When More Becomes Harm: The Art of Managing Multimorbidity and Multicomplexity in Older Adults

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Multimorbidity is conventionally defined as the presence of 2 or more comorbidities in an individual. In all age groups, multimorbidity was found in 42.4% individuals.[1] The prevalence of multimorbidity among older adults in the Indonesia Family Life Survey-5 was 24.9% (95% confidence interval [CI] 24.12–25.68).[2] Moreover, the Indonesian Geriatrics Society's multicentre study in 2024 revealed a higher prevalence of older outpatients with multimorbidity (80.7%).[3,4] Among all combinations of multimorbidity, hypertension was the most commonly reported disease. In Indonesia, it is associated with female sex, living in an urban area, higher educational level, higher economic level, former smokers, and obesity. These associated factors remain prevalent in our current society.[4] Thus, clinicians need to master the personalised management of multimorbidity in our older adults.

The annual number of papers addressing multimorbidity has increased exponentially during the past decades.[5] Yet, despite the exponential growth of clinical guidelines and therapeutic options, outcomes in older adults remain suboptimal. This paradox reflects a fundamental tension in modern medicine, in which the accumulation of evidence does not always translate into meaningful care.

In this issue of Acta Medica Indonesiana, the multicentre observational study by Setiati et al. on anticholinergic burden, falls, and the concept of appropriate polypharmacy in Indonesian geriatric clinics provides timely and compelling evidence. The study suggested that polypharmacy and high ACB (score ≥3) were observed in 43.9% and 1.8% of older outpatients in Indonesia, respectively. The five most prescribed drug classes were calcium-channel blockers, angiotensin receptor blockers, statins, beta-blockers, and proton pump inhibitors. The three most prescribed drugs with possible anticholinergic activity were furosemide, isosorbide dinitrate, and cetirizine.

Although approximately one in two older adults experienced polypharmacy, a non-significant inverse association with falls was observed. This finding may suggest the presence of appropriate polypharmacy and closer clinical monitoring within Indonesian geriatric practice, although this interpretation should be made with caution. These findings underscore an important and often underrecognised consideration: while the prescription of multiple medications may be considered for the management of coexisting conditions, it must be undertaken in a judicious and clinically appropriate manner.

BEYOND MULTIMORBIDITY: THE PROBLEM OF MULTICOMPLEXITY

Four in five older outpatients in Indonesian geriatric clinics had multimorbidity.[3] Multimorbidity should therefore be regarded not as an exception, but as the prevailing norm in geriatric clinical practice. However,

not all geriatric cases involve the same degree of complexity. In clinical practice, clinicians encounter not just multiple diseases, but multicomplexity – an intricate interaction between pathophysiology, treatment effects, functional status, cognition, and social context. This concept of multicomplexity, as a part of the Geriatrics 5Ms framework, should be emphasised in clinical practice and education.

Within the complex systems, interventions are not independent. Multimorbidity may complicate the application of guidelines as they are designed for distinctive single diseases.[6] A multicentre exploratory survey in the world suggested that more than half of the medical professionals decided to use multiple single-disease guidelines together to manage individuals with multimorbidity.[6] The main reason for not using guidelines that address multimorbidity itself was the lack of availability of such guidelines.[6] In fact, guidelines on management of multimorbidity exist, which include the American Geriatrics Society (AGS) Guiding Principles for the Care of Older Adults,[7] and the NICE UK guideline on clinical assessment and management of multimorbidity.[8,9]

WHEN GUIDELINES FAIL THE PATIENT

Multimorbidity and multicomplexity are crucial concepts to help clinicians navigate and challenge the single-disease paradigm that dominates in modern medicine.[10] Currently, evidence-based medicine has been built upon disease-specific clinical guidelines that are inherently reductionist, developed for single conditions, and derived from populations that rarely reflect frail, multimorbid older adults. Single disease guidelines may be less applicable to a person with multiple chronic conditions. The lack of experience and potential interactions between diseases and drugs can lead to challenges in decision-making when treating adults with multimorbidity. Medications prescribed in accordance with disease-specific guidelines may interact in unintended ways, resulting in cumulative potential harm. When applied simultaneously, multiple guidelines may result in excessive medication burden, competing therapeutic targets, increased risk of adverse events, and diminished adherence and quality of life.

POLYPHARMACY AS A MARKER OF SYSTEM FAILURE

Polypharmacy is frequently indicative of clinical complexity. Patients with multiple coexisting conditions often present with interacting and compounding pathophysiological processes and sequelae, which can be challenging to address within the constraints of a typical clinical encounter limited by time, expertise, or competing acute concerns. Polypharmacy and anticholinergic burden (ACB) have been widely regarded as problematic due to their association with adverse outcomes. Both have been linked to an increased risk of falls among older adults. Furthermore, fall-related injuries are associated with substantial morbidity, including disability, reduced mobility and independence, as well as increased mortality risk. The high prevalence of polypharmacy, together with measurable anticholinergic burden, may therefore be interpreted as a marker of suboptimal integration in care delivery.

