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Editorial

# Polypharmacy in the Elderly: Time to Take Action and a Personal Perspective

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## Introduction

Polypharmacy is defined as the regular use of at least 5 different medications.[1] It tends to affect those with multiple co-morbidities and because medical conditions accrue throughout life, the elderly in particular are vulnerable. "Overprescribing" refers to medicines not needed or wanted by patients, those potentially more harmful than beneficial, or where alternatives that are more appropriate exist. It is one of the root causes of polypharmacy and according to a recent report, comprises 10% of all prescriptions in the UK at a cost of millions of pounds and significant patient harm. Indeed, it is estimated that 20% of all UK hospital admissions in over 65s are related to adverse drug effects of which overprescribing is a key driver.[2] Meaningful comparative data from Pakistan do not exist. In one study from Karachi, polypharmacy was found to be present in 70% of elderly patients attending outpatient clinics, with an incidence of adverse drug reactions of 10.5%.[3] Sarwar et al showed that polypharmacy and its consequences were prevalent not just in the elderly, but even more so in older patients less educated than their peers.[4] Non-steroidal anti-inflammatory drugs, anti-biotics, benzodiazepines, multi-vitamins/minerals and injections are the most commonly prescribed inappropriate medications, with the vast majority (88%) being branded formulations rather than generic ones.[5-7]

While some polypharmacy is inevitable because it is based on best evidence-based care (so-called "appropriate polypharmacy"), polypharmacy as a whole is associated with numerous negative consequences.[8] These include adverse drug reactions, prescribing errors, poor adherence to therapy, falls and even increased mortality.[9] Polypharmacy in the elderly is particularly challenging because at a time when patients are being prescribed more and more drugs, they are more sensitive to their impacts both in terms of pharmacokinetic and pharmacodynamics changes as well as environmental (e.g. extreme heat) and cognitive factors (e.g. dementia) too.

So how do we tackle polypharmacy in Pakistan? This has to be done on multiple levels:

1) **Cultural change** – these need to be driven throughout society and by both patients and healthcare professionals. We live in an era where there is a "pill for every ill". In 1949, the British National Formulary listed approximately 250 drug formulations only; today it comprises in excess of 18,000.[10] There is a dependence on demanding medication for every ailment which may serve the private sector well but is a recipe for bankrupting any publically-funded health service. Rather than offer advice for dealing with a common condition, say constipation, by educating patients on a healthy fibre and fluid intake, exercise and lifestyle changes, it is much easier for a busy, time-pressured doctor to prescribe one of many different laxatives. In turn, this is the expectation of many patients who may never visit the same doctor again if their consultation fee does not result in at least half a dozen drug prescriptions. This is further compounded by pressure from pharma and drug representatives who have undue influence on prescribing in Pakistan, plus multiple prescribers, without any one taking overall responsibility. The result is often unscrupulous prescribing practice.

Similarly, access to non-pharmacological treatments e.g. physiotherapy and so-called "social prescribing" (which improves health and wellbeing by connecting people to community services) is severely limited, if not non-existent. In addition, until integrated digital health records become the norm, patients need to be empowered to know more about their regular medications, keep their own records of them and be aware of

potentially dangerous side effects and interactions. The development of mobile phone apps is already proving more than helpful, not least in addressing the huge problem of non-adherence to treatment.[11,12]

**2) Educational change** – as above, this needs to include both healthcare professionals and civilians through changes to undergraduate and postgraduate medical curricula as well as public health publicity campaigns. In the UK, the advent of the Prescribing Safety Assessment for all medical students has meant that teaching in the area has become an important component of all clinical courses.[13] Hand in hand with this, better training is required on how to interpret and apply clinical evidence to individual patients: there is a wealth of data on how to treat a specific condition; barely anything, however, on how to treat a specific elderly patient in front of you. The vast majority of trials exclude the elderly or those with multiple co-morbidities yet the conclusions from those trials are extrapolated and applied to those very people.

Clinicians need to promote healthier living, minimise patient dependence on medications and where possible, use the least number of drugs and formulations. Effective communication with patients and /or carers is pivotal here, especially when it comes to agreeing the goals of treatment in elderly patients. The aim of course is always to maximise benefits and minimise risks from drugs but also to be clear about whether one is aiming to prolong life at any cost or instead focusing on symptomatic control so as to prioritise comfort in a terminal illness.[14] This is easier said than done when cultural, societal and religious beliefs, perceptions and "norms" may well be to the contrary.

**3) Political and legal change** – this is required to champion 1) and 2) above, not least by the provision of adequate funding and infrastructure development. Clinical pharmacists have a crucial role in the UK and other countries but in Pakistan it is one that is generally unregulated, along with the practice of branded prescribing. Legislative changes are required to kick-start healthier prescribing practice as well as much tighter control in terms of accessing medications e.g. restricted access to anti-biotics to prevent development of resistance and easier access to opiate-based analgesia for those in the last days of life. Supporting local formularies and clinical pharmacist development in hospitals would be a worthwhile investment.

Protecting the public not just from the harms of over-prescribing but also its heavy financial burden is long overdue and urgently needed. Strong leadership on this front must come from senior clinicians and the government but patients need to play their role too for things to improve.

**Polypharmacy in the elderly – a personal persepctive**

A doctor in his 80s writes:

I have a catalogue of illnesses, which started with a bout of IgA vasculitis in the 1960s. I suffer from ischaemic heart disease, for which I have previously had coronary intervention with by-pass grafting and stenting, type 2 diabetes mellitus, hypertension, erectile dysfunction, and osteoarthritis. I also had prostate cancer surgery previously but thankfully remain in the clear. Post-surgery, I became quite depressed but rehabilitation programmes helped tremendously. My current medications comprise aspirin, indapamide, metformin, irbesartan, rosuvastatin, sildenafil (as required), and paracetamol as and when required.

I was previously taking more drugs but by being disciplined in terms of lifestyle changes, including a regular exercise and relaxation regimen, diet and weight control, I have managed to reduce them. I stay away from sleeping tablets, anti-depressants and alcohol. I do not smoke. On the whole, I tolerate my medicines well but do get headaches and low mood at times. I take my treatment regularly and feel well supported by the healthcare professionals who look after me. I monitor my blood pressure and glucose myself which allows me to take more control of my care and makes me feel more "involved".

I am motivated by aiming for good health for as long as possible and a more positive mood as a consequence. I am still able to continue to work part time, drive my car, get a good night's sleep, and also enjoy my food, and the company of my loved ones. I am fortunate that by living in the UK, my medications are provided free by the National Health Service; otherwise they cost the NHS (which negotiates special UK-wide tariffs) approximately £20/month, equivalent to PKR 4,000-5,000 (based on present exchange rates). This would be a significant cost burden for an average Pakistani patient, who is more likely to be at the mercy of counterfeit medications too.

Medicines are an important aspect of maintaining good health. We should aspire to keep them to a minimum though by ensuring we take our own responsibility to stay fit and well seriously. This is the best policy for us individually but also for the state and society as a whole.

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