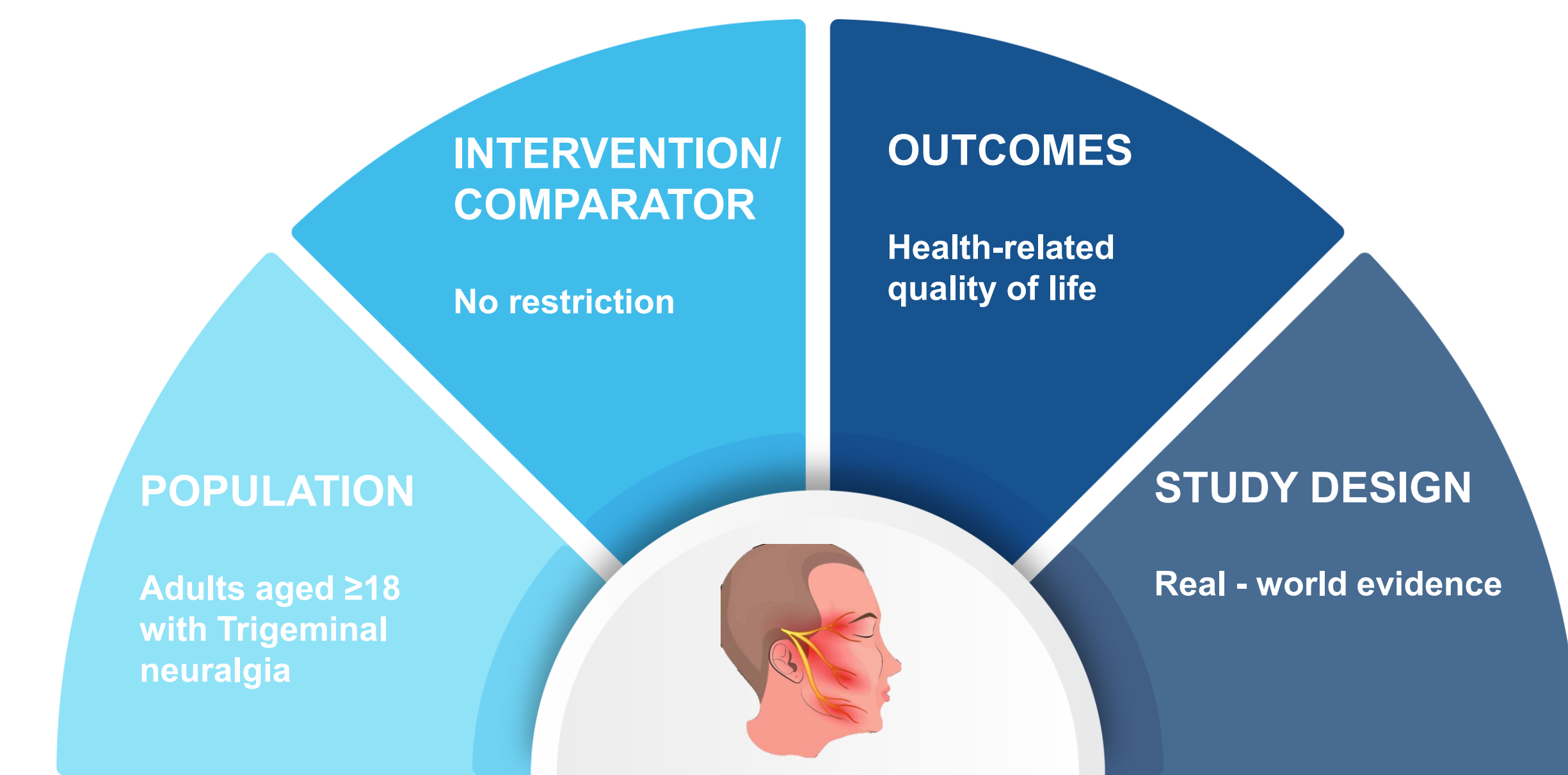
Objective

- This systematic literature review (SLR) aimed to identify and summarize evidence on the HRQoL burden among patients with TN

