behaviour (e.g., driving, active travel, public transit, walking, and cycling) from adults in the general population. Interventions were categorized into functions (how the intervention seeks to affect behaviour). Depending on whether gains or losses of functions could occur, interventions were classified as carrots (e.g., new bikeshare programs), combined carrot and stick (e.g., traffic calming), or stick interventions (e.g., congestion charging). Harvest plots were used to visually summarize the findings weighted by study quality. Where possible, outcomes were converted into standardized mean differences (SMD) and random-effects meta-analyses were conducted.

Results We extracted data from 83 publications reporting 98 interventions. From these, we identified 20 intervention types and eight function categories. The majority of interventions were carrots (n=64), followed by carrot and stick (n=17) and stick (n=17). Harvest plots demonstrated that most evaluations, particularly those classified as higher quality, found changes in favour of the intervention. Results for carrot interventions, however, were more less consistent than for stick or combined interventions. This was consistent with findings from the meta-analysis, which were statistically nonsignificant but had point-estimates of greater magnitude for driving outcomes for sticks (SMD -0.21; 95%CI -0.43, 0.01) and combined carrot and stick interventions (-0.17; -0.65, 0.31) compared to carrots (-0.09; -0.21, 0.03). Likewise, for active travel outcomes, combined carrot and stick interventions had a higher SMD (0.39; -0.01, 0.78) compared to carrot interventions (0.10; -0.06, 0.25). Financial functions were found to be the most effective for driving outcomes, whereas access, convenience, safety, and space were more effective for active travel outcomes.

Discussion This is the first review to compare whether positive, negative, or combined strategies and their functions differ in terms of effectiveness on travel behaviour, which can aid policymakers in designing sustainable transportation policies. Further research is needed for interventions with a stick component, which suggest greater effectiveness yet remain less well-studied, possibly because they are less conducive to experimental manipulation.

OP51 ACTIVE GROUP-BASED PERFORMING ARTS INTERVENTIONS FOR PARKINSON’S DISEASE: SYSTEMATIC REVIEW AND META-ANALYSIS

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Methods In order to systematically evaluate the benefit of performing arts interventions in PD, we conducted a systematic review and meta-analysis. We searched databases including PsycINFO, AMED, CINAHL, EMBASE, and MEDLINE and included studies that met the following criteria: (1) the intervention involved group-based performing arts, (2) the target population was adults with PD, and (3) the study design included a comparison group. We extracted data on study characteristics, participant demographics, intervention details, and outcomes. We then conducted a meta-analysis using random-effects models to estimate the overall effect size for each outcome.

Results The search identified 198 studies, of which 14 met the inclusion criteria. The meta-analysis showed a significant benefit of performing arts interventions on quality of life, functional communication, speech, motor function or cognitive status for people with PD. The effect size was 0.39 (95% CI: 0.25, 0.53) for quality of life, 0.29 (95% CI: 0.15, 0.43) for functional communication, 0.32 (95% CI: 0.17, 0.47) for speech, 0.41 (95% CI: 0.27, 0.55) for motor function, and 0.28 (95% CI: 0.14, 0.42) for cognitive status. These findings were consistent across subgroups and sensitivity analyses, suggesting the robustness of the results.

Conclusion Our findings provide evidence that performing arts interventions can significantly improve quality of life and functional communication in people with PD. These interventions should be considered as a complementary treatment option for PD, particularly for addressing motor and non-motor symptoms. Further research is needed to explore the mechanisms underlying these effects and to develop standardised interventions.