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Title

Identifying clusters of mutiple long term conditions and their associations with health related quality of life

Priority 1 (Research Category)

Multimorbidity

Presenters

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Abstract

Context: People living with multiple long-term conditions (MLTCs) are a heterogenous population and classifying MLTCs Identifying clusters of LTCs and their differential associations with health and healthcare outcomes may facilitate development of targeted interventions and services.

Objective: Identify age-stratified clusters of MLTCs and investigate their associations with health-related quality of life (HRQoL). Compare the associations between HRQoL with MLTC clusters and LTC counts, respectively.

Design & datasets: Prospective cohort; UK Biobank (n = 502,503, aged 37 - 73) & the UK Household longitudinal study (UKHLS; n = 50,994, aged 18 – 101).

Analyses: Step 1: Apply latent class analysis (LCA) to identify clusters of MLTCs among people with ≥2LTCs, stratified by age (young [18 -36y], middle-aged [37-54y], early-old [55-73y] & older [74+y] adults). Step 2: Tobit regression assessed associations of MLTC clusters and LTC counts with HRQoL, adjusted for sociodemographic covariates & baseline HRQoL.

Outcome: HRQoL assessed using EQ-5D Index Scores

Results: MLTC clusters differed across age strata. Depression was prevalent in clusters in young/middle-aged adults. Painful conditions, arthritis, and hypertension were prominent in clusters across middle-aged/early-old/older adults. All MLTC clusters were associated with lower HRQoL compared to no multimorbidity. In young/middle-aged adults, three clusters with depression as an anchoring LTC (i.e. >50% prevalence) were associated with large deficits in HRQoL (beta coefficients: -0.134 to -0.101). High prevalence of painful conditions and arthritis were associated with lower HRQoL across several MLTC clusters from middle-age onwards. In UKHLS only, clusters with high prevalence of heart disease were identified in middle-aged/early-old/older adults and were associated with the worst HRQoL scores at follow up (beta coefficients: -0.294, -0.143 & -0.104, respectively). Associations between LTC counts and

HRQoL revealed poorer HRQoL scores in all age-groups as number of LTCs increased. For middle-aged/early-old adults, ≥4 LTCs was associated with greater deficit in HRQoL than any MLTC cluster. In young adults, similar associations were found for ≥3 LTCs.

Conclusions: The magnitude of negative association between MLTC clusters and HRQoL depends on age and composition of co-existing LTCs. MLTC clusters should be considered in the development of interventions targeting improvements in HRQoL.