METHODS

- This SLR adhered to National Institute for Health and Care Excellence (NICE) and Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) guidelines for SLRs, following standard methodology with a transparent, reproducible, and unbiased approach³
- Key biomedical databases, including, Embase and PubMed were searched from database inception to December 2025 to identify relevant studies reporting HRQoL burden in TN. The prespecified eligibility criteria is presented in **Figure 1**
- Data collection and extraction were independently performed by two reviewers using a predefined eligibility criteria. Subsequently, a third independent reviewer verified the extracted data and resolved discrepancies to ensure accuracy, completeness, and methodological rigor

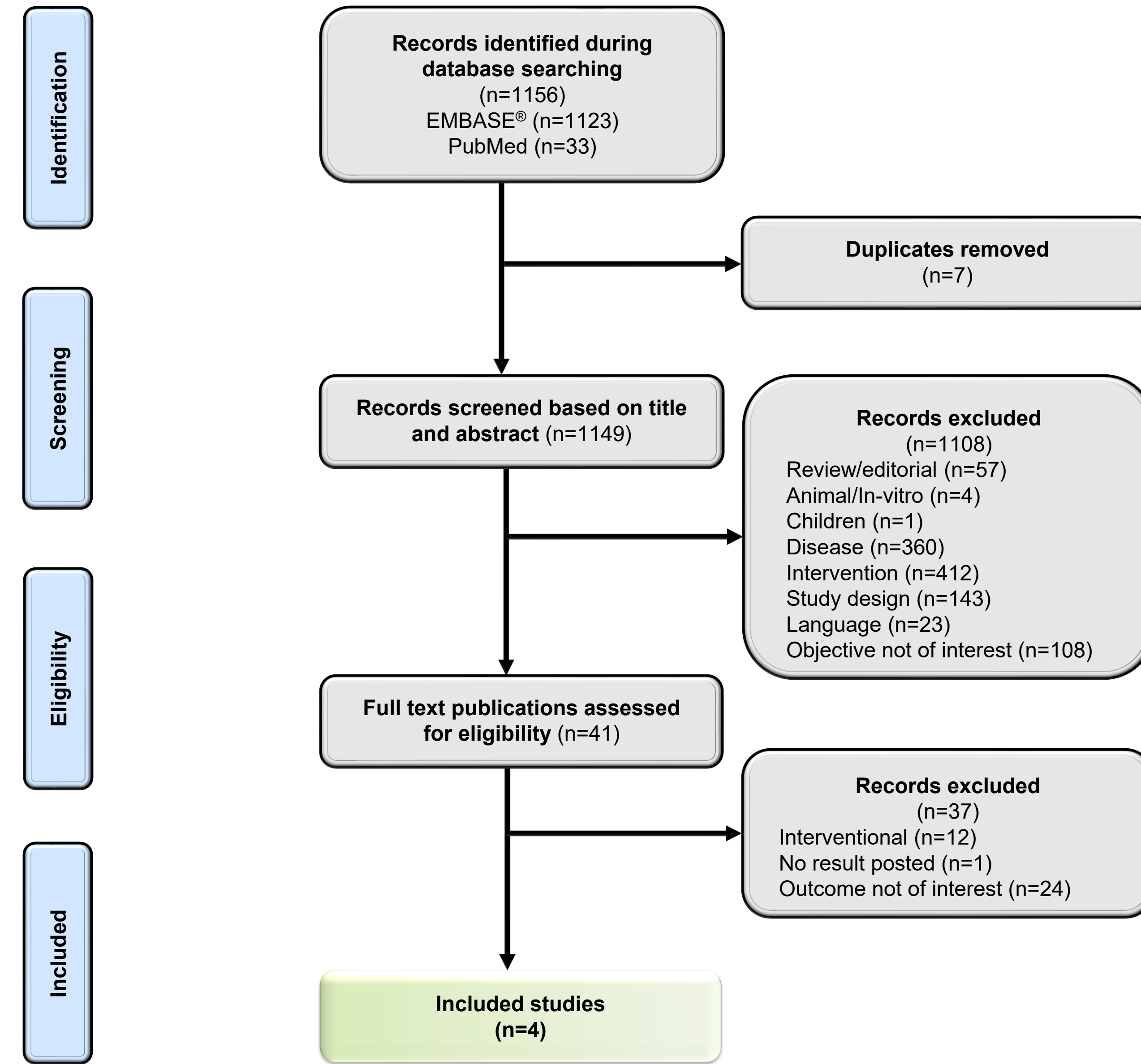
Figure 1: Eligibility criteria for selection of evidence



