

STUDY OF VALIDITY OF WAIS-R HINDI VERBAL SCALE IN CLINICAL POPULATION

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The study aims at finding out the validity of recently standardized WAIS-R Hindi Verbal Scale on Clinical population. Inter-test and concurrent validity of the scale on a group of matched schizophrenic patients, organic cases and, normal control were worked out. Results show high and significant correlation on total population. The low and varying correlation on different psychiatric groups confirms the validity of the scale in clinical population.

Wechsler Adult Intelligence Scale (WAIS) is widely used in psychiatric population (Matarazzo, 1972). Apart from a tool to assess intelligence it gives information about the deterioration and/or deficits of cognitive functions. Patterns of cognitive deficits on WAIS are known to vary in different conditions.

Recently, in a multi-centered project, Hindi adaptation of WAIS-R verbal scale (viz. Information, Digit-Span, Arithmetic and comprehension subtests) has been standardized on normal population (Verma et al., 1984). In the present study, an attempt has been made to see the diagnostic usefulness of WAIS-R Hindi verbal scale. The scale was administered on a group of organic patients, schizophrenic subjects and normal controls. Two types of validity namely, inter-test and concurrent were worked out. For inter-test validity correlation among different sub-scales were found out for all the groups. Wechsler Adult Performance Intelligence Scale (WAPIS) (Ramalingaswami, 1975) and Standard Progressive Matrices-SPM) (Raven, 1958) were given to assess concurrent validity. The results on all the three tests were compared on each group.

METHOD

Sample

A total of 120 subjects (60 male, 60 female) were selected for the study. The age ranged from 18 years to 55 years. Half (60) of the subjects were educated upto or beyond matriculation, while the remaining half (60) were non-matriculate. The diagnostic break-up comprised of 40 schizophrenics (20 acute,

20 chronic) and 40 cases of organic brain syndromes. Forty normal subjects were taken as control. All the three groups were matched for age, sex and education. The diagnoses were made by consultant psychiatrist using International Classification of Disease - IX edition. Organic group comprised mostly epilepsy and dementia. These cases were investigated routinely with straight radiology, EEG and relevant laboratory investigations. In the schizophrenic group, patients having more than 2 years of illness were considered chronic. In acute schizophrenic group duration of illness was less than 3 months. None of the patients were on E.C.T. during the period of testing.

Tools

WAIS-R Hindi verbal scale, WAPIS and SPM were used in the present study.

Procedure

All the subjects were interviewed. Relevant socio-demographic data were collected. The testings were completed in most of the subjects in two sessions over a period of one or two days. WAIS-R Hindi verbal was administered followed by WAPIS and SPM in all the co-operative patients.

RESULTS AND DISCUSSION

Inter-test validity was found out by inter-subscale correlation of different groups (Table 1). The table shows overall significant correlation among various sub-tests of WAIS-R Hindi Verbal scale.

In acute schizophrenic group, significantly poor correlation has been observed among

Digit Span, Arithmetic and other sub-tests. This may be due to increased level of anxiety (Wechsler, 1958; Rappaport et al., 1945), poor attention span (Rappaport et al., 1945) or increased motor activity of such patients. Low correlation value found between information and other sub-tests is also considered to be of diagnostic value in schizophrenic patients (Matarazzo, 1972; Rappaport et al., 1945).

In chronic schizophrenic population, comparatively high correlation among sub-scales suggest an overall consistent performance. This may be because of the chronicity of illness. However, there are poor correlation among digit span, arithmetic and other sub-scales. This suggest disturbed attentive processes in these patients.

Organic population is expected to have poor correlation among digit span and other sub-tests due to significant deficits in higher cognitive functions (De Wolfe, 1971). Comparatively less disturbed results in our organic population may be due to the fact that the patients in the present study were not suffering from acute brain-damage, but were more stabilized and chronic.

Inter-scale correlation of our organic cases were found to be similar with chronic schizophrenics. Watson et al. (1965) reported similar findings on WAIS intra

sub-test scatter. Chronic schizophrenics and organic cases are known to be difficult to discriminate groups on the basis of psychological test findings (Heaton et al., 1978). Probable reason may be a possibility of some organic pathology in chronic schizophrenics (Pincus et al., 1974).

