Case Report

DOI: 10.7860/JCDR/2026/89683.24036

Psychiatry/Mental Health Section

Behavioural Disturbances and Cognitive Impairment in an Elderly Male with Multiple Co-morbidities: A Case Report Highlighting Diagnostic Challenges

VM NIRANJANA[1], SUVARNA JYOTHI KANTIPUDI[2]

ABSTRACT

The mental health burden of ageing population has increased due to various factors including elder abuse, multiple medical co-morbidities, loss of functional and economic dependence, social restrictions with age despite developments in healthcare. Depression and dementia are common yet frequently underrecognised conditions because of atypical presentations, symptom overlap, ageism in the culture, low mental health literacy, and limited rural access to specialist care especially in low- and middle-income countries such as India. The present case report aimed to highlight diagnostic challenges at the interface of depression and baseline cognitive impairment in an older adult with predisposing psychosocial vulnerability. A 60-year-old male with diabetes mellitus, coronary artery disease previously treated pulmonary tuberculosis, who underwent recent surgeries, with intellectual disability, and unassessed bilateral hearing loss progressive social withdrawal, reduced oral intake, irritability, poor sleep, and behavioural disturbances. Although he initially denied low mood, anhedonia, suicidal ideation and presented with prominent somatic preoccupation, subsequent interviews elicited moderate to severe depressive symptoms and suicidal intent linked to family conflict in the context of bereavement and functional decline. A final diagnosis of severe depression was made, with Hamilton depression rating scale score of 26. Medical investigations (blood counts, hepatic/renal function, electrolytes, glucose, thyroid function, urinalysis) and Magnetic Resonance Imaging (MRI) brain were unremarkable. Cognitive evaluation using the Addenbrooke's Cognitive Examination showed global impairment (37/100), but interpretation was complicated by low education and pre-existing intellectual disability. Audiometry confirmed bilateral mixed hearing loss, but financial barriers limited access to hearing aids. Treatment with sertraline, psychoeducation, and cognitive retraining led to clinical and functional improvement. The present case underscores the need for comprehensive biopsychosocial assessment, careful longitudinal differentiation of depression from dementia in the presence of baseline cognitive impairment, and multidisciplinary care addressing sensory deficits and social determinants.

Keywords: Bilateral hearing loss, Cognitive dysfunction, Dementia, Depressive disorder

CASE REPORT

A 60-year-old male, from lower socioeconomic background, living with his wife and son in a rural area, was brought by the family to the Psychiatry Department. He was ninth grade educated and was previously working as an appliance repairman. He had behavioural disturbances, progressive social withdrawal, and reduced oral intake over the past month. He was observed sitting on a well during the night on two occasions in the past week, without providing an explanation. He claimed the blood circulation had stopped in his hands and did not offer any explanation for his belief. He had multiple non specific somatic complaints and was preoccupied with his health. The patient denied experiencing low mood, passive suicidal ideation, or anhedonia initially. However, his family reported poor sleep, decreased appetite, increased irritability, and social withdrawal, prompting them to seek psychiatric evaluation at a facility located six hours from their village, as local primary care centres lack mental health professionals.

The patient's medical history included diabetes mellitus for past 25 years which was currently being treated with Tab Metformin 500 mg BD and Tab Glipizide 5 mg BD from their primary care centre. He was diagnosed with coronary artery disease five years ago and currently had ejection fraction of 30%, and pulmonary tuberculosis, which was successfully treated a year ago. Six months ago, he had experienced significant emotional distress following the death of his mother, to whom he had been closely attached ever since childhood. He had no other close family relatives besides his mother while he was growing up. His surgical history included an inguinal hernioplasty performed a month before admission and an incision and drainage procedure for a shoulder abscess two weeks prior. There was a history suggestive of intellectual disability, though confirmation was limited by the availability of early-life information. Family members revealed he was not comfortable handling money and would often fail to receive payment for his work, and would be gullible. He had always had trouble relating to anyone other than his mother, even to his own wife and son. He had also always had difficulty following complex instructions and hence could not work for long anywhere which put the family in financial difficulty a lot until their son started earning. He had no habits of substance use and family history did not reveal any significant history of mental illness, completed suicide, substance abuse or missing person.

