Multimorbidity: its prevalence and impact in middle-income countries

Afshar S[1], Roderick P[1], Eyles C[1], Adongo P[2], Dimitrov B[1]†, Kowal P[3], Hill A[1]

University of Southampton[1] University of Ghana[2] World Health Organisation[3]

Email Correspondence: s.afshar@soton.ac.uk

UNIVERSITY OF GHANA | UNIVERSITY OF Southampton | World Health Organization

Background

What is multimorbidity ?
- Multimorbidity is defined as ≥ 2 chronic conditions within an individual

Why is the research topic important?
- Multimorbidity is a result of a rapidly ageing population, particularly in middle income countries (MICs)
- 38 / 56 million global deaths due to non communicable diseases [1]
- Rapid urbanisation in MICs are leading to an increased exposure to risk factors
- Health services are orientated towards single disease

Why have these study populations been chosen?
- Limited research in MICs. There is no current evidence on global multimorbidity patterns
- MICs in chosen studies amounts to more than 2.4 billion of the world's population

Aims

The aims of the study were to examine the **determinants** (social, economic and demographic), **prevalence** and **impact** of multimorbidity in middle income countries

Conclusion

These study findings have implications for policymakers and health service planners facing a multimorbid population. There is a need for **improvements to holistic care, better disease coverage**, and **patient-focused care**. Inconsistent health coverage places a **huge financial burden on the individual**. MICs need to consider focused spending on social care, welfare benefits, and developing community-led solutions to tackle a MM burden that **commonly affects the least educated and the elderly**.

Methods

Study design The study was conducted as an **observational cross-sectional study** using complex national surveys (2003 and 2007) and triangulated with **a qualitative study** conducted within outpatient clinics in Accra, Ghana

- Multimorbidity was based on simple counts. Using quantitative data statistical analyses were performed; univariable and multivariable analyses were undertaken using random effects logistic regression and multinomial regression models

- Thematic analysis was applied to qualitative data using Braun and Clarke's method [2]

Ethics: Ethical approval was approved by the WHO for the quantitative data, and further ethics was provided by the University of Southampton and Ghana Health Services

## Results

Quantitative Studies

Using the World Health Surveys, the prevalence of multimorbidity (from six conditions) was examined in **28 countries** – the majority were MICs. Further analyses were undertaken to examine the associations by age, sex and education.
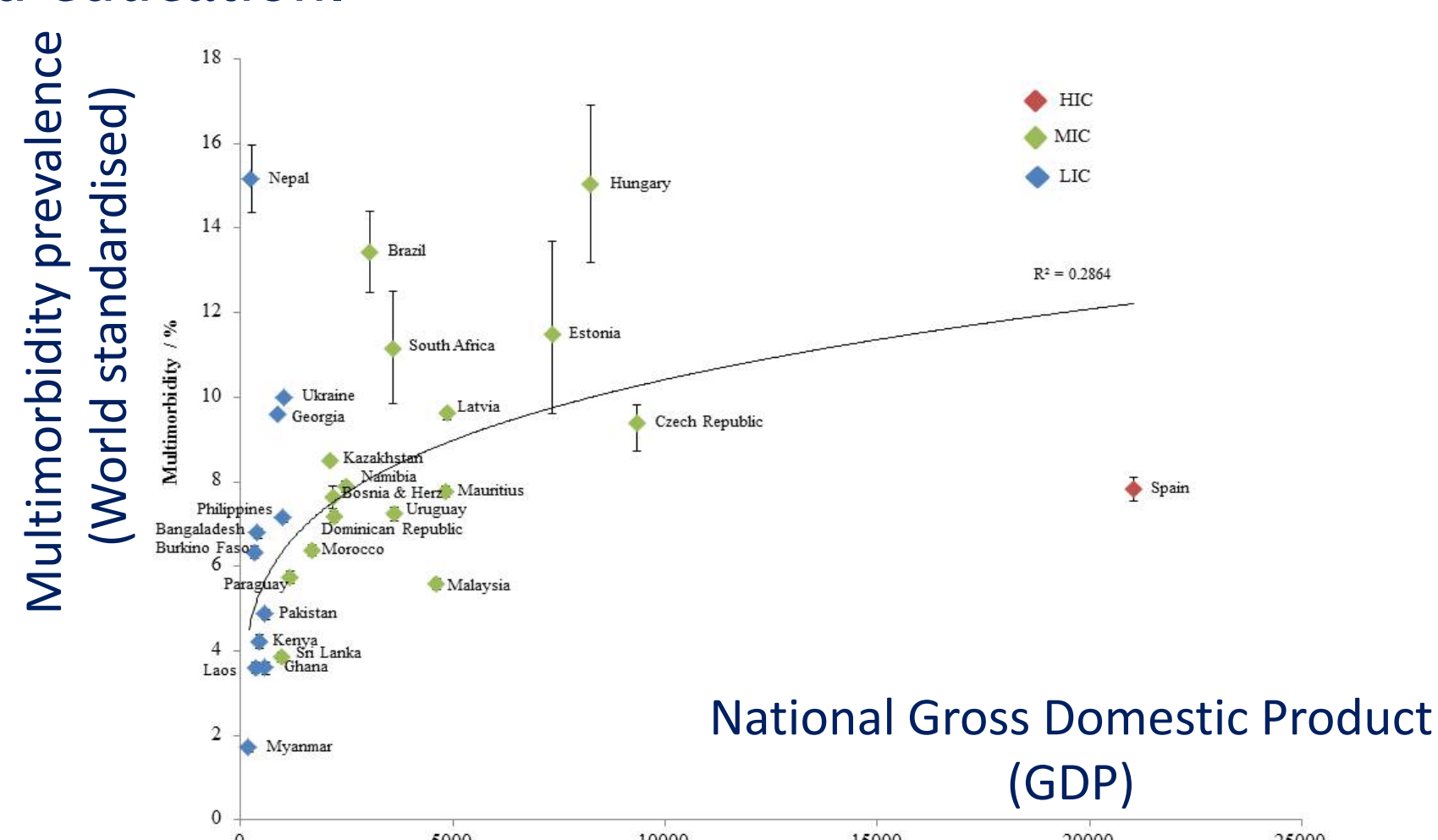
- Multimorbidity (MM) was positively (non-linearly) associated with National GDP
- The prevalence ranged from 1.7% in Myanmar to 15.0% in Brazil
- MM was significantly associated with age and sex
- There was a **negative association of MM with education**; 0.8 (0.2 – 0.6) odds ratio in all region analyses

