CODEN [USA]: IAJPBB ISSN : 2349-7750

INDO AMERICAN JOURNAL OF
PHARMACEUTICAL SCIENCES
SJIF Impact Factor: 7.187
https://doi.org/10.5281/zenodo.20680601

Available online at: http://www.iajps.com Research Article

POLYPHARMACY IN THE ELDERLY-PREVALENCE, CONSEQUENCES, AND MANAGEMENT STRATEGIES

Ramavath Rajendhar[1], Ramavath Manjula[2], Aerva Swetha[3], Dr.P. Soma Shekhar[4]

[1]Student of PharmD 4th year, [2]Student of pharm D 4th year, [3]Student of pharm D 4th year,
[4]Assistant professor - Vision college of pharmaceutical sciences and research.

Abstract:

Older people taking five or more medicines at once - called polypharmacy - is now a major issue in medical care for aging populations. As the number of elderly individuals rises fast across the globe and within India, so does the need for multiple drugs due to several ongoing health conditions. Evidence gathered recently looks closely at how experts define this trend, how common it is, how bodies process many drugs together, what risks arise, which tools help evaluate patients, along with ways doctors can respond. Despite growing attention, handling too many prescriptions remains complex, especially when bodily functions slow with age. Each added medication shifts the balance, sometimes making treatment harder instead of better. Researchers examine patterns not just in usage but also in outcomes tied to long-term drug regimens among seniors. Understanding absorption, breakdown, and elimination becomes crucial since these processes change over time. Side effects pile up quietly until they surface as confusion, falls, or organ strain. Some screening systems flag risky combinations before harm occurs. Doctors weigh benefits against dangers case by case rather than following fixed rules. Adjustments often mean stopping certain pills instead of adding new ones. Conversations between clinicians and patients shape decisions more than guidelines alone.

Looking into how polypharmacy is defined and sorted worldwide. Across nations, numbers show how common it is - India included. Aging shifts how bodies process medicines, changing effects over time. Side effects pop up more often - think bad reactions, slips, trips, longer stays in hospitals, even earlier death. Tools like Beers 2023 or STOPP/START help spot risky prescriptions before harm shows. Cutting back wisely uses proof-backed methods to keep medicine use safer later in life.

Looking through existing reports shaped how we worked. We checked digital sources like PubMed/MEDLINE, Embase, Cochrane Library, Scopus, along with Google Scholar. Publications from January 2015 up until April 2025 caught our attention. Recent papers - especially those dated 2020 and later - were given more weight. Words such as 'polypharmacy', 'elderly', 'geriatric', plus others linked to drug safety guided what we found. Terms also covered issues like unwanted medicine effects, trimming prescriptions, questionable drugs, multiple health conditions, and checking medication routines. Research carried out in India stood out during analysis.

Most older adults take multiple medicines at once, though exact numbers shift - anywhere from 1 in 9 up to more than two-thirds - depending on how it's measured and where. Hospitals in India report such cases often, crossing past 40%, sometimes hitting nearly seven out of ten patients. Bodies process drugs differently with age, making bad reactions far more likely. Taking many prescriptions raises chances for harm: troubles like dizziness leading to slips, fading memory, longer stays in clinics, even earlier death - risk jumps by more than double. Guidelines updated in 2023 - the AGS Beers list plus STOPP/START version three, now covering 190 clear points - help spot treatments that might do more damage than good.

Most older adults take several medicines at once, which can cause serious health problems. Fixing this means doctors, pharmacists, and nurses working together to rethink prescriptions. Instead of just adding drugs, they carefully check each one and stop those that may do more harm than good. Tools proven by research help guide these decisions. Clear plans built around the patient lower risks tied to too many pills.

Polypharmacy Risks in Older Adults with Multiple Health Conditions

Corresponding author:
Ramavath Rajendhar,
Student of PharmD 4th year,
Vision college of pharmaceutical sciences and research.
***Gmail**: rajendharramavath95@gmail.com*

QR CODE

Please cite this article in press Ramavath Rajendhar et al., Polypharmacy In The Elderly-Prevalence, Consequences, And Management Strategies., Indo Am. J. P. Sci, 2026; 13(06).

1. INTRODUCTION:

Older folks are growing in number faster than ever before. By 2050, one out of every five humans could be 60 or more, says the WHO, up from about one in eight back in 2015. India? Around three hundred million seniors might call it home near mid-century, making them roughly a fifth of everyone living there. With age comes a heavier load of long-term health issues - think high blood pressure, sugar imbalance, blocked arteries, worn joints, failing kidneys - each needing different pills over time.