On admission, patient reported no psychiatric complaints and expressed irritability towards facilitating admission again. His physical and neurological examination was within normal limits and there were no focal neurological deficits. Patient appeared thinly built, rapport was established and eye to eye contact was made and maintained. Patient had intact orientation to time, place and person. Mental status examination revealed a preoccupation with somatic complaints, with no initial evidence of depressive symptoms. Cognition was assessed with Addenbrooke's cognitive examination [1] with a score of 37/100 indicating global deficits across attention, language, visuospatial abilities, and memory. Diagnostic investigations, including complete blood count, liver and renal function tests, serum electrolytes, blood glucose levels, thyroid function tests, and routine urinalysis, were within normal limits.

The presence of probable pre-existing intellectual disability and poor premorbid functioning contributed to diagnostic complexity. Differential diagnoses of dementia , probable previous cerebrovascular disease were considered but MRI brain was normal. Tab Memantine 5 mg was added to aid his cognition by neurologist. Delirium was ruled out as patient had intact orientation. Audiometry done in view of poor engagement with the therapist revealed bilateral mixed hearing loss.

Subsequently, with strengthening of the therapeutic alliance, the patient admitted to having contemplated ending his life at the well on both occasions, due to familial conflicts. He also revealed pervasive low mood after his mother's demise. A final diagnosis of severe depression was made, with Hamilton depression rating scale [2] score of 26 and sertraline was initiated, to which the patient responded favourably [Table/Fig-1]. Tab quetiapine 12.5 mg was added for his sleep disturbances. Tab Memantine which was added earlier was stopped after clinical clarification.

[Table/Fig-1]: Clinical course, diagnostic evaluation, differential considerations, and management of a geriatric patient presenting with behavioural disturbance and cognitive impairment.

The patient was advised assistive hearing devices, though financial constraints limited access. Psychoeducation was provided concerning the psychiatric condition, the necessity for multidisciplinary management, adherence to pharmacotherapy and discharged 18 days after admission. The patient continued regular follow-up for cognitive retraining and sertraline gradually titrated up to 100 mg on outpatient basis. No further behavioural disturbances had been observed since, with improvements in functionality and social interaction at four months post-admission.

DISCUSSION

The present case illustrates the diagnostic complexity of neuropsychiatric presentations in older adults, particularly when depressive illness manifests primarily through behavioural disturbance, somatic complaints, and cognitive impairment rather than overt affective symptoms. Such atypical presentations are well recognised in elderly leading to under-recognition of depressive disorders [3]. The major challenge in this case was differentiating depressive cognitive impairment from an evolving major neurocognitive disorder. The low score on the Addenbrooke's cognitive examination suggested global cognitive dysfunction across multiple domains. However, interpretation was complicated by low education, probable intellectual disability, sensory impairment [4]. In such contexts, a single cross-sectional assessment may be inaccurate. The differential diagnosis for clinical presentation with cognitive and behavioural disturbances in elderly have been presented in [Table/Fig-2].

The interaction between depression, dementia and delirium in elderly is referred to as the "three Ds" of geriatric psychiatry. Singhai K et al., described a 70-year-old male presenting with altered behaviour, poor memory, and depressive symptoms [5]. The reason stated was that behavioural disturbance in older adults often clouds the effect of underlying affective symptoms, necessitating repeated assessment before a diagnosis [5]. Similarly, this patient's behaviour initially pointed towards organic pathology, but later, low mood, grief-related distress, and suicidal intent were revealed making depression with pseudodementia the most plausible explanation for the clinical presentation. Pozzi FE et al., described a 74-year-old male with severe cognitive impairment whose functional neuroimaging showed bilateral temporoparietal hypometabolism [6]. In contrast, the patient recovered cognitively during two years since initiation of antidepressant treatment, and repeat imaging was normal. Hence, even advanced studies often mimic neurodegenerative disease in severe depression [6].

An additional complexity was bilateral mixed hearing loss which is an independent contributor to social withdrawal, reduced communication and apparent cognitive decline in older adults [7]. It may have contributed both to poor engagement during cognitive assessment and social isolation, thereby amplifying depressive symptomatology [8].

The patient experienced significant bereavement following the death of his mother, to whom he had been closely attached throughout life. This loss occurred against a background of severe physical illness, recent surgeries, functional decline, and family conflict. The disclosure of suicidal intent only after rapport formation demonstrates the importance of repeated assessment and therapeutic alliance in older adults.

