GERIATRIC PSYCHIATRY - I

Experts meeting at Srinagar 03072026:

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The Geriatric Psychiatry sub-committee group was formed on 26th June 2026. Constitution and Deliberations of the Thesis Subcommittee: A Thesis Subcommittee was constituted to identify priority areas for postgraduate thesis research in Geriatric Psychiatry through a structured consultative process. The Subcommittee was tasked with identifying broad thematic areas of contemporary relevance and developing a framework to formulate feasible and impactful research topics.

During the Expert Team's initial meeting, extensive deliberations were held on current research priorities, unmet clinical needs, and emerging areas of importance in Geriatric Psychiatry. Based on the recommendations of Dr Mina Chandra, four broad thematic domains were identified as priority areas requiring focused research:

1. Dementia
2. Depression
3. Delirium
4. Biomarkers in Geriatric Psychiatry

The Subcommittee agreed to adopt these domains as the broad framework for developing postgraduate thesis topics. Subsequently, members of the Subcommittee were invited to submit tentative thesis topics for each identified domain. The proposed topics were compiled and examined with regard to their scientific merit, relevance to national and clinical priorities, feasibility of implementation, methodological rigour, and potential contribution to the evidence base in Geriatric Psychiatry.

The preliminary list of proposed topics was reviewed during a subsequent meeting of the Subcommittee held on 3rd July, during which detailed discussions were held to refine the scope, improve methodological clarity, minimise overlap, and enhance the overall quality of the proposed research topics. Suggestions and observations from members during the meeting

were incorporated by consensus, resulting in further elaboration and refinement of the proposed thesis topics.

Outcome:
The process resulted in a preliminary list of postgraduate thesis topics organised into the four priority domains of dementia, depression, delirium, and biomarkers in Geriatric Psychiatry. These recommendations result from a systematic and consultative process undertaken by the Thesis Subcommittee and are intended to serve as a guiding framework for postgraduate research in Geriatric Psychiatry, aligned with contemporary scientific evidence and national academic priorities.

DEMENTIA

01	**Positive Aspects of Caregiving Among Caregivers of Persons with Dementia (Qualitative Study)**

Research Gap: Caregiving research in dementia has predominantly focused on burden and negative consequences, with limited exploration of positive or growth-oriented experiences. Where positive aspects of caregiving (PAC) have been studied, this has largely been through pre-validated Western quantitative scales, which may not capture culturally specific or context-dependent themes relevant to Indian caregivers (e.g., spiritual meaning, family reputation). A qualitative exploration is needed to generate a locally grounded understanding of what caregivers themselves identify as meaningful or rewarding about caregiving.
Aim: To explore the positive aspects of caregiving as experienced by caregivers of persons with dementia.
Objectives:

1. To identify and describe the themes/domains of positive aspects of caregiving as reported by caregivers of persons with dementia
2. To explore how these positive experiences relate to caregiver, patient, and sociocultural factors

Study Design: Qualitative study (in-depth interviews and/or focus group discussions), analyzed using thematic analysis
Population: Primary caregivers (≥18 years) of persons with dementia (any subtype, DSM-5/ICD-11 diagnosed), providing care for ≥6 months, (OPD/IPD/ Community)
Exposure: Caregiving role — being a primary caregiver of a person with dementia
Outcome: Themes/domains of positive aspects of caregiving (e.g., sense of purpose, personal growth, strengthened relationships, spiritual/religious meaning), derived through thematic analysis of interview/FGD transcripts

02	**Caregiver Burden Among Caregivers of Persons with Dementia — Comparison Across Dementia Subtypes**

Research Gap: While caregiver burden in dementia is well documented globally, there is limited Indian data comparing burden levels across different dementia subtypes (Alzheimer's disease, vascular dementia, frontotemporal dementia, Lewy body dementia, mixed dementia). Since subtypes differ in symptom profile (e.g., behavioral disturbance is more prominent in frontotemporal dementia), caregiver burden may not be uniform, and this has implications for subtype-specific caregiver support.

Aim: To assess caregiver burden among caregivers of persons with dementia and compare burden across different dementia subtypes.

Objectives:

1. To assess the level of caregiver burden among caregivers of persons with dementia using the Zarit Burden Interview (ZBI)/ Burden Assessment Schedule
2. To compare caregiver burden scores across different dementia subtypes
3. To determine the association between caregiver burden and sociodemographic/clinical factors (caregiver relationship, duration of caregiving, dementia severity, presence of BPSD)

Study Design: Cross-sectional, comparative descriptive study

Population: Primary caregivers (≥18 years) of persons with dementia (DSM-5/ICD-11 diagnosed), across dementia subtypes – Alzheimer's disease, vascular dementia, frontotemporal dementia, mixed dementia, others

Exposure: Dementia subtype of the care-recipient (Alzheimer's disease vs. vascular vs. frontotemporal vs. mixed vs. others); dementia severity (CDR/MMSE); presence of BPSD (NPI-Q)

Outcome: Caregiver burden score — measured using the Zarit Burden Interview

03	**Development and Validation of a Caregiver Intervention Module for Caregivers of Persons with Dementia**

Research Gap: Existing caregiver interventions for dementia are often generic, adapted from Western models, and rarely tailored to locally identified caregiver needs (positive aspects and burden both included) or formally validated for content and feasibility before use. There is a need for a structured, culturally appropriate caregiver intervention module that is systematically developed and validated in the Indian context.