When people live with several long-term health issues, medicines pile up over time. Five or more drugs taken at once? That's what the World Health Organization often means by polypharmacy. Not every expert agrees on the exact number. More prescriptions among elderly populations have become hard to ignore. What looks like treatment can quietly turn into overload. A quiet wave of medication strain now ripples through communities. Most people need more than one medicine sometimes, backed by solid proof. Still, when drugs get added without a clear reason, danger grows fast instead. Risks climb higher if treatments bring harm rather than help. Safer options often sit nearby, ignored too long already. Side effects jump up sharply in these cases. Mixing medicines poorly causes new problems quietly. Skipping doses becomes common then. Balance tips toward injury on unsteady legs frequently. Emergency visits rise as bodies react badly suddenly. Death arrives sooner than it should down that path.

To be clear, knowing about multiple medicine use matters deeply for those studying pharmacy or working directly with patients. Those who specialize in medications often spot when too many drugs are prescribed by chance rather than choice. They take time to look at every pill someone takes, then help remove what isn't needed while guiding people toward smarter choices. What follows rests firmly on recent findings, drawing only from trusted sources published before 2025, offering a full picture without guesswork.

Because ESI Hospital in Hyderabad cares for older adults who often face multiple health issues, findings here fit right into daily medical practice. Though rooted in complex conditions, the conclusions line up closely with real patient needs. Since most individuals arrive with layered diagnoses, what works in theory must also work on the ward. With limited resources and crowded clinics, practical takeaways matter more than abstract ideas. While research often floats above routine care, this analysis stays grounded in actual challenges. Even so, its value shows not in grand claims but in small, steady improvements at bedside level.

2. Goals of the Review

This review aims first at its main goal, then moves to what comes next. Its core purpose stands alongside a follow-up point that supports it. One target leads into another without overlap. Each aim fits within the overall direction taken her

Primary Objectives:

To critically appraise current definitions and classification systems for polypharmacy.
Looking at how often older people take multiple medicines worldwide, especially in India.
Older bodies process drugs differently - this raises risks. Changes in how medicines move through the system matter most. Body weight shifts alter dosing needs. Liver slowdowns stretch drug activity. Kidneys often filter slower, letting substances build up. Brain sensitivity climbs with certain medications. These factors link closely to side effects seen later in life. Responses once mild may turn severe. Past safety does not guarantee future results.

Looking at how taking many medicines affects health - like bad reactions, more falls, thinking problems, time in hospitals, death rates. Each effect tied back to using too many drugs together. Some outcomes show up often when prescriptions pile up. Problems grow worse without clear oversight. Risks climb quietly over time. One issue leads into another, rarely alone. Side effects mix with age-

related changes. Balance tips toward harm instead of help.

Looking at tested medical checklists that spot risky drugs for older adults.

To review evidence-based strategies for managing and reducing inappropriate polypharmacy, including deprescribing frameworks.

Secondary Objectives:
To highlight the Indian context of polypharmacy with reference to hospital-based studies.
To discuss the role of the clinical pharmacist (Pharm.D) in polypharmacy management.
To identify gaps in current literature and sug
Future studies might explore these paths next.

4. Review of Literature

4.1 Understanding Multiple Medication Use and Its Types

Back in the 1800s, someone first used the word 'polypharmacy,' but people still can't agree on exactly what it means. Though many now link it to taking at least five medicines at once, that number didn't come out of nowhere - researchers like Masnoon and team dug through stacks of studies back in 2017 and found well over a hundred different ways folks had defined it. Their work, published in BMC Geriatrics, became a key reference point amid all the confusion.

Right now, experts tend to group polypharmacy this way:
Polypharmacy: concurrent use of ≥5 medications (most widely accepted threshold)

Stacking ten or more medicines at once? Risk doesn't just rise - it spikes fast. That's what happens when too many drugs mix together daily. Each added pill nudges danger further uphill without warning

Medicines piled up? Sometimes it makes sense. Picture several drugs, every one meant for a real health reason. When gains beat downsides, that counts as smart prescribing. The British Geriatrics Society flagged this back in 2013. Later on, Hughes brought it up again, in 2021, inside the pages of the British Journal of Clinica l Pharmacology

Some drug combos make little sense. When prescriptions pile up without good reason, harm can creep in. Safer options might already be available. Benefits fade when dangers grow too large. Doctors sometimes miss better paths. Pills stack even when they should not. Risk wins over reward in these cases. Clear purpose gets lost along the way

What matters most isn't just the number - StatPearls, updated in February 2024, points out - it's using proven methods to cut down on unnecessary medication use. That idea lines up with what the WHO Global Patient Safety Challenge said back in 2017.

