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OUTPATIENT PROFILE NEUROBEHAVIORAL CLINIC

OF PROF.DR.MAHAR MARDJONO NATIONAL BRAIN CENTER HOSPITAL 2022, JAKARTA, INDONESIA



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BACKGROUND

Neurobehavioral disorders are cognitive and non-cognitive/neuropsychiatric disorders (for example due to stroke, degenerative brain disease, brain infection, brain tumor, brain injury, etc.). There are three general types of clinical syndromes of neurobehavior disorders, namely diffuse and multifocal brain disorders, neurobehavioral syndrome and manifestations neuropsychiatry in neurological diseases. We report the profiles of patients who were consulted for neurobehavior examination at the Neurobehavior Clinic at Prof. DR. Mahar Mardjono National Brain Center Hospital in 2022 based on age group, gender, education, occupation, clinical diagnosis, and cognitive impairment.

METHODS

Retrospective study of patients who were consulted for neurobehavior examination at the Neurobehavior Clinic at Prof. DR. Mahar Mardjono National Brain Center Hospital in 2022. Neurobehavior examination carried out comprehensively using the Moca-Ina test tool, Neuropsychological tests from CERAD (Consortium to Establish a Registry for Alzheimer's Disease) and NPI-Q (Neuropsychiatric Inventory Questionnaire) which have been validated for identify cognitive and non-cognitive/neuropsychiatric disorders due to brain damage in a person, ADL (activities of daily living) and IADL (instrumental activities of daily living) to assess whether someone else needs help, and Neuroimaging is also carried out. Diagnosis of Dementia and MCI (Mild Cognitive Impairment) from the National Institute on Aging-Alzheimer's Association (NIA-AA) diagnostic guidelines 2011, Vascular Dementia from the National Institute of Neurological Disorders and Stroke and the Association Internationale pour la Recherche et l'Enseignement en Neurosciences ((NINDS -AIREN) 1993. Cognitive disorders due to brain tumors, epilepsy, brain infections, head injuries using The fifth edition of the Diagnostic and Statistical Manual of Mental Disorders (DSM-5)

RESULTS

The number of patients consulted in 2022 will be 602 patients. Based on the age group, the largest number is 45-65 years old at 46.3%, followed by the elderly (>65 years) at 34.3%. Male gender was 63.1%, the largest of the total 602 patients. Based on education, 52.5% had tertiary education, 32% had high school education and 0.3% had no education. Based on occupation, civil servants 5.6%, private employees 10.5%, unemployed 22.9%, housewives 21.6%, retired 20.8%.

DISEASE	PATIENT
1. Degenerative Disease	196 patients
• <i>Mixed Dementia (Probable Alzheimer's Dementia/AD and Vascular Dementia)</i>	27,6%
• <i>Vascular Dementia</i>	19,9%
• <i>Probable Alzheimer's Dementia</i>	19,4%
• <i>MCI</i>	21,4%
• <i>Parkinson's Disease Dementia</i>	6,1%
• <i>Lewy Body Dementia</i>	0,5%
• <i>Dementia Syndrome (without neuroimaging)</i>	5,1%
2. Post Stroke patients	279 patients
• <i>Non-dementia Vascular Cognitive Impairment (VCI)</i>	66,7%
• <i>Vascular Dementia</i>	22,2%
• <i>Focal Syndrome (Aphasia)</i>	10,4%
• <i>VCI and Broca's Aphasia</i>	0,4%
• <i>VCI and Transcortical Motor Aphasia</i>	0,4%
3. Intracranial Tumors (Mild to Major Neurocognitive Disorders)	78 patients
4. Epilepsy (Mild to Major Neurocognitive Disorders)	21 patients
5. Head Injuries (Mild to Major Neurocognitive Disorders)	13 patients
6. Brain Infections (Mild to Major Cognitive Disorders)	15 patients
TOTAL :	602 patients

CONCLUSIONS

The results of this study indicate that Post Stroke Cognitive Impairment is the most consulted cases, Neurodegenerative diseases with the most Dementia are mixed Dementia (probable AD and VaD), followed by Vascular Dementia and Probable Alzheimer's Dementia.

REFERENCES

- McKhann GM, Knopman DS, Chertkow H, et al. The diagnosis of dementia due to Alzheimer's disease: recommendations from the National Institute on Aging-Alzheimer's Association workgroups on diagnostic guidelines for Alzheimer's disease. *Alzheimer's & dementia : the journal of the Alzheimer's Association.* 2011; 7(3):263–269.
- Albert MS, DeKosky ST, Dickson D, et al. The diagnosis of mild cognitive impairment due to Alzheimer's disease: recommendations from the National Institute on Aging-Alzheimer's Association workgroups on diagnostic guidelines for Alzheimer's disease. *Alzheimer's & dementia : the journal of the Alzheimer's Association.* 2011; 7(3):270–279
- Roman GC, Tatemichi TK, Erkinjuntti T, Cummings JL, Masdeu JC, Garcia JH, Amaducci L, Orgogozo JM, Brun A, Hofman A. Vascular dementia: diagnostic criteria for research studies: report of the NINDS-AIREN International Workshop. *Neurology.* 1993;43:250–260.
- American Psychiatric Association. *Diagnostic and Statistical Manual of Mental Disorders. Fifth Edition.* Arlington, VA: American Psychiatric Association; 2013.