Aim: To develop a caregiver intervention module for caregivers of persons with dementia and to test its content validity and feasibility/utility.

Objectives:

1. To develop a caregiver intervention module addressing the needs of caregivers of persons with dementia, informed by existing literature/prior findings
2. To establish the content validity of the developed module through expert panel review
3. To test the utility/feasibility and preliminary acceptability of the module through pilot administration among caregivers

Study Design: Tool development and validation study (instrument development design), with a pilot pre-post feasibility component

Population:

- Expert panel (for content validation): psychiatrists, clinical psychologists, geriatric mental health professionals (typically 5–10 experts)
- Pilot testing group: primary caregivers (≥18 years) of persons with dementia (DSM-5/ICD-11 diagnosed), providing care for ≥6 months

Exposure: Administration of the developed caregiver intervention module

Outcome:

- Content Validity Index (CVI) of the module, based on expert panel ratings
- Feasibility/acceptability of the module — caregiver satisfaction/feedback questionnaire
- Preliminary utility — pre-post change in caregiver burden (ZBI) and/or caregiver wellbeing following module administration

04	**Caregiver Burden, Depression, and Resilience in Caregivers of Elderly Dementia Patients: Association with Quality of Life and Coping Strategies**

Research Gap: Caregiving for elderly persons with dementia is associated with significant burden and psychological morbidity, including depression, yet caregivers vary widely in how they are affected — some experience marked distress and poor quality of life, while others maintain functioning despite similar caregiving demands. This variability is thought to be explained by two underexplored factors: resilience (the caregiver's capacity to adapt positively to stress) and coping strategies (the specific approaches used to manage caregiving demands). Most existing studies examine burden, depression, resilience, or coping in isolation, or focus on quality of life alone without linking it to the psychological resources (resilience, coping) that may buffer or worsen it. There is a lack of integrated Indian data examining how caregiver burden and depression relate to quality of life, and whether resilience and coping strategies mediate or moderate this relationship — an understanding of which could meaningfully inform targeted caregiver support interventions (e.g., resilience-building vs. burden-reduction approaches).

Aim: To assess caregiver burden, depression, and resilience among caregivers of elderly dementia patients, and to examine their association with quality of life and coping strategies.

Objectives:

1. To assess the level of caregiver burden among caregivers of elderly dementia patients (using ZBI)
2. To assess the prevalence and severity of depression among these caregivers (using HAM-D/PHQ-9)
3. To assess the level of resilience among these caregivers (using Brief Resilience Scale)
4. To assess the quality of life of these caregivers (using WHOQOL-BREF) and the coping strategies employed (using Brief-COPE)
5. To determine the association between caregiver burden, depression, and resilience with quality of life and coping strategies
6. To identify sociodemographic and clinical factors (of caregiver and patient) associated with poor quality of life among caregivers

Study Design: Cross-sectional study

Population: Primary caregivers (≥18 years) of elderly patients (≥60 years) diagnosed with dementia (DSM-5/ICD-11 criteria), providing care for ≥6 months.

Exposure:

1. Caregiver burden (ZBI score)
2. Caregiver depression (HAM-D/PHQ-9 score)
3. Caregiver resilience (Brief Resilience Scale score)
4. Covariates: caregiver relationship to patient, duration/hours of caregiving, dementia severity of patient (CDR/MMSE), presence of BPSD (NPI-Q), sociodemographic profile

Outcome:

- Quality of life of caregiver (WHOQOL-BREF domains — physical, psychological, social, environmental)
- Coping strategies used by caregiver (Brief-COPE — problem-focused, emotion-focused, avoidant/dysfunctional coping subscales)

05	**Proportion and Pattern of Neuropsychiatric Symptoms (BPSD) in Patients with Dementia Attending a Tertiary Care Psychiatry OPD**

Research Gap: Relatively little work has been done on the prevalence and pattern of neuropsychiatric symptoms (BPSD) in dementia patients attending psychiatric settings specifically, as most existing literature originates from neurology/memory clinics or community-based samples. Data on which specific BPSD domains predominate, and their correlates (dementia severity, subtype, and sociodemographic/clinical factors) in a tertiary care psychiatry OPD population, remain limited — particularly in the Indian context.

Research Questions:

1. What is the prevalence and pattern of various BPSD symptoms among patients with dementia attending a tertiary care psychiatry OPD?
2. What are the correlates of BPSD symptoms in this population?