In this issue of *Acta Medica Indonesiana*, a study conducted in geriatrician-led geriatric clinics across the Indonesian archipelago suggested that high anticholinergic burden (score ≥3) was only observed in 1.8% of older adults. It is still unknown whether in other clinics older adults are exposed to a potentially harmful anticholinergic burden. Anticholinergic effects are present in many commonly prescribed medications, including antiemetics, antidepressants, antihistamines, and certain antihypertensive agents.[11] The cumulative anticholinergic burden increases with the number and combination of such medications, thereby amplifying the risk of adverse effects.[12] Anticholinergic burden is not merely a drug-related parameter; it is a modifiable determinant of patient trajectory.

THE ART OF CHOOSING LESS

In the management of multimorbidity, clinical excellence is not defined by how much we do, but by how wisely we choose what not to do. The management of multimorbidity further

complicates deprescribing efforts. Clinicians may encounter conflicting disease-specific guidelines, uncertainty regarding the downstream effects of medication withdrawal, and the need to align decisions with evolving goals of care. In addition, patients may be reluctant to modify or discontinue treatment regimens that have been perceived by themselves as effective over extended periods.

Deprescribing becomes a central strategy, not as withdrawal of care, but as optimization of care. It requires clinicians to critically evaluate each medication in relation to current indication, expected benefit, potential harm, and alignment with the patient's goals. The evaluation is not a one-time task, but rather a cyclical process. Physicians can use validated tools for prescribing appropriateness, including AGS Beers Criteria®,[13] STOPP/START[14,] and PROMPT.[15] Deprescribing, however, often involves particularly sensitive discussions. Patients and their caregivers may not fully understand the rationale for medication discontinuation, may have concerns about altering long-standing therapies, or there may be insufficient time to establish the level of trust required for effective shared decision-making.

Outside geriatric practice, clinicians have started incorporating multicomplexity in their single-disease guidelines, for example, as recommended by the American Diabetes Association (ADA) to manage diabetes in older adults.[16] To optimise benefit and avoid adverse events, diabetic older adults with multiple coexisting chronic illnesses are now recommended to have a reasonable A1C goal of <8.0% instead of a stricter goal. Fasting or preprandial glucose target should be 90–150 mg/dL (5.0–8.3 mmol/L), whereas bedtime glucose level should be 100–180 mg/dL (5.6–10.0 mmol/L). Individual preference remains crucial in considering the target of treatment.[16]

FROM TARGETS TO MEANING: LIFESPAN VERSUS HEALTH SPAN

A central limitation of disease-based care is its focus on stricter numerical targets. However, for older adults with multimorbidity, particularly those with frailty, these targets may be less relevant than outcomes such as symptom control, functional independence, cognitive preservation, and reduced treatment burden. This shift is captured in the concept of "What Matters Most",[17] which reframes care around the patient's priorities rather than disease metrics. Reducing unnecessary treatment may offer greater benefit than intensifying disease control.

The findings also bring into focus a fundamental dilemma: the balance between extending life and preserving its quality. Aggressive treatment may improve disease-specific outcomes, but at the cost of increased adverse effects and reduced function. Conversely, simplifying treatment may enhance quality of life, even if it does not extend survival. This requires a shift from lifespan to health span—from how long patients live to how well they live. As modifying the healthy ageing process as appropriate could defer the onset of chronic diseases, we should apply biomedical advancement to focus on the health span.

The Indonesian multicentre study provides robust data, but its implications extend beyond statistics. It reminds us that: evidence alone is not enough. Clinical decision-making in multimorbidity requires integrating evidence, uncertainty, and patient values. In this context, clinical judgement becomes essential. The art of medicine lies not in eliminating uncertainty, but in navigating it, balancing benefits and risks, and aligning decisions with the patient's life context.

MULTICOMPLEXITY FOR MEDICAL STUDENTS

Not only is multicomplexity management a geriatrician's task, but it is also a core competency that all medical students must develop as recommended by AGS.[17] The minimum competencies set for medical students in this subtopic of geriatric medicine are ageing physiology, frailty, atypical presentations, prognosis, transitions of care, health equity, individualised recommendations, pressure injury, urinary incontinence, and sensory impairment.

In Indonesia, a substantial number of Indonesian fresh graduates worked as front-line doctors in emergency departments. Clinicians are expected to be able to consider conditions

that may present uniquely in older adults when constructing a differential diagnosis for an older patient with an acute concern. These conditions include, but are not limited to, electrolyte abnormalities, surgical emergencies, infections, and cardiac conditions. The ultimate objective of geriatric medicine training is to develop the capacity to incorporate frailty status, prognostic considerations, and, most importantly, patient preferences into recommendations regarding screening, diagnosis, treatment, and end-of-life care.

CONCLUSION

The multicentre findings regarding anticholinergic burden, falls, and the concept of appropriate polypharmacy represent more than epidemiological observations; they reflect how modern medical practice can confer benefit when applied appropriately. Conversely, inappropriate polypharmacy may harm patients when clinical complexity is not adequately addressed.

Ultimately, the art of managing multimorbidity lies in balancing evidence with context, intervention with restraint, and the prolongation of life with the preservation of its meaning. In older adults, optimal care is not necessarily the most intensive, but rather the care that is most closely aligned with the patient's values and life goals. Currently, competency standards should include multicomplexity, which should be introduced and mastered during medical school training.

CONFLICT OF INTEREST

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