Performance of Mania and Normal Control on Human Figure Drawing Test: A Comparative Study

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Abstract :

Projective tests are used in Psychiatry to understand the unconscious feelings and motives of an individual. The aim of this study was to compare the performance on Human figure drawing test (HFDT) of patients suffering from mania with normal controls. HFDT was administered individually to subjects of both the test and control groups. Analysis of HFDT revealed that impairment scores of mania patients were significantly higher than normal controls. The features that differentiated patients of mania from normal controls were: large size, addition of extraneous objects, unequal arm, teeth showing, nostrils showing, genitalia showing, disheveled hair, heavy lines, and 'developmentally indistinguishable'. The Human Figure Drawing Test can be a useful adjunct to diagnostic testing of patients with mania.

Key words: *Human figure drawing test, projective tests, Mania.*

Introduction :

Drawing has drawn attention in psychology because it is found that people were interested in art from the very beginning of civilization. Even during the Stone Age people made different types of pictures on walls of caves to express feelings regarding themselves as well as about others. Even small children are interested in sketching, and giving their own meaning to them. Therefore assessment of drawing techniques seem to be a good media for projection of psychological features of illiterate and literate, as well as children and adults. The use of projective tests is predicated on the psychoanalytic premise that projective drawings may provide insight into parts of the personality that are not accessible by conscious processes, and therefore that they provide insight into the person's "inner world." This "inner world" is usually defined as the person's intrapersonal themes, conflicts, psychological and emotional defenses, and indications of a psychological disorder [1]. In any projective technique, the subject is assigned an unstructured task, which permits an almost unlimited variety of responses. In the area of projective drawing, the "Draw-A-Person Test" developed by Machover was the first attempt to reveal unconscious feelings [2]. He focused on how the drawings reflected the anxieties, impulses, self-esteem, and personality of the test taker. The technique is based on the premise that the way an individual perceives and interprets his own self-image or important objects in his life are reflected in his drawings.

Projective-analytic theory is based on the assumption that deep, and often unconscious feelings and motives may be assessed through various means of self expression. The drawing of human figure is an ideal vehicle for self expression [2]. Interpretation of Human Figure Drawing Test (HFDT) is based on the characteristics of the figure such as size, placement on the page, apparent rigidity of the drawn figure, drawing proportion, aesthetic appearance, line quality, gender issues, clothing, omission, etc [2-4]. Initially the interpretation of the test was restricted to the intellectual aspects of the person. Recently, Jerry Mitchell et al., attempted to broaden a qualitative clinical tradition for assessment to a more quantitative technique of assessing features of human figure drawing as indicators of cognitive or marital impairment [5]. They believe that the test will reveal the 'general conflicts and concerns' of the client when

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combined with other clinical information and assessment data. Many studies have been conducted using the HFDT in the diagnosis of psychoses, symptoms of anxiety, depression, schizophrenia, organic disorders, and cognitive or mental impairment [6-10]. In contrast with other projective techniques, human figure drawing methods can be administered and scored quickly. It is therefore most suitable for uncooperative, restless or distractible patients.

Initially it was believed that projective tests were not affected by culture, but subsequent studies proved that the results vary with culture, and people of different cultures would show different responses [11, 12]. Due to paucity of such work by Indian workers, the present cross sectional analytical study was conducted to ascertain the usefulness of HFDT for the diagnosis of mania and study HFDT variations in Indian patients.

Materials and Method

1. Sample:

Patient sample was selected by purposive sampling technique from Central Institute of Psychiatry, Ranchi. The patient sample consisted of 30 patients, in the age range of 20-50 years, diagnosed as manic episode or bipolar affective disorder (mania) (according to ICD-10 Diagnostic Criteria for Research) [13]. Those having any co-morbid major neurological or psychiatric disorder or mental retardation were excluded from the study. The normal control group consisted of 30, age, sex, and education matched subjects who were not suffering from major neurological or psychiatric disorder or mental retardation and having General Health Questionnaire score of less than three. All subjects were included in the study after obtaining written informed consent.