Objectives:

1. To study the prevalence of various BPSD symptoms among patients with dementia attending a tertiary care psychiatry OPD
2. To determine the various correlates of BPSD symptoms (dementia severity, dementia subtype, and sociodemographic/clinical factors)

Study Design: Cross-sectional study

Population: Patients diagnosed with dementia (as per DSM-5/ICD-11 criteria) of any subtype, aged ≥60 years, attending psychiatry OPD, accompanied by a reliable caregiver/informant who has known the patient for ≥6 months

Exposure:

- Dementia severity (mild/moderate/severe) — assessed using MMSE and/or Clinical Dementia Rating (CDR) scale
- Dementia subtype — Alzheimer's disease, vascular dementia, mixed dementia, frontotemporal dementia, Lewy body dementia, others

- Sociodemographic and clinical correlates — age, sex, education, duration of illness, comorbidities, living arrangement

Outcome: Presence, frequency, severity, and pattern of neuropsychiatric symptoms — measured using the Neuropsychiatric Inventory (NPI), across its 12 domains (delusions, hallucinations, agitation/aggression, depression, anxiety, elation/euphoria, apathy/indifference, disinhibition, irritability/lability, aberrant motor behavior, night-time behavior, appetite/eating changes)

GERIATRIC DEPRESSION

06	**Depression and Loneliness Among the Elderly and Their Association with Migration of Family Members**

Research Gap: Migration of adult children (for work, education, or marriage) has become increasingly common in India, resulting in a growing number of elderly parents living alone or in "empty nest" households. While depression and loneliness in the elderly are well-studied globally, the specific contribution of family migration as a risk factor remains underexplored in Indian settings, where filial co-residence has traditionally been the norm, and its disruption may carry distinct psychological significance.

Aim: To determine the prevalence of depression and loneliness among elderly individuals and examine their association with the migration status of family members.

Objectives:

1. To determine the prevalence of depression among elderly individuals attending [psychiatry OPD/geriatric clinic/community setting]
2. To determine the prevalence and severity of loneliness among elderly individuals
3. To assess the association between the migration status of patients and/or family members (children/spouse living away) and depression and loneliness scores
4. To identify other sociodemographic and clinical correlates of depression and loneliness in this population

Study Design: Cross-sectional study

Population: Elderly individuals (≥60 years) attending psychiatry OPD/geriatric clinic, or residing in the community

Exposure: Migration status of patient/family members — children/spouse living away (yes/no; distance; duration of separation; frequency of contact/visits); sociodemographic factors (age, sex, marital status, living arrangement, socioeconomic status, education)

Outcome:

- Depression score — Geriatric Depression Scale (GDS-15/30)
- Loneliness score — UCLA Loneliness Scale

07	**Development and Validation of an Indianised Scale for Loneliness in the Context of Family Migration Among the Elderly**

Research Gap: Existing loneliness scales (e.g., UCLA Loneliness Scale) were developed in Western populations and may not adequately capture culturally specific dimensions of loneliness relevant to Indian elderly, particularly loneliness arising from migration of children/family, disruption of traditional joint-family living, and associated filial/relational expectations. A culturally grounded, migration-specific loneliness scale validated in the Indian elderly population is currently lacking.

Aim: To develop and validate an Indianised scale for assessing loneliness related to family migration among the elderly.

Objectives:

1. To generate items for a new loneliness scale specific to the Indian elderly population, incorporating migration-related dimensions (through literature review and qualitative input from elderly individuals/experts)
2. To establish the content validity of the newly developed scale through expert panel review
3. To determine the psychometric properties of the scale — internal consistency, test-retest reliability, and criterion validity (correlation with the existing UCLA Loneliness Scale and GDS)

Study Design: Tool development and validation study (instrument development design)

Population:

- Item generation/qualitative input: elderly individuals (≥ 60 years) with experience of family migration
- Expert panel (content validation): psychiatrists, clinical psychologists, geriatric mental health professionals (typically 5–10 experts)
- Validation sample: elderly individuals (≥60 years) attending psychiatry OPD/geriatric clinic or community setting, for psychometric testing (including a subset for test-retest reliability)

Outcome:

- Content Validity Index (CVI) of the new scale
- Internal consistency (Cronbach's alpha)
- Test-retest reliability
- Criterion validity - correlation of new scale scores with UCLA Loneliness Scale and GDS scores

08	**Development and Feasibility Testing of an Intervention Module to Address Loneliness and Depression in the Elderly**

Research Gap: While loneliness and depression in the elderly, particularly those affected by family migration, are increasingly recognized concerns, there is a lack of structured, locally relevant intervention modules designed specifically to address these issues in Indian elderly populations. Most available interventions are adapted from Western models and are neither tailored to the specific needs of elderly individuals experiencing migration-related loneliness nor routinely tested for feasibility before use.

Aim: To develop an intervention module addressing loneliness and depression in the elderly and to test its feasibility and preliminary utility.