4.2 Epidemiology: Global Evidence

Across the globe, taking multiple medicines at once has become a growing concern. How often it happens depends on how experts define it. Different healthcare environments show different patterns. Older adults face higher rates than younger people. The number of existing health conditions plays a role too

Back in Sweden, researchers looked at nearly two million people over sixty-five between 2010 and 2013. Close to half of them took five or more medications every day. That's where things got complicated - more than one in ten used ten or more medicines regularly. The data came from national health records analyzed by Morin and team. Numbers like these showed how common heavy medication use had become among seniors.

Most older adults living at home deal with multiple health issues alongside taking several medicines. This pattern shows up clearly in a 2024 analysis of 87 studies published by The Lancet Healthy Longevity. Two or more chronic conditions plus five or more drugs mark the usual threshold. Findings agree closely on these numbers. Together, the evidence points to widespread overlap between complex diagnoses and medication routines in people age 65 and above.

Worldwide, how often people take multiple medicines shifts a lot - roughly 10% up past 65%, depending on where you look. Nursing homes and hospitals show the most cases over time. A broad analysis by Kim and team, pulling together findings from nearly three decades through 2024, highlights this spread clearly.

Most older patients in Italian hospitals took many medicines at once, according to a large study called GLISTEN. That number was seventy out of every hundred people admitted. Thirteen had an even higher load - more than five drugs regularly. The findings came from data gathered across multiple centers in Italy.

Most older patients in China's hospitals take way too many medicines. Nearly every person age eighty or above uses eleven or more pills at once. A study from 2021 found that number hits ninety-six out of a hundred. Experts reported these findings in the European Geriatric Medicine journal.

A single country spends close to fifty billion dollars every year because of how drugs interact when mixed - most felt within two major health programs (StatPearls, 2024).

4.3 Indian Epidemiology

Heavy medicine use in India gets little attention compared to Western research. Recent studies from India show:

It turns out older patients in Indian hospitals often take multiple medications at once. A look into recent Indian literary works by PMC highlights this pattern clearly. Backed by research tagged PMID: 34934644 from 2021, the numbers show up between 40% and 65%. Where exactly matters - rates shift based on location. This widespread use of several drugs together keeps appearing across studies.

Thirty-one percent of older adults seen at a medical college hospital were on multiple medicines during early 2023. A look into their prescriptions revealed many faced possible drug clashes. Most of these issues fell into the middle-risk range rather than severe ones. Data came from patient records collected over six months in southern India. The findings appeared in a science journal known for open access publishing.

Many people in India face greater risks because they often deal with more than one health issue at once - like high blood pressure, diabetes, or heart problems. Because these conditions overlap, managing treatment gets harder. Some choose their own medications without medical advice. Seeing several doctors who do not share information adds further complexity. Using Western drugs alongside traditional remedies such as Ayurveda or homeopathy is common. Not everyone fully understands how to navigate care or follow treatments correctly.

Out in rural Karnataka, older folks visiting a medical college's outreach spot were found taking multiple meds, says Kumar and team in a 2015 journal on medicine and public health.

Out of India's older outpatients came a study by Mandavi and D'Cruz, spotting unwanted medicine effects alongside what ups the chances - too many prescriptions topping the list.

4.4 How Medicines Affect Older Bodies Differently

Older bodies handle medicines differently. As years pass, how pills move through the system shifts quietly. Changes in liver function slow breakdowns. Kidney adjustments delay exits. Body composition tweaks change where drugs settle. These shifts mix unpredictably. Sensitivity climbs even when doses stay flat. Tiny amounts can spark big reactions. Medicines once tolerated turn troublesome. Risks pile up without warning signs. Each prescription adds weight. Combinations drift toward chaos. Small missteps grow larger here

Pharmacokinetic Changes:

Slower stomach movement might change how medicines enter the body. When acid levels drop, the environment inside becomes less harsh. This shift affects timing. Emptying takes longer, which delays entry into the intestines. Movement through the gut often slows down too. Each step tweaks when and how much gets absorbed.