2. Tools for Study:

a) Socio-demographic and clinical proforma: A socio-demographic and clinical data sheet was specifically designed to record relevant details of each case.

b) General Health Questionnaire-12: This self-report instrumental questionnaire was used to screen for any psychiatric morbidity in normal controls. The items were scored as 0 or1. General Health Questionnaire-12 has been evaluated for its validity and was found to have a sensitivity of 89%, specificity of 80% and cut off point of 3. [14]

c) Wechsler Adult Intelligence Scale (WAIS) - Performance Scale: It is the Indian adaptation of WAIS - Performance scale [15]. It includes five subscales: Picture completion, Digit symbols, Block design, Picture arrangement and Object assembly.

d) Verbal Adult Intelligence Scale: The scale includes 4 sub tests: Information, Digit span, Arithmetic and Comprehension. The items were taken from the WAIS and standardized on Indian population.[16]

e) Human Figure Drawing Test: The HFDT is designed to support both quantitative and qualitative clinical interpretation of human figure drawings [5]. The individual is asked to draw two human figures (one of each gender). The scoring includes an overall impairment score, distortion and simplification scores, and an organic factor index. The qualitative analysis assesses the cognitive and personality pattern of the individual on the basis of 74 drawing features. Some of them are: Extreme asymmetry, unequal arm, light lines, shading (other than hair), large size, addition of extraneous objects, small size, stick figure, blank, teeth showing, spiked fingers, nostrils showing, bare feet on clothed figure, bizarre hair, disheveled hair, primitive appearance, genderless, childlike, developmentally indistinguishable, naked without genitalia, chicken feet, eyes omitted, top placement, bottom placement, gross disproportion, internal organ shown, very large ears, etc.

3. Procedure

The patient and healthy controls full-filling the inclusion criteria were explained all relevant aspects of the study and an informed consent was obtained from them, following which certain primary information regarding socio-demographic variables were obtained from both the groups. A standardized intelligence test was administered on the patient group to rule out the possibility of mental retardation. Patients having IQ above 70 were selected. Age, sex and education matched controls were selected by paired matching after obtaining information about their socio-demographic profile. General health questionnaire (12 item version, GHQ-12) was applied and those scoring less than three were excluded. Thereafter Human Figure Drawing Test was individually undertaken by participants of both the groups.

Results

The mean age of mania group and normal control group was 29.50+ 8.63 and 30.20+ 7.43 years respectively (difference not statistically significant). The quantitative scoring of HFDT were subdivided into four sub scores: (1) Impairment raw scores (2) Simplification raw scores

(3) Distortion raw scores and (4) Organic index. Table 1 shows the comparison of performance on HFDT between the mania group and normal controls group. The mania group's scores appear to be higher in comparison to normal controls, but it was statistically significant only in impairment scores.

Table 1. Quantitative analysis of performance of Mania and Normal Controls on HFDT

Variables	Mania (N=30) Mean+SD	Normal Controls (N=30) Mean+SD	Mann Whitney U Test	
			U value	Z-Scores
Impairment scores	5.43+3.14	2.90+1.56	226	3.35**
Simplification scores	.56+1.10	.23+.67	375	1.54
Distortion scores	.96+1.35	.26+.69	319	2.38
Organic index	.40+.10	.03+.55	390	1.09

**p<.01

Table 2. Qualitative analysis of performance of Mania and Normal Controls on HFDT

Drawing features	Mania(n=30) N (%)	Normal Control(n=30) N (%)	X^2
Large Size	25 (83)	1 (3)	39.09**
Spiked fingers	24 (80)	0 (0)	24.69**
Top placement	24 (80)	3 (10)	26.69**
Heavy line	24 (80)	0 (0)	20.00**
Addition of extraneous objects	20 (67)	0 (0)	30.00**
Nostrils showing	19 (63)	0 (0)	27.80**
Developmentally Indistinguishable	18 (60)	0 (0)	25.71**
Teeth showing	15 (50)	0 (0)	20.00**
Disheveled hair	15 (50)	0 (0)	20.00**
Genital showing	13 (43)	0 (0)	16.54**
Transparencies	13 (43)	0 (0)	16.59**
Stick figure	12 (40)	1 (3)	11.88**
Unequal Arm	12 (40)	1 (3)	11.88*
Thin leg	12 (40)	1 (3)	11.88*
Thin arms	9 (30)	1 (3)	7.68*
Profile figure	3 (10)	14 (45)	18.37**
Leg omitted	3 (10)	0 (0)	3.15 NS

NS= not significant,* p<.05, **p<.01,

Comparison of performance of mania patients and normal controls in terms of their drawing patterns is given in Table 2. The response was obtained in terms of frequency. The chi-square test was computed to compare the differences between these two groups. The table depicts the indices on which significant difference was found.