Objectives:

1. To develop a structured intervention module (psychoeducation/support-based) addressing loneliness and depression in the elderly, informed by findings from prior needs assessment/literature
2. To establish the content validity of the module through expert panel review
3. To test the feasibility, acceptability, and preliminary utility of the module through pilot pre-post administration among elderly participants

Study Design: Intervention development study with pilot pre-post feasibility testing (quasi-experimental design)

Population:

- Expert panel (content validation): psychiatrists, clinical psychologists, geriatric mental health professionals
- Pilot testing group: elderly individuals (≥60 years) with elevated depression and/or loneliness scores, attending psychiatry OPD/geriatric clinic
- Inclusion criteria: age ≥60 years; screened positive for depression and/or loneliness on GDS/UCLA scale; willing to participate in module sessions and follow-up assessment
- Exclusion criteria: diagnosed dementia/significant cognitive impairment; severe psychiatric illness requiring immediate intensive treatment; unable to attend module sessions

Exposure: Administration of the developed intervention module

Outcome:

- Content Validity Index (CVI) of the module
- Feasibility/acceptability — participant satisfaction and feedback questionnaire, session attendance/completion rates
- Preliminary utility — pre-post change in depression score (GDS) and loneliness score

09	**Association of Vitamin B12, Vitamin D, Serum Iron, and Anaemia with Depression in the Elderly**

Research Gap: Depression in the elderly is often multifactorial, and nutritional deficiencies — particularly vitamin B12, vitamin D, iron deficiency, and anaemia — have been implicated as modifiable contributors, given their roles in neurotransmitter synthesis, myelination, and neuroinflammation. Indian data examining these nutritional parameters specifically in elderly depressed patients (as compared to non-depressed elderly) remain limited, despite the potential clinical relevance of identifying a correctable contributor to late-life depression.

Aim: To assess the levels of vitamin B12, vitamin D, serum iron profile, and haemoglobin (anaemia status) among elderly patients with depression, and to compare these with age-matched non-depressed elderly controls.

Objectives:

1. To assess serum vitamin B12, vitamin D, and serum iron profile levels, and the prevalence of anaemia, among elderly patients with depression
2. To correlate the severity of depression with levels of vitamin B12, vitamin D, serum iron, and haemoglobin
3. To identify other sociodemographic and clinical factors associated with nutritional deficiency in this population

Study Design: Cross-sectional study

Population: Elderly patients (≥60 years) with a new diagnosis of depression (DSM-5/ICD-11 criteria) attending psychiatry OPD/IPD

- Inclusion criteria: age ≥60 years; willing to give informed consent
- Exclusion criteria: known chronic malabsorption syndromes, ongoing B12/vitamin D/iron supplementation prior to enrolment, terminal illness, significant cognitive impairment (MMSE below cutoff) precluding valid depression assessment, other major psychiatric illness predating current depressive episode

Exposure: Depression status ; deficiency status of vitamin B12, vitamin D, serum iron, and haemoglobin (anaemic vs. non-anaemic)

Outcome:

- Serum levels of vitamin B12, vitamin D, iron (and haemoglobin/anaemia status)
- Depression severity score (GDS-15/30 or HAM-D), correlated with the above nutritional parameters

10	**Effect of Nutritional Supplementation on Depression Scores in Elderly Patients with Depression and Identified Deficiency**

Research Gap: While associations between nutritional deficiencies and depression in the elderly have been reported, few studies test whether correcting these deficiencies through supplementation leads to measurable improvement in depressive symptoms. This gap — between identifying an association and demonstrating a modifiable, treatable link — is clinically important, as nutritional supplementation is a low-cost, low-risk intervention that could meaningfully augment standard depression management in the elderly.

Aim: To evaluate the effect of nutritional supplementation (vitamin B12, vitamin D, and/or iron, as indicated) on depression scores in elderly patients with depression and identified deficiency, in addition to standard treatment.

Objectives:

1. To identify elderly depressed patients with deficiency in vitamin B12, vitamin D, and/or iron/anaemia, eligible for supplementation
2. To administer appropriate supplementation alongside standard antidepressant treatment in this group
3. To assess the change in depression scores from baseline to follow-up (e.g., 8–12 weeks) following supplementation
4. To determine whether the degree of correction of the nutritional deficiency correlates with the degree of improvement in depression scores

Study Design: Interventional study — pre-post (single-arm) design
Population: Elderly patients (≥60 years) with a diagnosis of depression (DSM-5/ICD-11 criteria) and a confirmed deficiency of vitamin B12, vitamin D, and/or iron/anaemia.

Exposure: Nutritional supplementation (vitamin B12/vitamin D/iron, as indicated by deficiency), administered in addition to standard antidepressant treatment
Outcome:

- Change in depression score (GDS-15/30 or HAM-D) from baseline to follow-up
- Change in serum levels of the deficient nutritional parameter(s) from baseline to follow-up (to confirm biochemical correction alongside clinical outcome)

DELIRIUM IN ELDERLY

11	**Prevalence and Risk Factors of Delirium Among Elderly Inpatients in a Tertiary Care Hospital**

Research Gap: Delirium is common among hospitalized elderly patients and is associated with increased morbidity, mortality, and prolonged hospital stay, yet it remains frequently under-recognized in routine clinical practice, particularly outside psychiatric/geriatric-specialized settings. Indian data on the prevalence of delirium in general medical/surgical wards, along with its associated risk factors, remain limited, and delirium is often misattributed to "old age" or underlying dementia, leading to underestimation of its true burden.
Aim: To determine the prevalence of delirium among elderly inpatients in a tertiary care hospital and to identify associated risk factors.
Objectives:

1. To determine the prevalence of delirium among elderly patients (≥60 years) admitted to medical/surgical wards/Intensive Care Unit (ICU)/ Coronary Care Unit (CCU), using a validated screening tool
2. To identify sociodemographic, clinical, and iatrogenic risk factors associated with delirium in this population

Study Design: Cross-sectional study
Population: Elderly patients (≥60 years) admitted to medical/surgical wards/ICU of a tertiary care hospital
Exposure: Risk factors — age, baseline cognitive status, comorbidities (diabetes, renal/hepatic disease), infection, electrolyte imbalance, polypharmacy, sensory impairment, sleep deprivation, use of catheters/restraints, pre-existing dementia
Outcome:

- Presence of delirium (screened/diagnosed using CAM or DRS-R-98, as per DSM-5 criteria)
- Secondary outcomes: length of hospital stay, in-hospital mortality, post-discharge mortality

12	**Knowledge, Attitudes, and Practices (KAP) Regarding Delirium Among Healthcare Staff — Tool Development and Validation**

Research Gap: Delirium remains under-recognized by non-psychiatric healthcare staff, despite its high prevalence and clinical significance. There is limited data on the knowledge, attitudes, and practices of the broader health care team - specialist physicians, residents, medical officers, nursing officers, and paramedical staff - regarding delirium identification and management, and no validated, context-specific KAP assessment tool for delirium currently exists for Indian hospital settings.
Aim: To develop and validate a tool for assessing knowledge, attitudes, and practices (KAP) regarding delirium, and to assess KAP levels among healthcare staff using this tool.
Objectives:

1. To develop a tool for assessing knowledge, attitudes, and practices regarding delirium among healthcare staff
2. To establish the content validity and reliability (internal consistency) of the developed KAP tool
3. To assess the level of knowledge, attitudes, and practices regarding delirium among specialist physicians, residents, medical officers, nursing officers, and paramedical staff, using the validated tool
4. To compare KAP scores across different categories of healthcare staff and identify factors (years of experience, prior training, department) associated with poor KAP scores

Study Design: Cross-sectional, descriptive study, incorporating a tool development and validation component
Population:

- Healthcare staff at a tertiary care hospital, including specialist physicians, resident doctors, medical officers, nursing officers, and paramedical staff involved in direct patient care of adult/elderly inpatients
- Expert panel (for content validation): psychiatrists, geriatricians, critical care specialists (typically 5–10 experts)

Exposure: Staff category/designation (specialist vs. resident vs. medical officer vs. nursing officer vs. paramedical staff); years of clinical experience; prior training/exposure to delirium-related teaching; department/ward of posting
Outcome:

- Content Validity Index (CVI) and internal consistency (Cronbach's alpha) of the newly developed KAP tool
- KAP scores (knowledge, attitude, and practice domains, scored separately), compared across staff categories

BIOMARKERS IN ELDERLY

13	**Serum BDNF (Brain-Derived Neurotrophic Factor) Levels in Elderly Depression**

Research Gap: BDNF plays a key role in neuroplasticity, neuronal survival, and has been implicated in the pathophysiology of depression via the neurotrophic hypothesis. While reduced BDNF levels have been reported in adult depression, data specific to geriatric

depression, which has distinct neurobiological underpinnings (vascular contribution, age-related neurodegeneration, cognitive overlap), remain limited, particularly from Indian populations.

Aim: To assess and compare serum BDNF levels between elderly patients with depression and age-matched healthy elderly controls, and to correlate BDNF levels with depression severity.

Objectives:

1. To measure serum BDNF levels in elderly patients with depression (DSM-5/ICD-11 diagnosed) and in age- and sex-matched controls without depression
2. To compare serum BDNF levels between the two groups
3. To correlate serum BDNF levels with the severity of depression (HAM-D or GDS score)
4. To assess change in serum BDNF levels following 6–8 weeks of antidepressant treatment (optional follow-up arm)

Study Design: Case-control study

Population:

- Cases: elderly patients (≥60 years) with a new diagnosis of major depressive disorder attending psychiatry OPD/IPD
- Controls: age- and sex-matched elderly individuals without depression
- Exclusion criteria: significant cognitive impairment (MMSE below cutoff), other major psychiatric illness, chronic inflammatory/neurological illness that may independently affect BDNF (e.g., stroke, epilepsy), current use of medications known to significantly alter BDNF (where feasible to control for)

Exposure: Diagnosis of geriatric depression (case status); depression severity (HAM-D/GDS score)

Outcome: Serum BDNF level (pg/mL); correlation with HAM-D/GDS score; change in BDNF with treatment response (if longitudinal arm included)

14	**Inflammatory Markers (IL-6, CRP, TNF-α) in Depression and Dementia**

Research Gap: Chronic low-grade inflammation has been increasingly implicated in the pathophysiology of both depression and dementia, with elevated pro-inflammatory cytokines (IL-6, TNF-α) and CRP proposed as contributing mechanisms. However, comparative data examining these markers across depression, dementia, and combined presentations (depression in dementia) - as opposed to studying each condition in isolation - are limited, particularly in Indian settings.

