

POSTER PRESENTATIONS

VISIBLE MORTALITY, INVISIBLE DISABILITY: A PILOT DALY-BASED ASSESSMENT OF THE STROKE BURDEN IN UZBEKISTAN

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Official health statistics in Uzbekistan describe cerebral stroke almost exclusively through mortality and crude incidence, so that the non-fatal consequences of the disease remain outside the field of formal measurement. The aim of the study was to quantify the annual stroke burden in the country by means of the disability-adjusted life year (DALY) and to express numerically the share of that burden which mortality statistics alone cannot capture.

Materials and methods. A scenario-based model was constructed on open-access sources: the Global Burden of Disease (GBD) 2021 study of the Institute for Health Metrics and Evaluation (IHME), the WHO Global Health Estimates 2021, the demographic series of the State Statistics Committee, and the regional stroke register of Khorezm province. Calculations followed the standard GBD-2021 methodology ($DALY = YLL + YLD$) using age- and sex-stratified formulas. Three scenarios — conservative, baseline and extended — were generated, and a sensitivity analysis was performed for four key input parameters.

Results. For the 2024 population base of 37.1 million, the annual stroke burden fell within the range of 162,512–597,542 DALYs, with a baseline central estimate of 329,439 DALYs — the sum of 248,598 years of life lost (YLL) and 80,841 years lived with disability (YLD). The YLD component constituted 24.5% of the total burden and rose to 30–35% when mild post-stroke disability was taken into account. The working-age population (20–64 years) carried 59.1% of the burden, the 45–64-year group alone accounting for 46.2%; the male-to-female distribution was 55.5/44.5%. About 87% of the modelled burden was attributable to modifiable risk factors, and its economic equivalent approached 0.82% of annual gross domestic product. A DALY-based TOP-10 ranking of causes differed markedly from the conventional mortality ranking: depression, low back pain, neonatal disorders and migraine entered the list, whereas chronic obstructive pulmonary disease and liver cirrhosis moved downwards. The ratio between registered stroke deaths and total stroke DALYs reached approximately twentyfold, illustrating a pronounced “iceberg effect”.

Conclusions. More than one quarter of the real stroke burden in Uzbekistan lies in an “invisible disability” layer that mortality statistics are structurally unable to detect, and this layer is concentrated in the economically active population. Prevention and rehabilitation are therefore systematically undervalued whenever priorities are set on death counts alone. The pilot model shows that a DALY-based national estimate is already feasible with currently available open data and provides the empirical basis for introducing a “burden of disease” block into the official health statistics of Uzbekistan and of the Central Asian region more broadly.