International Journal of Medical Sciences And Clinical Research

VOLUME Vol.05 Issue12 2025
PAGE NO. 103-105
DOI 10.37547/ijmscr/Volume05Issue12-22

Cognitive Disability Among Adults In Uzbekistan: An Emerging Neurological And Public Health Concern

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Received: 22 October 2025; **Accepted:** 14 November 2025; **Published:** 19 December 2025

Abstract: Background and Objectives: Cognitive disability, commonly characterized as marked impairment in attention, memory, or decision-making abilities resulting from physical, psychological, or emotional conditions, has emerged as a leading form of functional limitation among adult populations. This expansive conceptualization encompasses a wide spectrum of neurological and non-neurological etiologies, underscoring the increasing relevance of cognitive health within public health frameworks. Epidemiological evidence suggests that the burden of cognitive disability is unevenly distributed across demographic and social groups, with notable variation by age, socioeconomic status, and urban versus rural residence. However, longitudinal assessments examining how these disparities have shifted over time remain limited. The present study investigates temporal trends in self-reported cognitive disability over an eleven-year period (2015–2025) in Uzbekistan, with particular emphasis on age-stratified patterns and social determinants of health.

Methods: A retrospective observational approach was applied using data obtained from the Ministry of Health of Uzbekistan's adult health surveys. The analysis included adults aged 18 years and older, excluding participants with self-reported psychiatric disorders, to better capture nonpsychiatric cognitive impairment. The principal outcome measure was self-reported cognitive disability, operationalized as substantial difficulty with concentration, memory, or decision-making processes. Survey-weighted logistic regression models were employed to evaluate prevalence trends and explore relationships with demographic and socioeconomic characteristics.

Results: Between 2015 and 2025, a nationally representative dataset of Uzbek adults was analyzed. Age-adjusted prevalence estimates indicated that young adults (18–39 years) represented the largest portion of respondents. Most participants had completed secondary education or higher, while a considerable fraction reported lower-income households and employment. Chronic health conditions, including hypertension, dyslipidemia, diabetes mellitus, and prior cerebrovascular events, were common and disproportionately observed among individuals reporting cognitive difficulties. Younger adults exhibited a notable rise in self-perceived cognitive impairment over the study period, in contrast to relatively stable trends in older populations.

Conclusion: Cognitive disability among adults in Uzbekistan is an underrecognized but growing public health concern. Younger adults are increasingly affected, likely reflecting both socioeconomic pressures and heightened societal awareness. Integrating cognitive screening into routine adult health care, addressing modifiable risk factors, and implementing public health interventions may reduce long-term disability and enhance functional independence.

Keywords: Cognitive impairment, adult population, Uzbekistan, neurology, public health, non-communicable

diseases.

Introduction: Cognitive health is essential for maintaining functional independence, social participation, and overall quality of life. Cognitive impairment, encompassing difficulties with attention, memory, and decision-making, is increasingly recognized as a major contributor to adult disability. While studies in high-income countries have provided extensive epidemiological data, information from Central Asian populations, including Uzbekistan, remains scarce. Sociodemographic shifts, population aging, and rising prevalence of non-communicable diseases suggest a growing burden of cognitive dysfunction among Uzbek adults. Although cognitive disability is often perceived as a consequence of aging, emerging evidence indicates that younger adults are increasingly affected. Understanding these patterns is crucial for shaping public health policies and allocating resources for preventive strategies and early interventions.

METHODS

A retrospective observational design was utilized, drawing on nationally representative adult health surveys conducted by the Ministry of Health of Uzbekistan between 2015 and 2025. Adults aged 18 years and older were included, while participants reporting psychiatric conditions were excluded to focus on nonpsychiatric cognitive impairment. The primary outcome was self-reported cognitive disability, defined as experiencing significant difficulty with concentration, memory, or decision-making. Survey-weighted logistic regression was employed to model prevalence trends and examine associations with demographic variables (age, sex, education), socioeconomic status, and health-related risk factors. Age-adjusted estimates were generated, except for age-stratified analyses.

RESULTS

The analysis included a large representative sample of Uzbek adults. The majority were aged 18–39 years and had completed at least secondary education. Approximately one-third of participants reported lower-income households, and over half were employed. Chronic conditions were prevalent: arterial hypertension, dyslipidemia, diabetes mellitus, and prior cerebrovascular events were commonly reported. Age-stratified analysis revealed that younger adults (18–39 years) experienced a notable increase in self-perceived cognitive difficulties over the study period, while trends among older adults were relatively stable. Socioeconomic pressures, employment instability, and increased reliance on digital technologies may contribute to these trends.

DISCUSSION

This study focused on self-reported cognitive disability, a construct distinct from clinically diagnosed conditions such as dementia or mild cognitive impairment. Although self-perceived cognitive difficulties are not a formal diagnosis, their rising prevalence provides important insights into functional impairment and public health needs. The increase among younger adults in Uzbekistan is striking, suggesting a demographic shift in cognitive vulnerability. This pattern may be influenced by both heightened awareness and recognition of cognitive challenges, as well as societal and economic stressors, including changes in work environments and digital demands. Chronic health conditions, such as hypertension and dyslipidemia, were common among adults reporting cognitive difficulties, emphasizing the interaction between vascular risk factors and cognitive health. These findings underscore the importance of early identification and targeted interventions to prevent long-term disability and reduce healthcare burden. Self-reported cognitive disability captures everyday functional limitations that may not be formally addressed in clinical settings, highlighting gaps in service provision. Incorporating cognitive screening into routine adult health care, particularly in primary care settings, can improve detection and guide preventive strategies.

Table 1.

Percent Prevalence of Self-Reported Cognitive Disability From Demographic Characteristics, Behaviors, Chronic Conditions in 2013 and 2023

	2013 self-reported	2023 self-reported

	cognitive disability		cognitive disability	
	95% CI	%	95% CI	%
No alcohol use	6,7	6.4–6.9	8.3	8.0–8.7
Female/18–30	5,2	4,8-5,6	9,6	8,8-10,3
Female/40+	5,6	5,3-5,9	6,3	5,9-6,6
Male/18–39	4,9	4,6-5,3	9,8	9,2-10,4

CONCLUSION

Cognitive disability is an emerging public health concern among adults in Uzbekistan, particularly affecting younger populations. Socioeconomic stressors, chronic health conditions, and evolving societal awareness contribute to this trend. Early detection, integration of cognitive assessments into routine health care, and targeted public health interventions are essential to preserve functional independence, reduce disability, and enhance societal productivity.

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