

# Development and Content Validation of Assistive and Adaptive Technology Dependency Rating Scale (AATD\_RS) among Individuals with Neurological Disorders

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## ABSTRACT

**Introduction:** Assistive and Adaptive Devices (AAD) are specifically tailored to assist individuals with disabilities. People with Non-Progressive Neurological Disorders (NPND) tend to depend on AAD for their age-appropriate functioning. Surprisingly, there is no such pre-existing standardised scale to measure the level of dependency of NPND patients on AAD.

**Aim:** The primary aim is to develop and validate the content of the Assessment of Activities of Daily Living in Neurological Disorders Rating (AATD\_RS) scale. The secondary aim is to check the reliability of the developed scale.

**Materials and Methods:** Patients diagnosed with NPNDs for at least six months will be included in the study. Both male and female participants aged between 18 and 35 years with Mini-Mental State Examination (MMSE) scores greater than 26 will be eligible for participation. Individuals clinically diagnosed with cognitive impairment or cerebral palsy will be excluded from the study. The formulation of the scale will incorporate the opinions of six to ten medical and allied health professionals in an offline setting. The AATD-RS will consist of approximately five questions in each category, and its development and content validation will be carried out in three phases. Phase 1 will involve an extensive literature

search using databases such as PubMed, Cochrane Library, and ScienceDirect to identify relevant domains and items. Phase 2 will include seven subphases: Domain and item generation, grouping of items into domains, content validation, preparation of the first draft, preparation of the final draft, pilot testing and revision of the scale based on feedback and findings. Phase 3 will involve reliability testing of the developed scale to determine its consistency and applicability.

**Results:** Each item of the instrument will be evaluated for content validity using the Item-Level Content Validity Index (I-CVI), while the overall scale validity will be assessed using the Scale-Level Content Validity Index (S-CVI). The S-CVI will be calculated using both the Universal Agreement method (S-CVI/UA) and the Average Calculation method (S-CVI/Ave). According to Lynn's recommendations, when the number of experts ranges from 6 to 10, an I-CVI value of at least 0.78 and an S-CVI/Ave value of 0.90 or higher indicate excellent content validity.

**Conclusion:** This scale may prove to be an effective tool to identify the degree of dependency on AAD among patients with nonprogressive neurological disorders.

**Keywords:** Disabled persons, Nervous system disorders, Quality of life, Surveys and questionnaires, Young adults.

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