Concurrent validity was found out by correlating WAIS-R Hindi verbal scores with the scores of WAPIS and SPM (Table 2).

Significant correlation was found among the different tests on normal groups. Poor correlation among three test results in acute schizophrenic group seems to be due to the nature of disease process and fluctuating attention. In chronic schizophrenic group high correlation was found between WAIS-R verbal and WAPIS but poor correlation was found among SPM and other two tests. This may be due to poor abstraction reported in chronic schizophrenic group. In organic cases, high correlation was observed between SPM and WAPIS, but not among WAIS-R verbal and other two tests. This may be due to the discrepancy found between verbal and performance I.Q. in organic patients (Wechsler, 1958; Salvastore, 1985).

In conclusion, WAIS-R Hindi verbal scale is a useful tool in clinical population.

TABLE-1: INTER-SCALE CORRELATION IN DIFFERENT GROUPS

	Normal N=40	Schizophrenic Acute N=20	Chronic N=20	Organic N=40	Total N=120
Digit Span/Information	.81**	.13	.54*	.45**	.59**
Arithmetic/Information	.80**	.09	.46*	.55**	.56**
Arithmetic/Digit Span	.70**	.30	.29	.37*	.60**
Comprehension/Information	.68**	.037	.75**	.58**	.68**
Comprehension/Digit Span	.77**	.54**	.52*	.30*	.60**
Comprehension/Arithmetic	.71**	.19	.50*	.65**	.15**
Verbal IQ/Information	.76**	.60**	.81**	.96**	.78**
Verbal IQ/ Digit Span	.92**	.45*	.65**	.78**	.81**
Verbal IQ/Arithmetic	.94**	.83**	.71**	.82**	.83**
Verbal IQ/Comprehensive	.65**	.36	.82**	.80**	.83**

* Significant at .05 level.

** Significant at .01 level.

Table-2: CORRELATION BETWEEN DIFFERENT TESTS IN DIFFERENT GROUPS

	Normal	Schizophrenic		Organic	Total
		Acute	Chronic		
Verbal/WAPIS	.61**	.24	.66**	.26	.70**
Verbal/SPM	.90**	.34	.26	.12	.68**
WAPIS/SPM	.92**	.40	.33	.47*	.82**

* Significant at .05 level.
 * Significant at .01 level.

REFERENCES

- Cullari S. (1985). WAIS Verbal and Performance IQ for a psychiatric population. Psychological Reports, 57(3), 1169-1170.
- De Wolfe (1971). "Differentiation of schizophrenic and brain damage with WAIS". Journal of Clinical Psychology, 27, 209-211.
- Heaton, R.K., Baade, L.E., & Johnson, K.L. (1978). Neuropsychological test results associated with psychiatric disorders in adults. Psychological Bulletin, 85, 141-162.
- Heilbrun, A.B. (1958). The digit span test and the prediction of cerebral pathology. Archives of Neurology and Psychiatry, 80, 228-237.
- Matarazzo, J.D. (1972). Wechsler's measurement and appraisal of adult intelligence. (5th ed.) Baltimore: Williams and Wilkins.
- Pincus, J.H. & Tucker, G.J. (1974). Behavioural neurology. New York: Oxford University Press, 108-112.
- Ramalingaswami, P. (1975). Measurement of intelligence among adult Indians. New Delhi: N.C.E.R.T.
- Rappaport, D., Gill, M., & Schafer, R. (1945). Diagnostic psychological testing (Vol. 1). Chicago: Year Book Publishers.
- Raven, J.C. (1958). Standard Progressive Matrices. London: H.K. Lewis & Co. Ltd.
- Verma, S.K., Prasad, D, Gupta, L.N., Khorana, S., Mishra M.N., Ojha, K.N., & Shukla, T.R. (1984): Standardization of Hindi WAIS-R Verbal Scale: ICMR Enquiry Report, Chandigarh.
- Watson, C.G. (1965). Intra test scatter in hospitalized brain-damaged and schizophrenic patients. Journal of Consulting Psychology, 29, 596.
- Wechsler, D. (1958). The measurement and appraisal of adult intelligence. Baltimore: Williams and Williams.
- Wechsler, D. (1981). WAIS-R Manual: Wechsler Adult Intelligence Scale - Revised. New York: Psychological Corporation.

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