**Dementia risk model validation in low and middle-income countries: The 10/66 study**

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 **Introduction** To date, dementia risk models, predicting the risk of developing dementia, have been primarily developed and validated in cohorts from high income countries (HICs). Yet, most people with dementia live in low and middle-income countries (LMICs). The aim of this study was therefore to investigate to what extent such models are able to predict dementia risk in LMIC settings.

**Methods** Data were from 10/66 cohort study including 11,143 individuals aged ≥65 years living in seven LMICs: Cuba, Dominican Republic, Peru, Venezuela, Mexico, Puerto Rico and China. The predictive accuracy of thirteen different dementia risk prediction models was tested in the total 10/66 sample and in each country separately. The c-statistic with 95% confidence intervals was used to assess discriminative accuracy, and values of 0.8–1, 0.7–0.8 and <0.7 were considered to indicate excellent models, good models and models of questionable utility, respectively.

**Results** Discriminative accuracy of the models ranged from 0.69 (0.68–0.71) to 0.75 (0.73–0.76) if tested in the complete 10/66 dataset. The model with the highest predictive accuracy incorporated information on age, gender and cognitive test performance. Discriminative accuracy of the models varied if tested in each 10/66 country study sample separately, e.g. the c-statistic ranged from 0.67 (0.63–0.71) to 0.72 (0.68-0.76) in the Dominican Republic sample, and from 0.79 (0.73–0.84) to 0.88 (0.85-0.92) in the Peru sample.

**Conclusion** Dementia risk prediction models developed in HICs appear to translate well to LMICs, however, there was large difference in predictive accuracy between the LMICs. Further work is needed to improve existing models, focused on feasibility, acceptability and utility in LMICs.

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