Using the Study of Global Ageing (China, Ghana, India, Russia and South Africa), the prevalence and impact of multimorbidity (and comorbidities) were examined.

Effect of Comorbidity on WHODAS Disability
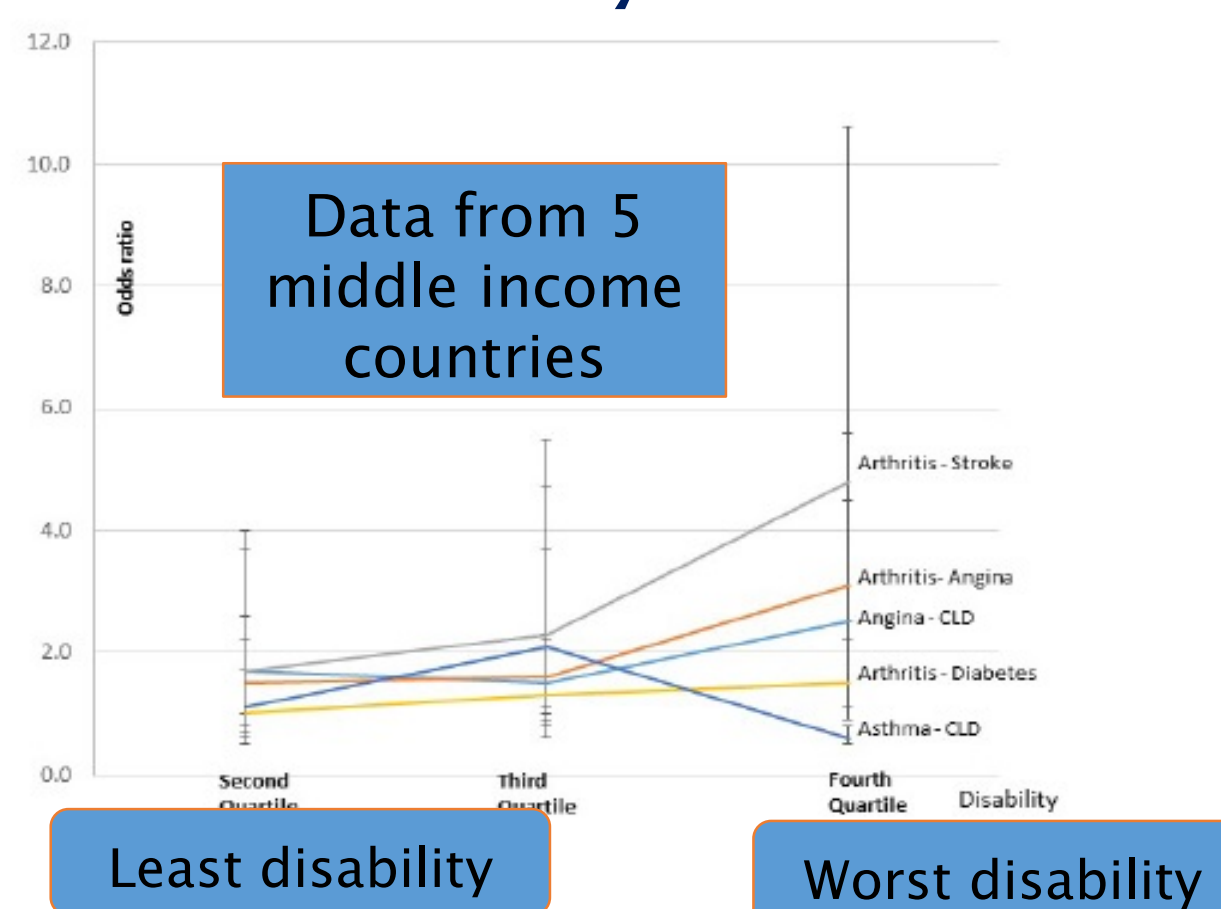
Key findings
- Effect of urbanisation on MM varied by country: most apparent in China
- Education may moderate effect of socioeconomic status on MM
- MM significantly associated with hypertension and obesity

Qualitative study (20 in-depth interviews; women in Accra)

- **Family and community are an important trigger** to their health-care seeking behaviour, psychological and social support
- **Events or people in environment have powerful influence** on **stigmatisation;** stigmatising condition has greater emphasis than other conditions
- **Limited and inconsistent coverage** of chronic disease under national insurance – possible barrier to holistic care

(1) World Health Organisation (2012) NCD mortality and morbidity. Accessed online at http:// www.who.int/gho/ncd/mortality_morbidity/en
(2) Braun V and Clarke V (2006) Using thematic analysis in psychology. Qualitative Research in Psychology. 3: 77-101.