Difficulty in high order linguistic processing - A relevant diagnostic marker for schizophrenia

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Objective: To develop Hindi Linguistic Function Test battery (HLFT Battery) as early detection tool for schizophrenia.

Background: The Hallmark of schizophrenia is semantic deficit/language impairment. In order to detect subtle linguistic performance deficits in patients with schizophrenia, we attempted to develop a test battery in Hindi vernacular language.

Methods: Total 68 participants namely 34 patients with schizophrenia and 34 controls, were recruited into study by using Clinical Global Impression (CGI-1) Scale and General Health Questionnaire -12 (GHQ-12) respectively. The patients with Schizophrenia (17 males and 17 females) were evaluated by using PANSS (positive and negative symptoms scale for schizophrenia) and HLFT battery for their symptoms and linguistic performance respectively. Control was evaluated using HLFT battery. HLFT battery was designed containing three blocks by using Antonyms, synonyms, homonyms, hyperonyms, homonyms, distractors and adages.

Result: Patients with Schizophrenia scored significantly lower than the healthy controls in hyponym plus distractor combinations (p=0.001). At hyponym plus distractor combination score of 2.5, the sensitivity and specificity for using it as cut off for diagnosing schizophrenia are 79 % and 55 % respectively.

Conclusion: The hyponym- distractor pairs seem to irritate the patients' brain more. Taxonomic representation such as hypo-/hyeronomia, synonomia and also adages might be significantly impaired in patients with schizophrenia and developing a pen and paper screening test and these high level linguistic features seem worth looking at. This HLFT battery seems useful and could be used as a screening tool for early detection of psychosis/schizophrenia; it might lead to a better understanding in the aetiology of schizophrenia in general.

Keywords: Schizophrenia, Semantic deficit, Language impairment, PANSS, HLFT, CGI, GHQ.