RESULTS

- Of the 1,154 publications screened, four cross-sectional studies⁴⁻⁷ (sample size: 20-385; mean age range: 60-62.4 years) met the inclusion criteria. Four studies were conducted across distinct geographical regions, with one study each from Malaysia, the United States, Brazil, and Pakistan
- A PRISMA diagram for the screening process is presented in **Figure 2**
- HRQoL instruments used across studies included the Oral Health Impact Profile (OHIP; n = 2), a modified version of the OHIP (n = 1), and the Short Form-36 Health Survey (SF-36; n = 1)

Figure 2: PRISMA diagram for the screening process

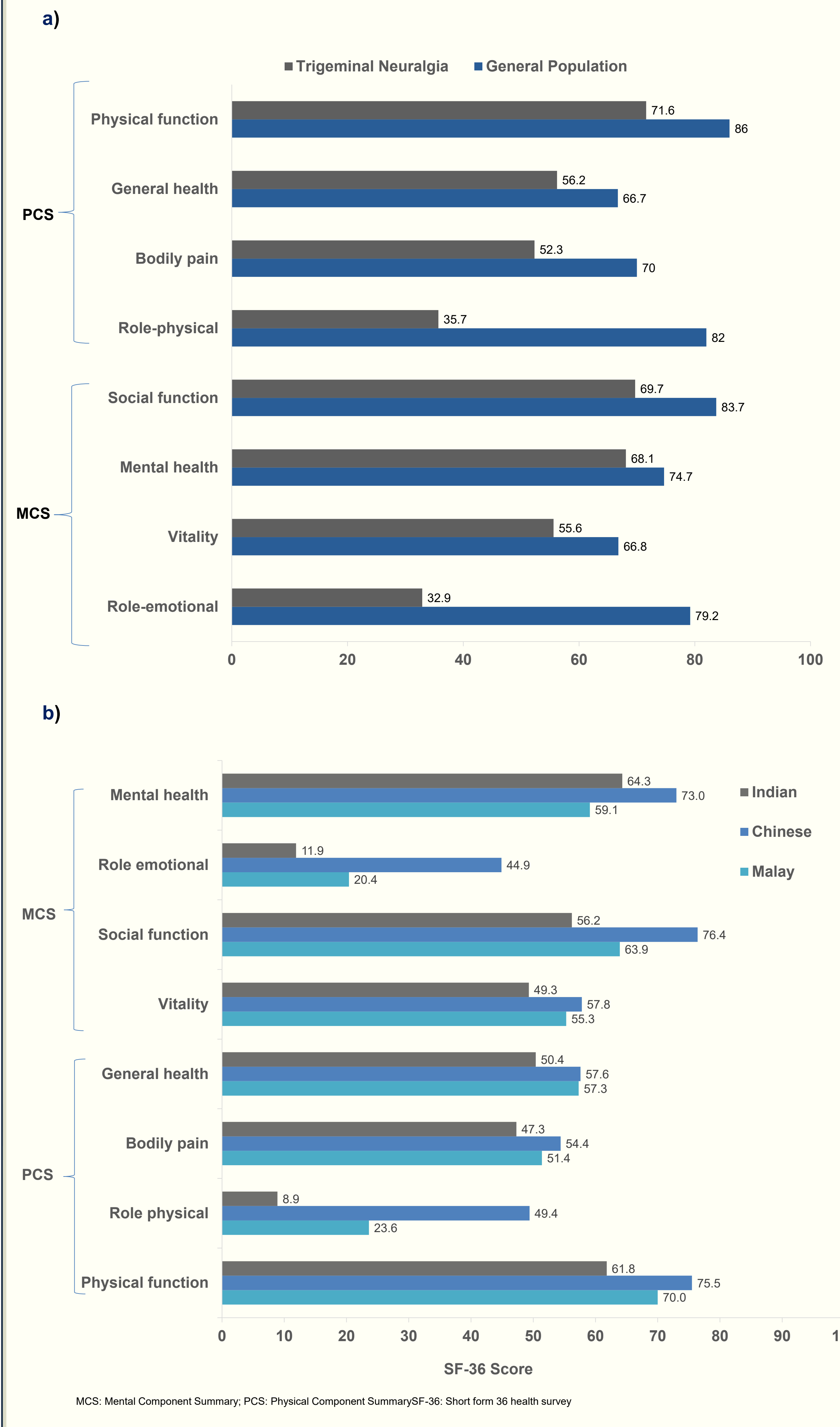


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SF 36 (Physical and Mental Component Summary scores)⁴

- Compared with the general population, patients with TN demonstrated consistently lower SF-36 mean scores across all eight domains, with role-physical (35.7 vs 82.0) and role-emotional (32.9 vs 79.2) being the most severely affected domains
- TN demonstrated consistently lower SF-36 physical component scores across all domains compared with the general population, with notable reductions in physical functioning (71.6 vs 86), bodily pain (52.3 vs 70), and general health (56.2 vs 66.7) (**Figure 4a**)
- Similarly, SF-36 mental component scores were lower among patients with TN, including vitality (55.6 vs 66.8), social functioning (69.7 vs 83.7), and mental health (68.1 vs 74.7), indicating poorer mental HRQoL compared with the general population (**Figure 4a**); There were no significant differences in any of the eight SF-36 domains between genders
- Significant ethnic differences were identified in SF-36 domain scores, with Indian patients showing lower mean scores in role-physical and social functioning compared with ethnic Chinese patients, while Malay patients demonstrated significantly reduced mental health scores relative to the ethnic Chinese group
- As shown in **Figure 4b**, ethnic Chinese patients reported higher mean scores across most SF-36 domains. Indian patients experienced the greatest deficits in role-physical functioning, indicating marked limitations in daily activities due to physical health, along with reduced social functioning, reflecting a greater impact of TN on social and interpersonal interactions
- Overall, the findings consistently demonstrate substantial HRQoL impairment across multiple domains of SF-36 in patients with TN