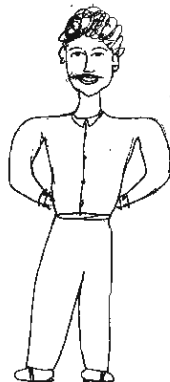**Figure 1:** Human Figure Drawing by a patient with mania

Figure 2: Human Figure Drawing by a normal control subject

Fig. 1 and Fig. 2 show examples of human figure drawing by a patient with mania and normal control subject respectively.

Qualitative interpretation of figures drawn by the manic patient (Fig. 1) is as under:
• Large size: Grandiosity
• Left placement: Emotional focus
• Dishevelled hair: Sexually impulsive behavior
• Heavy line: Assertiveness, tension
• More than 50% of the drawing is sketched: Anxiety, uncertainty
• Legs omitted: Regression
• Spiked figure: Aggression, hostility
• Nostril showing: Aggression
• Extreme asymmetry: Anxiety, confusion
• Addition of adornments: Mania

Qualitative interpretation of figure drawn by the normal control subject (Fig. 2) is as under :
• Hand behind back: Artistic sophistication
• Boots on feet: Symbol of autonomy or virility
• Waist emphasis: Concern over sexual control

The major finding of the present study is that there is significant difference between the performance of ma-nia group and normal control group i.e., impairment raw scores are higher in the mania group as compared to nor-mal controls. Based on qualitative scoring of HFDT, there was a highly significant difference between the perfor-mance of the mania group and normal controls. These find-ing clearly indicates that the HFDT can be a useful tool for assessment of patients with mania in clinical practice.

Discussion

Human figure drawing can be interpreted on the basis of variations of such characteristics as size, placement on the page, apparent rigidity of the drawn figure, drawing proportion, line quality, gender issues, clothing and its omission, etc. In an earlier study, Machover developed a number of hypothesis based on clinical observation and intuitive judgment [2]. She speculated that the size of the drawing related to the level of self esteem, and that place-ment on the page reflected the subject's mood and social orientation. The findings of the present study revealed that 80% of mania patients who had drawn features of Top-placement had inflated self esteem on Young Mania Rating Scale, whereas in the control group this features was seen in only 10%. This difference among the mania group and normal controls is statistically significant. Results were similar with drawing features such as large size. It was 3% in the normal controls but 83% in the mania group (difference statistically significant). These findings are also supported by few earlier studies [3,4,17].

It has been reported in an earlier study that heavy lines are indicators of mood volatility [18]. This finding is sup-ported by the present study where 80% of the figures in heavy lines were drawn by the mania group whereas it was drawn by none of the normal controls. Similarly the significantly higher frequency of developmentally indis-tinguishable figure, profile figure, disheveled hair, teeth, nostril an transparencies figure in the drawings of mania patients are in agreement with earlier studies [3,4,17,18].

Although various findings of the present study corrobo-rate with previous studies, there are a few contradictory observations. The finding of 30% figure drawn with thin arms by the mania group in the present study is not in agreement with earlier studies in which it was found to be an indication of an organic condition [2,18,19,20,21]. However in the present study none of the subjects were suffering from any comorbid organic condition as pres-ence of a neurological or organic condition was an ex-clusion criteria of the study.

In the present study 40% stick figure was drawn by the mania group which according to the earlier studies may be an indication of agitated depression [22], organic con-

dition [21], or even mental retardation [23]. In the present study, 10% leg omitted figure were drawn by the mania group, which is contrary to the findings of few previous studies [2,18,20,21] wherein interpretation of leg omitted was done as an indication of depression and withdrawal. Because of the small sample size the above findings are tentative and the variations in the Indian context need further detailed study using a larger sample.

Conclusions

In view of the significant differences between the performance of mania group and normal control group we can conclude that the Human Figure Drawing Test can be a useful adjunct to diagnostic testing of patients with mania.

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