More fat plus less muscle changes how certain medicines spread through the body. When body water drops, some drugs stay around longer. Low albumin means more unbound drug circulates - like with warfarin or phenytoin. That extra active portion can pack a stronger effect. How the blood carries medicine shifts when proteins dip. Fat-soluble drugs find bigger spaces to move into. Less binding power in plasma frees up potent doses. Body changes alter where medications finally land.

Older livers are smaller, with less blood moving through them. Because of this change, certain medications stay active longer. Some chemical changes in the body lose strength over time. Drugs like diazepam or amitriptyline break down more slowly. Enzymes that process these substances work at a lower rate. This slowdown affects how long medicine remains in the system.

After 40, kidney function dips by about 1 mL/min each year. That slower pace means medicines like digoxin or metformin stick around longer. Some pain relievers and antibiotics also linger when kidneys aren't filtering fast enough. With time, these substances can build up where they shouldn't.

Pharmacodynamic Changes:

Older brains react more strongly to certain medications because nerve cells are fewer and brain chemicals work differently.

When baroreflex sensitivity drops, staying upright becomes trickier while on blood pressure drugs or water pills - balance sways more easily. Standing steady gets harder because the body reacts slower, especially when medications widen vessels or flush fluids.

Older adults often take medicines that block acetylcholine, a brain chemical. These drugs can cloud thinking, slow digestion, make it hard to pee, or trigger confusion. Such effects become more likely as people age. Many common prescriptions for seniors carry this risk without clear warning. The

body's reaction grows stronger over time, turning small doses into big problems.

Most older adults now use between two and nine medications daily, notes the American Journal of Family Practice from summer 2023. Because their livers process drugs more slowly, kidneys clear them less efficiently, plus body tissues hold onto substances longer - this mix raises dangers when multiple prescriptions overlap. Though each factor alone seems minor, layered they reshape how medicine behaves inside the aging body.

4.5 Clinical Effects of Taking Multiple Medicines

4.5.1 Side Effects of Medicines

Most times, taking many medicines shows up as ADRs - clear, seen effects. Proof points to this again and again

One thousand older adults were followed at a hospital in Karachi, showing seventy out of every hundred used multiple medications. Adverse reactions occurred in just over ten percent of them. Those on many drugs faced more than double the chance of harmful effects. Risk ratio stood at two point three, with confidence between one point four and three point nine. Findings came from research published by Ahmed and team in PLoS ONE, 2014. Older patients managing multiple health conditions while taking several medications often face adverse reactions, according to a detailed 2024 analysis published by MDPI in Pharmacoepidemiology. Blood thinners, drugs that reduce clotting, insulin, and common pain relievers show up most in these cases. Yet many such problems could have been avoided. The study looked closely at patterns across large groups, revealing consistent links between specific medicines and negative outcomes.

When side effects get mistaken for fresh health issues, older people often end up on more drugs than needed. This chain reaction hides in plain sight, spreading quietly through routine checkups. One pill leads to another, then another, each masking the last instead of fixing anything real.

4.5.2 Drug-Drug Interactions (DDIs)

Most older adults in India face moderate clashes between their medicines, research shows after looking at many cases. Though dangerous mix-ups happen too, they occur less often than milder ones. As pill count climbs, trouble brews faster - way beyond simple addition. Take five meds? About half will interfere with one another. Push it to seven? Almost certain something goes wrong. That jump isn’t steady - it surges sharply near the top.

4.5.3 Falls and Fractures

Taking many medicines - especially those affecting the brain, blood pressure, or bladder control - raises fall chances in older adults. Slips and tumbles often lead to broken hips, lasting problems, even dying among seniors. New guidance from Europe's heart experts warns tight blood pressure goals can backfire when applied to weak or unsteady elders - it might spark fainting, falling, sudden kidney issues too (ESC, 2024).

4.5.4 Cognitive Decline and Delirium

Medicines adding up to a stronger brain-slowing effect can cloud thinking over time. When several drugs mix, their combined impact might speed memory loss or confusion. One 2023 analysis by ACOFP pointed out doctors ought to check pill routines when patients show early mental fog. Instead of jumping to diagnoses, stepping back through prescriptions could reveal hidden causes. Looking closely at what someone takes may matter just as much as scans or tests. That review stressed checking medicines every time cognition comes into question.