Parameters	Dementia	Depression	Delirium	Depression superimposed on dementia	Complicated grief
Onset	Insidious	Insidious*	Acute	Insidious*	Insidious
Course	Gradually progressive	episodic	Fluctuating	Progressive worsening	Continuous
Attention	Can be impaired*	Impaired*	Grossly impaired*	Impaired*	May be impaired
Orientation	Can be impaired	Usually preserved	impaired	Usually unimpaired	Usually *intact
Behavioural disturbances	Present*	Can be present*	Usually present	Present	Can be present
Cognitive disturbances	Present*	Present*	Present*	Present*	Can be present*
Sleep	Fragmented *	Early morning awakening*	Disturbed sleep wake cycle	Disturbed sleep	Disturbed sleep

[Table/Fig-2]: Differential diagnosis for clinical presentation with cognitive and behavioural disturbances in elderly.
* present in this patient

Neuropsychiatric disorders represent significant and growing public health challenges, particularly among the elderly in low- and middle-income countries [9]. The diagnostic process is complicated by overlapping symptoms, atypical clinical presentations in elderly [3], limited mental health literacy [10,11], and insufficient integration of psychiatric services into primary care [12,13]. Ageism may have further exacerbated these challenges by leading to the misattribution of symptoms by family members as normal ageing, thereby delaying recognition and intervention [14,15]. Delayed psychiatric evaluation, due to the scarcity of rural mental health professionals [16] and urban-centric medical training [17], may also have contributed to late diagnosis and treatment.

The present case emphasises that in older adults presenting with new-onset behavioural disturbance and cognitive deficits, diagnostic interpretation should account for baseline educational level, developmental limitations, sensory deficits, and psychosocial stressors. Serial clinical assessment may be more informative, particularly in socioeconomically disadvantaged settings where multiple vulnerabilities interact to shape presentation.

Future research should prioritise culturally sensitive, accessible mental health interventions tailored for socioeconomically disadvantaged elderly populations. Consistent with existing studies, sensory impairments such as hearing loss [18] and psychosocial stressors like bereavement [19] and social isolation [20] significantly influence the trajectories of depression and cognitive decline in older adults.

Geriatric mental health services should be integrated within rural primary care settings to enable early detection and intervention, while enhancing psychiatric training [21] for general healthcare providers can help reduce diagnostic delays [22]. A multidisciplinary biopsychosocial approach that incorporates social determinants, including socioeconomic status, education, and family dynamics, must be employed in treatment planning. Additionally, policy reforms addressing ageism and structural inequalities are necessary to foster inclusive and culturally sensitive healthcare delivery.

CONCLUSION(S)

The present case report highlights the diagnostic complexities in geriatric mental health and need for holistic biopsychosocial approach in evaluation and management. There is also urgent necessity for equitable and accessible mental health services specifically designed for older adults to facilitate timely treatment.

