Supplementary Table S3. Three-Domain Mapping of Included Evidence

Supporting information for: Dementia, Diabetes, and Physical Inactivity in Global Majority Populations: A Meta-Narrative Review and Recommendations

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Purpose: This file maps key sources according to their coverage of the three domains of interest: dementia/cognitive outcomes, type 2 diabetes/metabolic risk, and physical activity/inactivity. It also identifies the main population/context and the principal limitation relevant to the review question.

Study / source	Population / setting	Dementia or cognitive domain	T2D / metabolic domain	Physical activity / inactivity domain	Contribution to synthesis	Main limitation for the three-domain question
Biessels et al., [24]	Systematic review; general populations	Yes: dementia risk and cognitive outcomes	Yes: diabetes mellitus	No direct PA exposure	Shows higher risk of all-cause dementia, Alzheimer's disease and vascular dementia among people with diabetes.	No physical activity exposure or intervention reported; predates many PA-focused cohorts.
Gudala et al., [25]	Meta-analysis of prospective observational studies	Yes: dementia outcomes	Yes: diabetes mellitus	No direct PA exposure	Quantifies pooled risk estimates for dementia among people with diabetes.	No physical activity component; evidence base before more recent dementia prevention modelling.
Cao et al., [27]	Meta-analysis, 2012–2023 evidence base	Yes: dementia risk	Yes: diabetes and hypoglycaemia	No direct PA measurement	Provides contemporary synthesis on diabetes and dementia risk, including hypoglycaemia as a risk pathway.	Does not assess PA exposure or intervention effects.
Whitmer et al., [30]	Older adults with T2D	Yes: dementia incidence	Yes: T2D and hypoglycaemic episodes	No PA measurement	Demonstrates the relevance of hypoglycaemic episodes to dementia risk in older adults with T2D.	No physical activity data; not designed to address cultural or equity dimensions.
Mayeda et al., [26]	Older adults with T2D; Diabetes and Aging Study	Yes: dementia risk	Yes: T2D	No PA measurement	Demonstrates racial/ethnic differences in dementia risk among older adults with T2D.	Does not include physical activity; underscored compounded risk through an equity lens.
Norton et al., [12]	Population-based risk modelling; US/Europe/UK	Yes: Alzheimer's disease risk	Diabetes included among modifiable risks	Yes: physical inactivity modelled	Identifies physical inactivity as a leading modifiable risk factor for Alzheimer's disease in several settings.	Modelling study; not focused specifically on T2D populations or Global Majority groups.
Piras and Raffi, [13]	Narrative review; diabetes management	No dementia outcome focus	Yes: type 1 and type 2 diabetes management	Yes: exercise training	Explains exercise mechanisms relevant to glycaemic control and diabetes management.	Does not evaluate dementia outcomes or ethnicity-specific barriers.
Ashra et al., [34]	Evidence review of diabetes prevention programmes	No dementia outcome focus	Yes: diabetes prevention	Yes: lifestyle and PA intervention components	Supports the role of structured lifestyle interventions in diabetes prevention.	Does not assess dementia outcomes; limited direct discussion of Global Majority contexts.
Horne and Tierney, [32]	Systematic review of qualitative studies; South Asian older adults	No dementia outcome focus	Indirect metabolic relevance	Yes: exercise and PA uptake/adherence	Identifies cultural, social and structural barriers/facilitators to physical activity among South Asian older adults.	Does not quantify effects on diabetes or dementia outcomes.
Safi and Myers, [20]	Afghans living in the UK and Afghanistan	No dementia outcome focus	Indirect metabolic relevance	Yes: barriers to physical activity	Provides culturally situated evidence on PA barriers across migration and country contexts.	Does not directly examine T2D or dementia outcomes.
Banerjee et al., [33]	South Asian Muslim women; mosque-based intervention, Canada	No dementia outcomes	High-risk metabolic relevance	Yes: culturally tailored PA intervention	Demonstrates feasibility and acceptability of a culturally safe, mosque-based PA programme.	Participants not limited to T2D; dementia outcomes not assessed.
Shalowitz et al.,[35]	Community engagement and CBPR literature	Not disease-specific	Not disease-specific	Intervention design relevance	Provides methodological support for community-based participatory research and engagement strategies.	Not specific to dementia, diabetes or physical activity outcomes.

Note: T2D = type 2 diabetes; PA = physical activity. No study identified in this mapping concurrently assessed all three domains (dementia outcomes, T2D status and physical activity exposure/intervention) within a single design focused on Global Majority populations. Therefore, nearest-neighbour evidence is summarised and the evidence gap is stated explicitly.