Aim: To assess and compare serum levels of IL-6, CRP, and TNF-α among elderly patients with depression, dementia, and healthy elderly controls.

Objectives:

1. To measure serum IL-6, CRP, and TNF-α levels in elderly patients with depression, elderly patients with dementia, and age-matched healthy controls
2. To compare inflammatory marker levels across the three groups

3. To correlate inflammatory marker levels with the severity of depression (HAM-D/GDS) and dementia (MMSE/CDR), respectively
4. To assess whether inflammatory marker levels differ in patients with dementia who have comorbid depression compared to those without (additional objective)

Study Design:

- Case-control (comparative) study, with three groups: depression, dementia, and controls
- Cross-sectional study (if studying inflammatory markers in independent diagnosis and correlating them with severity)

Population:

- Group 1: elderly patients (≥60 years) with depression (DSM-5/ICD-11)
- Group 2: elderly patients (≥60 years) with dementia (DSM-5/ICD-11)
- Group 3: age- and sex-matched healthy elderly controls
- Exclusion criteria: acute infection or known chronic inflammatory/autoimmune illness (as these independently elevate inflammatory markers), malignancy, recent surgery/trauma (within past 4–6 weeks)

Exposure: Diagnostic group (depression vs. dementia vs. control); depression severity (HAM-D/GDS); dementia severity (MMSE/CDR); presence of comorbid depression in dementia group (via NPI/GDS)

Outcome: Serum IL-6, CRP, and TNF-α levels; correlation with depression/dementia severity scores

15	**Serum and Salivary Cortisol in Depression and Dementia**

Research Gap: Dysregulation of the hypothalamic-pituitary-adrenal (HPA) axis, reflected in altered cortisol levels, has been associated with both depression and dementia, but comparative studies examining cortisol across these two conditions - and using both serum and salivary sampling (salivary being a non-invasive, diurnal-pattern-friendly alternative) are limited in the Indian elderly population.

Aim: To assess and compare serum and salivary cortisol levels among elderly patients with depression, elderly patients with dementia, and healthy elderly controls.

Objectives:

1. To measure serum and salivary cortisol levels (morning/diurnal pattern) in elderly patients with depression, elderly patients with dementia, and age-matched controls
2. To compare cortisol levels (serum and salivary) across the three groups
3. To correlate cortisol levels with the severity of depression (HAM-D/GDS) and dementia (MMSE/CDR)
4. To assess the correlation between serum and salivary cortisol levels within the study population (methodological comparison)

Study Design: Case-control (comparative) study, with three groups: depression, dementia, and controls

Population:

- Group 1: elderly patients (≥60 years) with depression (DSM-5/ICD-11)

- Group 2: elderly patients (≥60 years) with dementia (DSM-5/ICD-11)
- Group 3: age- and sex-matched healthy elderly controls
- Exclusion criteria: known endocrine disorders affecting cortisol (Cushing's/Addison's disease), current corticosteroid use, acute severe physical illness/recent major stress event (within past 4 weeks), oral conditions precluding saliva collection

Exposure: Diagnostic group (depression vs. dementia vs. control); depression severity (HAM-D/GDS); dementia severity (MMSE/CDR)
Outcome: Serum cortisol level (morning sample); salivary cortisol level (diurnal — morning and evening samples, if feasible); correlation with depression/dementia severity scores

16	Serum Homocysteine Levels in Dementia

Research Gap: Hyperhomocysteinemia has been associated with cerebrovascular disease and cognitive decline, possibly through vascular endothelial damage and neurotoxic mechanisms, and has been proposed as a modifiable risk factor for dementia. While this association is reasonably well studied globally, Indian data, where dietary patterns (e.g., vegetarianism, B12 intake) may influence baseline homocysteine levels differently, remain relatively limited, particularly for subtype-specific comparisons (vascular vs Alzheimer's dementia).
Aim: To assess serum homocysteine levels in elderly patients with dementia and compare with age-matched healthy controls, and to correlate levels with dementia severity and subtype.
Objectives:

1. To measure serum homocysteine levels in elderly patients with dementia (DSM-5/ICD-11 diagnosed) and in age-matched controls without cognitive impairment
2. To compare homocysteine levels between the two groups
3. To correlate homocysteine levels with dementia severity (MMSE/CDR)
4. To compare homocysteine levels across dementia subtypes (Alzheimer's disease vs. vascular dementia vs. mixed dementia)
5. To assess the association between homocysteine levels and vitamin B12/folate status (given their metabolic interrelationship)

Study Design: Case-control study. Cross-sectional study(if not using the comparator arm)
Population:

- Cases: elderly patients (≥60 years) with dementia (DSM-5/ICD-11), across subtypes
- Controls: age- and sex-matched elderly individuals without cognitive impairment (screened using MMSE)
- Exclusion criteria: known renal impairment (affects homocysteine independently), current B12/folate supplementation, other major neurological illness

Exposure: Diagnosis of dementia (case status); dementia subtype; dementia severity (MMSE/CDR); vitamin B12/folate levels
Outcome: Serum homocysteine level; correlation with MMSE/CDR score and comparison across dementia subtypes

17	Genetic Markers in Depression and Dementia

Research Gap: Genetic factors are known to contribute to both depression (e.g., serotonin transporter gene polymorphisms) and dementia (e.g., APOE ε4 allele in Alzheimer's disease), but most genetic association data come from Western populations, and Indian population-specific data on these markers and their potential shared/overlapping role in late-life depression and dementia are limited.

Aim: To study the association of selected genetic markers (e.g., APOE genotype for dementia; serotonin transporter gene polymorphism [5-HTTLPR] for depression) with depression and dementia in the elderly.

Objectives:

1. To determine the frequency/distribution of the selected genetic marker(s) (e.g., APOE ε4 allele) among elderly patients with dementia, compared to controls
2. To determine the frequency/distribution of the selected genetic marker(s) (e.g., 5-HTTLPR polymorphism) among elderly patients with depression, compared to controls
3. To examine the association between these genetic markers and severity/subtype of dementia and depression, respectively
4. To explore whether these genetic markers show any overlapping association with both conditions (in patients with comorbid depression and dementia, if a subgroup is available)

Study Design: Case-control (genetic association) study

Population:

- Group 1: elderly patients (≥60 years) with dementia (DSM-5/ICD-11)
- Group 2: elderly patients (≥60 years) with depression (DSM-5/ICD-11)
- Group 3: age- and sex-matched healthy elderly controls
- Exclusion criteria: family history complexities that preclude clear genotype-phenotype correlation (as locally determined), unwillingness to provide blood sample for genetic testing

Exposure: Genotype at selected loci (e.g., APOE ε4 carrier status; 5-HTTLPR short/long allele status)

Outcome: Presence/frequency of the genetic marker(s); association with diagnosis (dementia/depression vs. control), and correlation with severity/subtype where applicable

MISCELLANEOUS

18	Acceptance of Telemedicine Among the Elderly: A Qualitative Study

Research Gap: Telemedicine use has expanded rapidly, particularly since the COVID-19 pandemic, and holds particular promise for elderly patients with mobility limitations, chronic illness, or limited access to specialist care. However, there is a paucity of research specifically examining how elderly patients themselves experience and perceive telemedicine, including the barriers, facilitators, and factors influencing acceptance, especially in the Indian context,

where digital literacy, family support structures, and healthcare-seeking patterns differ from Western populations. A qualitative understanding of elderly patients' lived experiences with teleconsultation is needed to inform the design of more age-appropriate telemedicine services.
Aim: To explore the acceptance of telemedicine among elderly patients, including perceived advantages, disadvantages, and factors influencing the acceptability of teleconsultation.
Objectives:

1. To explore the perceived advantages of telemedicine/teleconsultation as experienced by elderly patients
2. To explore the perceived disadvantages and barriers to telemedicine/teleconsultation among elderly patients
3. To understand the overall acceptability of teleconsultation among elderly patients, and the factors that facilitate or hinder this acceptance

Study Design: Qualitative study (in-depth interviews and/or focus group discussions)
Population: Elderly individuals (≥60 years) who have had at least one teleconsultation experience (audio/video-based consultation with a healthcare provider)
Exposure: Having undergone at least one teleconsultation (audio or video-based)
Outcome: Themes/domains derived through thematic analysis, covering:

- Perceived advantages of telemedicine (e.g., convenience, reduced travel burden, cost savings, avoiding hospital exposure/infection risk)
- Perceived disadvantages/barriers (e.g., discomfort with technology, lack of physical examination, communication difficulties, dependence on caregiver assistance, connectivity issues).
- Overall acceptability and willingness to use telemedicine again, and suggestions for improving elderly-friendly telemedicine services

19	**Polypharmacy and Rational Drug Prescription in the Elderly: With and Without Comorbidities**

Research Gap: Polypharmacy is highly prevalent among the elderly, particularly those with multiple comorbidities, and is associated with an increased risk of drug-drug interactions, adverse drug reactions, and irrational prescribing. While polypharmacy has been studied in general geriatric populations, there is limited data comparing prescription patterns and rationality between elderly patients with and without comorbidities, and few studies systematically apply standardized tools (e.g., Beers Criteria, STOPP/START criteria) to assess prescription appropriateness in Indian tertiary care settings, particularly from a psychiatric/geriatric mental health lens where psychotropic-drug interactions carry additional risk.
Aim: To evaluate the pattern of polypharmacy and rational drug prescription among elderly patients, and to compare these between those with and without comorbidities.
Objectives:

1. To determine the prevalence and pattern of polypharmacy among elderly patients attending psychiatry/geriatric/medicine OPD or IPD]