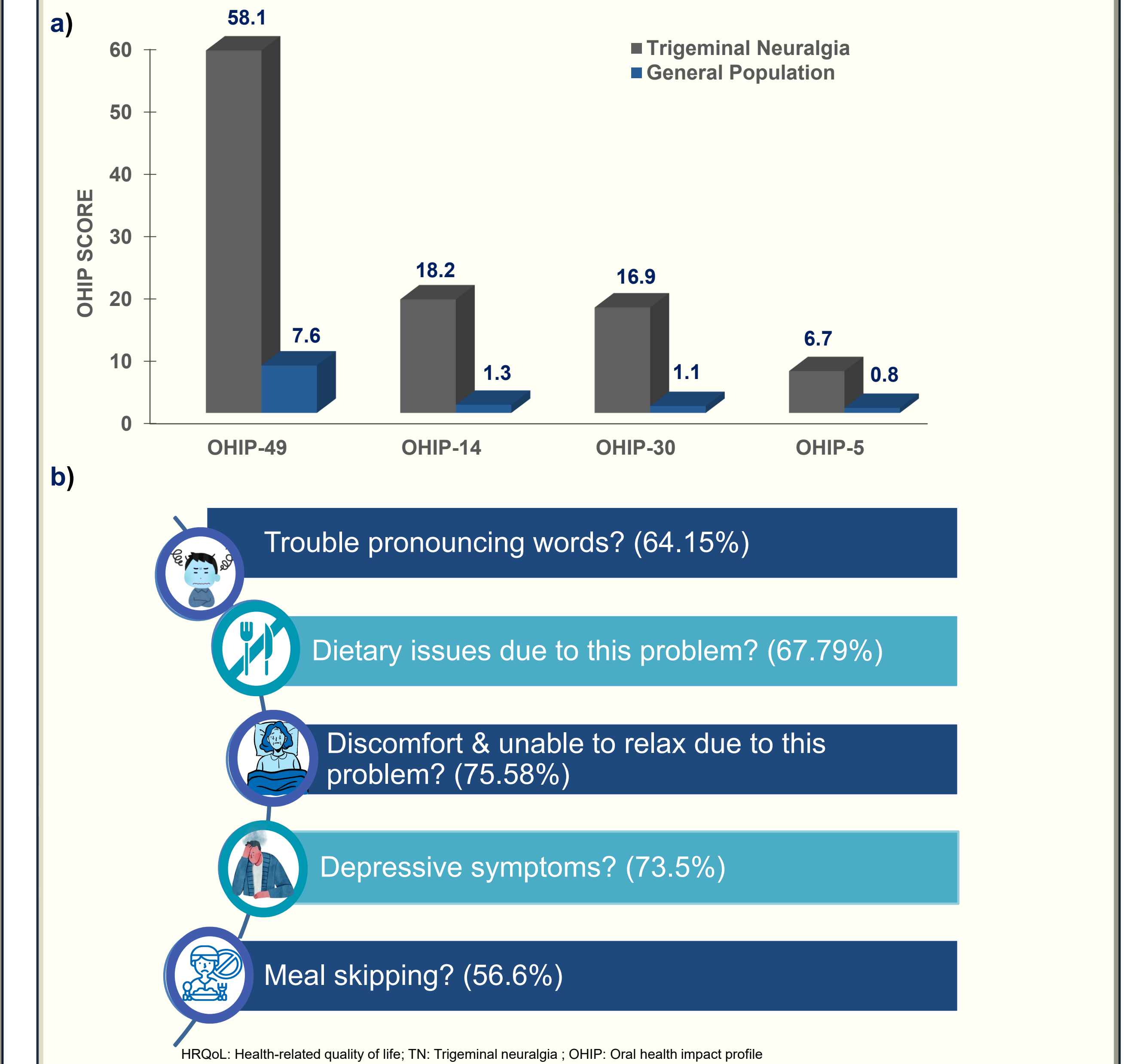
Figure 4: SF-36 Score: Trigeminal Neuralgia vs General Population; a) Physical Component Summary (PCS) and Mental Component Summary (MCS); b) PCS and MCS by ethnicity



Oral Health Impact Profile

- OHIP findings indicated that HRQoL was consistently and substantially worse among patients with TN compared with the general population. This was evidenced by markedly higher scores across all OHIP instruments, including OHIP-49 (58.1 vs 7.6), OHIP-14 (18.2 vs 1.3), OHIP-5 (6.7 vs 0.8), and the modified OHIP (16.9 vs 1.1), confirming a pronounced impairment in oral HRQoL among TN patients⁵⁻⁶ (**Figure 3a**)
- In addition to overall score differences, domain-level analysis using the OHIP-14 revealed a considerable functional and emotional burden, with high proportions of patients reporting speech difficulties (64.2%), dietary limitations (67.8%), depressive symptoms (73.5%), difficulty relaxing (75.6%), and meal skipping (56.6%)
- Patients also frequently experienced oral pain, discomfort during eating, feelings of self-consciousness and irritability, as well as work-related functional limitations. Collectively, these findings underscore the multidimensional impact of TN on daily functioning, social participation, and psychosocial well-being, extending well beyond pain severity alone⁷ (**Figure 3b**)

Figure 3: Comparison of HRQoL on OHIP; a) Overall scores between TN Patients and General Population; b) Proportions of patients responding yes for specific domains



LIMITATIONS

- Exclusion of non-English-language studies may have resulted in the omission of relevant studies with valid findings
- All included studies were cross-sectional, limiting the ability to assess causality or changes in HRQoL over time

CONCLUSIONS

- This SLR highlights that TN is consistently associated with substantial impairment in HRQoL, encompassing significant functional, emotional, and psychosocial burden beyond pain alone
- Addressing this multidimensional burden is essential to inform comprehensive clinical management strategies that improve both pain control and overall HRQoL outcomes

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Disclosure

SK, PR, and BS, the authors declare that they have no conflict of interest