4.5.5 Hospital Stays and Medical Care Use

Older adults living in the community who take many medicines face higher risks of ending up in the hospital. This pattern holds even when looking just at those on multiple drugs for mental health, high blood pressure, or diabetes. Evidence comes from a past look at medical records by BMC Primary Care researchers in 2023. The group studied included only people aged sixty five and above. What stood out was that drug load itself played a role apart from other factors. Emergency room trips went up along with total prescriptions filled. Especially strong links appeared with certain medication types.

4.5.6 Medication Non-Adherence

One more pill often means fewer people stick to their plan. A 2021 analysis from India pointed out how juggling multiple drugs raises the chance of skipped doses among older adults. This tangle worsens long-term illness control.

4.5.7 Frailty and Mortality

Older people taking many medications tend to be more physically weak. This link shows up clearly across several large reviews of data. One paper in Frontiers in Public Health, written by Alqahtani in 2023, showed that using five or more drugs connects strongly with frailty in elderly Americans. Even higher risks appear when someone takes ten or more medicines. Death rates rise along with medicine counts, especially at those very high levels.

4.6 Tools to Spot Possibly Wrong Medicines

4.6.1 American Geriatrics Society 2023 Beers Criteria

Updated in 2023, the Beers Criteria stand as a go-to guide for spotting potentially harmful meds in people age 65 or more. This version sharpens advice

on blood thinners along with diabetes pills based on newer evidence. It splits risky medicines into five groups instead of lumping them together - one covers drugs best skipped by every senior. Another flags treatments that backfire when certain health issues are present. Some entries warn about care needed during use, while others spotlight interactions between prescriptions. A final section focuses on kidney-related dosing changes. Though rooted in American healthcare patterns, these guidelines also shape how pharmacists work across India.

4.6.2 Stop Start Criteria Version 3 2023

One way to look at older adults' medicines is through STOPP and START. These tools work hand in hand but start from different angles. The newest version, STOPP v3 released in 2023, covers 190 points across many health areas. Each point reflects recent medical guidance. What sets it apart? It was tested mainly in Europe, unlike the Beers list. Research shows it helps cut down on harmful prescriptions. At the same time, it highlights useful drugs that may be missing. Because it checks both problems - too much or too little - it goes further than Beers. That balance gives doctors a fuller picture when adjusting treatment plans.

4.6.3 Medication Appropriateness Index

Starting off differently each time helps clarity. Medication Appropriateness Index checks ten aspects without saying so outright. Indications come into play along with how well drugs work. Effectiveness matters just as much as correct dose size. Directions for use appear next in the sequence. One thing connects to another - interactions between medicines show up here. Health conditions may clash with certain drugs, that gets noted too. Repeating medications? That factor goes under scrutiny. How long treatment lasts plays a role in scoring. Cost enters the picture because it affects choices. Practicality wraps things up near the end. Personal reviews gain value through this method. Individual needs shape how results are seen.

4.6.4 Other Tools

One option is the NO TEARS tool (Lewis, BMJ, 2004), useful when clarity matters most. Though CGA fits better in broader evaluations. Because it checks many areas at once. While the GP-GP algorithm guides care gently in palliative settings. Since each works well where needs differ.

4.7 Reducing Medications and Managing Multiple Drug Use

Stopping certain medicines carefully, under supervision, when risks exceed rewards - that idea sits at the heart of handling multiple drugs. The Annual Review of Medicine, Thompson and McDonald in 2024, says stepping back from prescriptions can work without danger. Still, real gains in health aren't clear yet - studies measure results too differently to say for sure.

Key Deprescribing Frameworks:

One step at a time, this method spots meds that might not fit while also uncovering health issues left behind. Moving slowly helps reveal what's wrong and what's missing - no rush, just clarity along the way.

Start by checking if the medicine is needed. Then look at how well it works. See whether it causes harm. Consider if the person can stick with taking it. Each drug gets reviewed this way.

Start by listing every medication being used. Because reasons matter, write down why each one was started. Risk changes over time, so review the total picture carefully. Some pills matter more than others when stopping, choose wisely. Watch closely once any are stopped, keep track of what happens.
These tools come from Deprescribing.org. Tools help people decide about certain medicines. Each one focuses on a different type of pill. They rely on solid research. Experts tested them before release. Handouts guide choices in clear ways.

Barriers to Deprescribing

Patient reluctance and fear of symptom recurrence.
One doctor writes a prescription. Another does the same - no communication between them. Information stays separate. Medicines pile up without review. Risks grow quietly in the gaps.
Cognitive impairment limiting patient participation in decision-making.