REFERENCES

[1] Mekala S, Paplikar A, Mioshi E, Kaul S, Divyaraj G, Coughlan G, et al. Dementia diagnosis in seven languages: The Addenbrooke's cognitive examination-III in India. Arch Clin Neuropsychol. 2020;35(5):528-38.
[2] Hamilton M. Hamilton Rating Scale for Depression [Internet]. 2012 [cited 2026 May 19]. Available from: https://doi.apa.org/doi/10.1037/t04100-000.
[3] Devita M, De Salvo R, Ravelli A, De Rui M, Coin A, Sergi G, et al. Recognizing depression in the elderly: Practical guidance and challenges for clinical management. Neuropsychiatr Dis Treat. 2022;18:2867-80.
[4] Pellicer-Espinosa I, Díaz-Orueta U. Cognitive screening instruments for older adults with low educational and literacy levels: A systematic review. J Appl Gerontol. SAGE Publications Inc; 2022;41(4):1222-31.
[5] Singhai K, Suthar N, Gehlawat P. The 3 Ds of geriatric psychiatry: A case report. J Family Med Prim Care. 2020; 9(5):2509-10.
[6] Pozzi FE, Licciardo D, Musarra M, Jonghi-Lavarini L, Crivellaro C, Basso G, et al. Depressive pseudodementia with reversible AD-like brain hypometabolism: A case report and a review of the literature. J Pers Med. 2022;12(10):1665.
[7] Evidence profile: Treatment of hearing loss and cognitive decline and/or dementia. In: Risk Reduction of Cognitive Decline and Dementia: WHO Guidelines [Internet]. World Health Organization; 2019 [cited 2026 June 6]. Available from: https://www.ncbi.nlm.nih.gov/books/NBK542785/.
[8] Jayakody DMP, Wishart J, Stegeman I, Eikelboom R, Moyle TC, Yiannos JM, et al. Is there an association between untreated hearing loss and psychosocial outcomes? Front Aging Neurosci. 2022;14:868673.
[9] Tetsuka S. Depression and dementia in older adults: A neuropsychological review. Aging Dis. 2021;12(8):1920-34.
[10] Debnath A, Sagar R, Salve HR. Bridging the mental health treatment gap in India: A Policy-oriented framework using the care cascade approach. Indian J Psychiatry. 2025;67(9):912-15.
[11] Meenu S, Kattimani S, Premarajan KC, Raghavan B, Madhusoodanan S, Bhattacharya D, et al. Mental health literacy and preferences of health care for common mental disorders using case vignette, among adults residing in Puducherry, southern India: Community-based explanatory mixed-method study. Indian J Psychiatry. 2025;67(8):770-78.
[12] Meghrajani VR, Marathe M, Sharma R, Potdukhe A, Wanjari MB, Taksande AB. A comprehensive analysis of mental health problems in India and the role of mental asylums. Cureus. 2023;15(7):e42559. Doi: 10.7759/cureus.42559.
[13] Park M, Unützer J. Geriatric depression in primary care. Psychiatr Clin North Am. 2011;34(2):469-6x.
[14] Fernández-Puerta L, Caballero-Bonafé A, Romero JR de-Moya-, Martínez-Sabater A, Valera-Lloris R. Ageism and associated factors in healthcare workers: A systematic review. Nurs Rep. Pavia, Italy. 2024;14(4):4039-59.
[15] Wang Y, Lou Y, Shen H-W, Gonzales E. Intersectional discrimination and mental health in later life: Ageism as a core dimension. J Gerontol B Psychol Sci Soc Sci. 2025;80(12):gbaf184.
[16] Gupta R. Rural–urban divide in mental health care in India: Bridging the Gaps. Indian Journal of Social Psychiatry. 2024;40:07-10.
[17] Eshwari K, Mallya SD, Kumar A, Rao CR, Sekar A, Das S. Implementation of community-centric medical education through family adoption program: Descriptive results from coastal Karnataka. Indian J Community Med. 2025; 50(3):479-85.
[18] Levett BA, Chandra A, Jiang J, Koohi N, Sharrad D, Core LB, et al. Hearing impairment and dementia: Cause, catalyst or consequence? J Neurol. 2025;272(6):402.
[19] Zenebe Y, Akele B, W/Selassie M, Necho M. Prevalence and determinants of depression among old age: A systematic review and meta-analysis. Ann Gen Psychiatry. 2021;20:55.
[20] Sahrawat DS. Mental health challenges in the elderly: Insight from ageing in India. International Journal of Science and Research (IJSR). International Journal of Science and Research (IJSR). 2024;13(3):1723-27.
[21] Raju NN. Psychiatry training in India. Indian J Psychiatry. 2022;64(5):433-39.
[22] Subramaniam M. Stigma and mental health: Overcoming barriers. Singapore Med J. 2024;65(10):533-35.

PARTICULARS OF CONTRIBUTORS:
1. Professor, Department of Psychiatry, SRMC and RI, SRIHER, Chennai, Tamil Nadu, India.
2. Professor, Department of Psychiatry, SRMC and RI, SRIHER, Chennai, Tamil Nadu, India.

NAME, ADDRESS, E-MAIL ID OF THE CORRESPONDING AUTHOR:
Dr. Suvarna Jyothi Kantipudi,
Professor, Department of Psychiatry, SRMC and RI, SRIHER,
Chennai, Tamil Nadu, India.
E-mail: suvarna.srmc@gmail.com

PLAGIARISM CHECKING METHODS: [Jain H et al.]
- Plagiarism X-checker: Apr 25, 2026
- Manual Googling: Jun 15, 2026
- iThenticate Software: Jun 17, 2026 (1%)

ETYMOLOGY: Author Origin

EMENDATIONS: 6

AUTHOR DECLARATION:
- Financial or Other Competing Interests: None
- Was informed consent obtained from the subjects involved in the study? Yes
- For any images presented appropriate consent has been obtained from the subjects. NA

Date of Submission: **Apr 10, 2026**
Date of Peer Review: **May 18, 2026**
Date of Acceptance: **Jun 19, 2026**
Date of Publishing: **Aug 01, 2026**