2. To assess the rationality of drug prescription using standardized criteria
3. To compare the extent of polypharmacy and prescription rationality between elderly patients with comorbidities and those without
4. To identify the frequency and pattern of potential drug-drug interactions among prescriptions
5. To determine the prevalence and pattern of serious adverse drug reactions among elderly patients on polypharmacy
6. To identify sociodemographic and clinical factors associated with polypharmacy, irrational prescribing, and adverse drug reactions

Study Design: Cross-sectional, comparative study

Population: Elderly patients (≥60 years) attending psychiatry/geriatric/medicine OPD or admitted as inpatients at a tertiary care hospital, on regular medication. Groups for comparison

- Group 1: elderly patients with one or more chronic comorbidities (e.g., diabetes, hypertension, cardiovascular disease, dementia, depression, etc.)
- Group 2: elderly patients without significant comorbidities

Exposure:

- Presence and number of comorbidities (comorbid vs. non-comorbid group)
- Number and class of medications prescribed (polypharmacy defined per standard cutoff, typically ≥5 concurrent medications)
- Prescriber-related factors (specialty of prescriber, use of standardized prescribing guidelines), if assessable

Outcome:

- Rational drug prescription
- Drug-drug interactions
- Serious adverse drug reactions

20	**Types and Patterns of Elder Abuse in Familial and Non-Familial Settings — A Qualitative Study with Screening Using Existing Tools**

Research Gap: Elder abuse encompassing physical, psychological, financial, sexual, and neglect-related abuse is likely underreported and under-recognized in India, given cultural reluctance to disclose family-related mistreatment and lack of routine screening in clinical settings. While internationally validated screening tools such as the Elder Abuse Suspicion Index (EASI) and Elder Abuse Index (EAI) exist, there is limited Indian data exploring the lived experience, types, and patterns of abuse across both familial (spouse, children, joint family) and non-familial (institutional, caregiver, community) settings.

Aim: To evaluate the different types and patterns of abuse faced by the elderly in familial and non-familial settings.

Objectives:

- To explore the types and patterns of abuse (physical, psychological/emotional, financial, sexual, neglect) experienced by elderly individuals, through qualitative interviews

- To assess the prevalence and severity of suspected elder abuse using existing standardized tools Elder Abuse Suspicion Index (EASI) and Elder Abuse Index (EAI)
- To compare patterns of abuse between familial and non-familial settings, and identify perpetrator relationships involved
- To determine the association between sociodemographic/clinical factors of the elderly individual (living arrangement, financial dependency, disability) and type/setting of abuse

Study Design: Semi-qualitative (mixed-methods) study qualitative interviews combined with cross-sectional administration of existing screening tools (EASI, EAI)

Population: Elderly individuals (≥60 years) attending psychiatry/geriatric OPD, or recruited from community/institutional settings (old age homes, day-care centres), reporting or suspected to be experiencing abuse

Exposure: Setting of abuse familial (spouse, children, extended family) vs. non-familial (institutional staff, paid caregivers, community/neighbours); type of abuse (physical, psychological/emotional, financial, sexual, neglect); sociodemographic factors (living arrangement, financial dependency, marital status, dependency on others for care)

Outcome:

- Themes/patterns of elder abuse (types, settings, perpetrator relationship) derived through thematic analysis
- Prevalence and severity of suspected abuse EASI and EAI scores

21	**Development and Validation of an India-Adapted Elder Abuse Assessment Tool**

Research Gap: Existing elder abuse screening tools (e.g., EASI, EAI) were developed and validated in Western populations and may not adequately capture culturally specific presentations of abuse relevant to Indian elderly such as abuse embedded within joint-family dynamics, dowry-related financial abuse, or abuse tied to property/inheritance disputes. A validated, India-appropriate elder abuse assessment tool is currently lacking.

Aim: To develop and validate an India-adapted tool for the assessment of elder abuse.

Objectives:

1. To generate items for a new elder abuse assessment tool relevant to the Indian context (informed by literature review, existing tools, and qualitative input from elderly individuals/experts)
2. To establish the content validity of the newly developed tool through expert panel review
3. To determine the psychometric properties of the tool internal consistency (Cronbach's alpha), test-retest reliability, and criterion validity (correlation with existing EASI/EAI scores)

Study Design: Tool development and validation study (instrument development design)

Population: *E*lderly individuals (≥60 years) with experience of abuse or at risk of abuse

- Expert panel (content validation): psychiatrists, geriatric specialists, social workers/forensic experts with elder-care experience (typically 5–10 experts)
- Validation sample: elderly individuals (≥60 years) attending psychiatry/geriatric OPD or community/institutional settings, for psychometric testing (including a subset for test-retest reliability)

Outcome:

- Content Validity Index (CVI) of the new tool
- Internal consistency (Cronbach's alpha)
- Test-retest reliability
- Criterion validity - correlation of new tool scores with EASI and EAI scores

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Any PG/guide choosing topics from above should acknowledge the IPS thesis Task force & this geriatric expert team (I) in all publications. The Guide should assess FINER criteria (Hulley et al).