Time constraints in outpatient settings.

Most doctors never learn enough about how older bodies handle medicines.

A study from 2023 by Zhou and team looked closely at how stopping unnecessary medicines affects older adults, showing it really does cut down pill counts. Because of this, some experts now suggest managing multiple medications more carefully inside hospitals, much like how antibiotics are controlled. This idea, called polypharmacy stewardship, came up recently in an article by Daunt, Curtin, and O'Mahony published in The Lancet Healthy Longevity. Instead of reacting late, the focus shifts toward preventing overload before it starts.

4.8 How Clinical Pharmacists Help with Multiple Medications

A clinical pharmacist with Pharm.D. training stands apart when handling multiple medications, no matter where care happens

Conducting comprehensive medication reviews (CMRs) in inpatient, outpatient, and community settings.
Performing medication reconciliation at care transitions (admission, discharge, transfer).
Applying Beers Criteria and STOPP/START to identify PIMs and undertreated conditions.
Identifying and resolving drug-drug and drug-disease interactions.
Facilitating deprescribing conversations with prescribers and patients.
Counseling elderly patients on rational medication use, adherence, and self-medication risks.
Working alongside a mix of specialists - doctors focused on aging, medication experts, caregivers, and counselors who support daily living needs.
Contributing to pharmacovigilance and ADR reporting systems.

That 2024 paper from Curr Geriatr Rep by Perron dives into how teams can better handle too many medications, showing pharmacists are key when it comes to making real shifts during regular patient visits. While doctors make plans, the person often best placed to put those ideas into motion is the pharmacy expert working alongside them. Though teamwork matters, without active involvement from pharmacists, efforts tend to stall in everyday settings. Because medication overload is complex, having someone trained specifically in drug therapy helps guide smarter choices. When changes happen, they stick more often if the pharmacist leads parts of the conversation. Even so, their potential remains underused across most clinics. Yet evidence keeps pointing the same direction - better outcomes follow when pharmacists step forward in these roles.

6.Discussion

Polypharmacy isn’t just common among older adults - it’s becoming harder to ignore, especially in how it shapes health risks and medical costs. Evidence pulled from various sources covers everything from what we mean by the term to who gets affected most, why drug interactions happen, what harm they cause, along with ways to respond - especially where India's healthcare system meets pharmacy expertise.

6.1 The Definition Challenge

One reason it's hard to compare study results? Nobody agrees on what polypharmacy really means. Though counting five or more medicines is common, deciding whether those drugs are right matters far more than the number alone. Picture an 80-year-old who’s weak but taking eight necessary meds - this looks nothing like a healthier 65-year-old using six pills when two serve no clear purpose. What shifts the focus isn’t just quantity - it’s why each medicine is there. Experts in aging and drug therapy now see that reviewing prescriptions should center on people, not arbitrary cutoffs.

6.2 The Indian Context

Worrying signs show up in India's health patterns. Because many older people face several illnesses at once - like high blood pressure, diabetes, heart problems, or breathing issues - the chance of taking too many medicines grows stronger. Add low awareness about health topics into the mix. People often visit different kinds of doctors - modern medicine and traditional practices - with little coordination between them. Picking pills without prescriptions becomes common, especially when store-bought drugs or home treatments are easy to reach. Rural regions struggle more due to weak medical facilities nearby. At ESI Hospital in Hyderabad, where workers with job-related sicknesses come often, older patients probably take multiple medications just as much - or even more - than average national numbers suggest. When you look closely at such places over time, real insights start showing up.

6.3 Pharmacokinetic Vulnerability

Older bodies process medicines differently, making multiple drug risks worse. Because kidneys often work less well, doses must adjust based on kidney function for every older person taking several medications. Medicines such as digoxin, lithium, warfarin, and certain antibiotics leave little room for error in later years. Watching closely becomes essential - and those with Pharm.D preparation are especially equipped. In complex care teams, that knowledge stands out when safety hinges on precision.

6.4 Tools Used to Measure Patient Progress in Therapy

New versions of the Beers list and STOPP/START came out in 2023, offering better ways to handle too many medicines. Still, older methods such as the MAI stay useful because they rely on a clinician's thinking instead of fixed rules. These tools were mostly tested in Western countries, so using them in India can be tricky. One path forward might be clinics run by Pharm.D professionals, especially in big hospitals like ESI. Such setups could help make thoughtful medicine reviews part of daily work.

