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The duration of intervals on the oral cancer care pathway and implications for survival: a meta-analysis

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BACKGROUND & METHODS

Delays in oral cancer diagnosis and treatment are generally associated with worse patient outcomes; however, previous studies have shown heterogeneous results.

Our aims were (1) to calculate pooled meta-analytic estimates of the duration of the patient, diagnostic, and treatment intervals in oral cancer, and (2) to systematically compile and synthesise the evidence on the relation of these intervals with stage at diagnosis and survival.

We conducted a systematic review with meta-analysis following PRISMA 2020 guidelines. Based on the Aarhus statement, eligible studies were those conducted on adult patients with primary oral cancer, which reported data on the length of one or more interval of interest:

- Patient interval (PI): first symptom -> first presentation to a healthcare professional.
- Diagnostic interval (DI): first presentation -> diagnosis.
- Treatment interval (TI): diagnosis -> start of treatment.

RESULTS

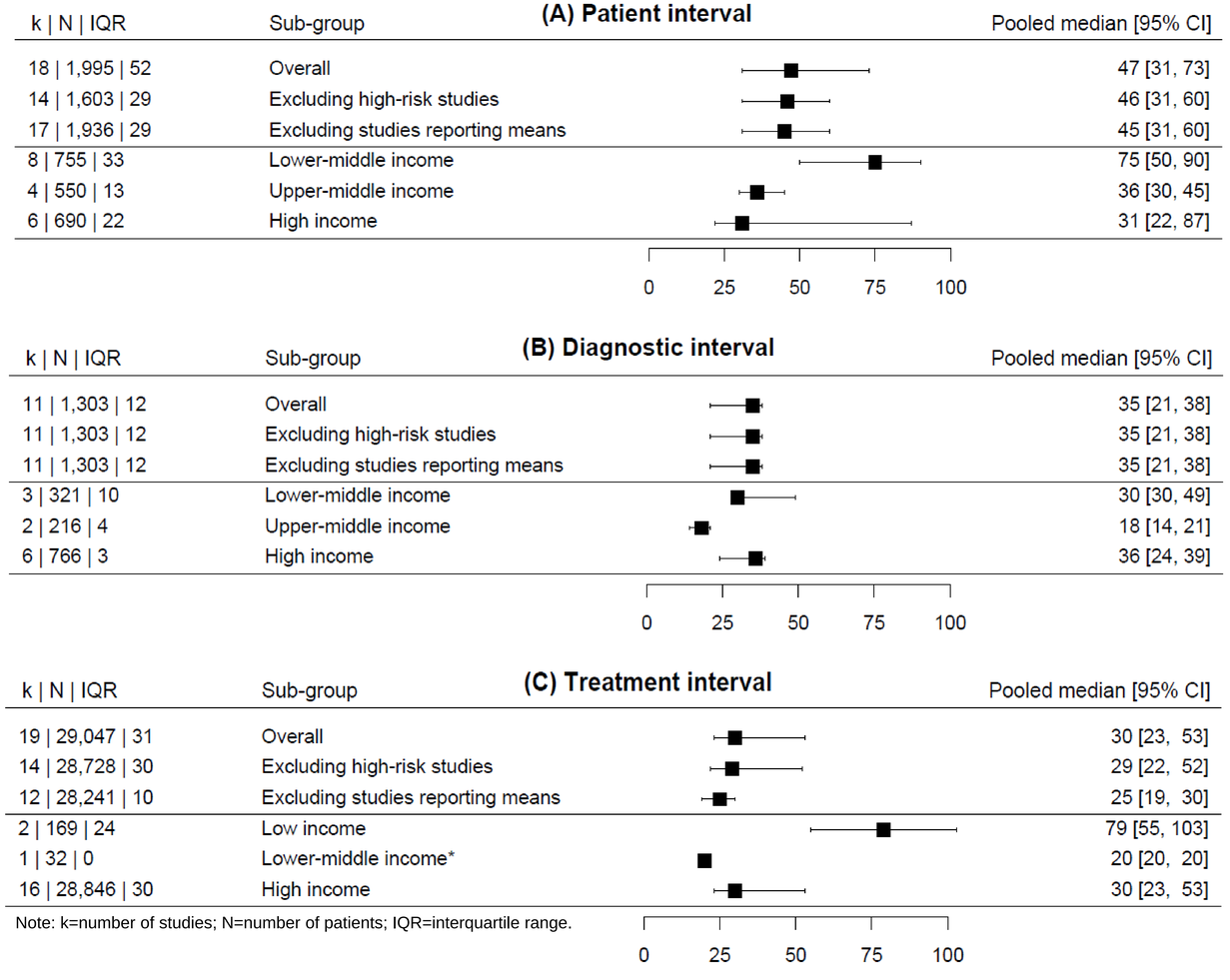
The initial search retrieved 9,922 records, of which 28 articles were included, reporting data on a total of 30,845 patients with primary oral cancer.

Interval duration:

- Pooled PI = 47 days (95% CI=31-73), k=18, and it was longer in studies from lower-income countries (see Figure).
- Pooled DI = 35 days (95% CI=21-38), k=11, with no differences based on country income.
- Pooled TI = 30 days (95% CI=23-53) k=19, and it was longer in lower-income countries.

Stage at diagnosis and survival:

- Longer patient intervals were related to later stages in lower-income countries.
- Longer treatment intervals were associated with lower survival rates in studies with lower risk of bias from high-income countries.



DISCUSSION & CONCLUSIONS

Interval duration on the oral cancer care pathway is influenced by the socio-economic context and has implications for patient outcomes.

All three intervals were relatively homogeneous in studies from high-income countries. In lower-income countries, the PI and the TI were significantly longer.

The relation between interval duration and stage and/or survival varied depending on the country's income level and the study's risk of bias.