6.**5 Deprescribing Becomes Focus in Patient Care**

Now here's a fresh take - studies into stopping unnecessary meds show real promise. Though older adults are involved, reductions happen safely when choices are thoughtful, care stays focused on the person. What matters most? A step-by-step plan where talking openly forms the core: why changes make sense, how they unfold, whether things can shift back if needed. When worries surface - "this was given for a purpose, stepping away feels risky"

- honest conversations rooted in data help guide next steps together.

One idea catching on lately mixes careful drug oversight with everyday hospital routines - much like how antibiotics are managed, only wider in scope (Daunt et al., Lancet Healthy Longev, 2023). Instead of sticking to old patterns, places such as ESI might test these efforts on a small scale. While faculty watch closely, Pharm.D learners could dive into real work within these trials.

6.6 Limits of This Review

It's a narrative-style review, so even with careful searching, certain studies might have been favored over others. Different papers define multiple medication use in their own ways, making comparisons tricky at best. From India, information feels thin - especially when you look closer at big hospitals across Telangana and Andhra Pradesh. New research on stopping unnecessary drugs keeps coming out fast; what's true today could shift tomorrow. Missing pieces matter too - the analysis skips tools like PRISMA charts or number-crunching summaries that sharpen results.

7. CONCLUSION:

Older adults taking many medications has become a serious issue worldwide, especially in India. As people live longer, they often face more than one illness at once. Treatment plans usually recommend several drugs together, which adds to the problem. Care gets split among different doctors, making coordination harder. Side effects show up - like confusion, dizziness, bad drug reactions, or trips to the hospital. These outcomes strain both loved ones and medical services alike.

Now comes smarter ways scientists spot and handle too many meds, like the 2023 Beers list or STOPP/START v3. Lately, scaling back prescriptions has taken shape - thanks to solid proof pulled from deep research - giving clearer steps to trim drug routines for older adults.

When it comes to clinical pharmacists - especially those with a Pharm.D who work at large medical centers such as ESI Hospital in Hyderabad - handling multiple medications is among the key roles they play. Because older adults often take many drugs, these professionals step in by reviewing every medicine carefully. Instead of simply listing pills, they use trusted checklists to spot risky prescriptions. Through thoughtful evaluation, removal of unnecessary drugs becomes possible. Working alongside doctors and nurses in aging-focused care groups adds another layer of support. With time, their involvement leads to fewer problems caused by medicines. Outcomes improve when decisions are made together across specialties. Real changes happen - not just on paper but in how patients feel each day.

Looking ahead, work should focus on spotting how common multiple drug use is inside South Indian hospital systems. One path involves testing whether STOPP and START rules fit local patient patterns. Another angle means building medicine lists that match India's health landscape. A closer look at pharmacist-run reviews in big hospitals could show what really works.

Putting several medications together carefully makes sense when it's based on solid proof. Good decisions come from using trusted methods to guide choices. Teams of different experts working together improve results for older adults. Doing so isn't just smart medicine - it's the right thing to do.

REFERENCES:

1. Masnoon N, Shakib S, Kalisch-Ellett L, Caughey GE. What is polypharmacy? A systematic review of definitions. BMC Geriatr. 2017;17(1):230. doi:10.1186/s12877-017-0621-2
2. Thompson W, McDonald EG. Polypharmacy and Deprescribing in Older Adults. Annu Rev Med. 2024;75:113-127. doi:10.1146/annurev-med-070822-101947
3. Delara M, Murray L, Jafari B, et al. Prevalence and factors associated with polypharmacy: A systematic review and meta-analysis. BMC Geriatr. 2022;22:601. doi:10.1186/s12877-022-03289-z
4. Kim S, then Lee H, followed by Park J plus others looked at how often people take many medicines worldwide and in regions between 1997 and 2022. Their work pulled together earlier reviews on the topic. Published in Arch Gerontol Geriatr in 2024, article number 105465. The digital object identifier is 10.1016/j.archger.2024.105465
5. Published in The Lancet Healthy Longevity. This study looks into how common it is for grown-ups, especially elders, to live with more than one health condition at once - while also taking many medicines. Findings come from a thorough analysis of existing research. Results highlight widespread patterns across different populations. Work appeared in Lancet Healthy Longev during 2024. Reference number: 10.1016/S2666-7568(24)00007-2.