Hand Test Responses of Children with Conversion Disorder and Normal Children

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Abstract. Conversion disorder has been found to be on increase in developing countries due to many social, familial and personal reasons. In recent years, the prevalence of conversion has been increased in children as well which is alarming. The empirical evidence supports the view that conversion is the response to unexpressed distress. The current study was designed to explore the hand test responses of children suffering from conversion disorder. For this purpose, firmly diagnosed children with conversion disorder were included in the sample. The sample was purposively selected and after screening hand test was administered on 16 children. In order to make a comparison, hand test was also administered on 16 school going children. The analysis revealed that children with conversion disorder gave more crippled responses. Thus it appears that in face of adversity the children with conversion disorder may feel unable to deal with it and develop conversion disorder. The results of the study are discussed in light of cultural and contextual variations.

Children have been the focus of researches from last few decades. It is not only that researchers are focusing on this segment of the population, rather the legislative body's, educational systems, health organizations all over the world are investing their energies in children because they are the future of any society and they have been rightly regarded as "the living message we sent to the time we will not see"[1]. Emphasizing the importance of children Ansley- Green regarded them as "the life blood of any nation".

Children in today's world are facing many stressors. These stressors may range from everyday life events to specific issues faced by children during their life. These stressors can be in the form of academic difficulties [2] , adjustment problems [3], relationship problems, abuse and neglect [4], developmental stressors [5], economic stressors [6] and so on. What ever the nature of the stressor may be, it would be very difficult for children to identify the ways to cope with the stress and also equally difficult for them to express their distress [7]. This fact makes children more prone to resort to the language of bodily symptoms to show their distress, in other words they are more vulnerable to develop conversion disorder.

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Conversion disorder is a psychological problem in which a person shows sensory, motor, psuedoseizures or mixed symptoms in the absence of any physical illness [8] . Conversion disorder has been frequently associated with life stressors and traumas. Research evidence suggests that the prevalence of conversion disorder is particularly high in developing countries. In India the prevalence has been found to be 31 % in children and adolescents [9] and in semirural areas of Turkey it was 27.2 % [10]. In Pakistan different studies were conducted in different cities. A study conducted in Lahore showed the prevalence rate of 12.4% [11], in Rawalpindi, 14.8 % [12], in Peshawar it was found that during the years 2002 to 2007 27% of all the admitted patients were suffering from Conversion disorder.

With reference to children and adolescents very few empirical work has been done. The research emphasis has been more on exploring the prevalence rate of the condition or the relationship of the disorder with demographic variables [13]. But no effort has been made up till now to look at the underlying psychological mechanisms experienced by children suffering from this disorder. The current study was deigned to explore the personality characteristics, their view about themselves and acting out tendencies in children with conversion disorder using Hand Test. Hand test is a projective test that uses hands as a means of expressing psychic mechanisms. It was selected for the current study because most of the children that come in psychiatric outpatients have very little exposure to educational settings and thus the use of scales and questionnaires was difficult.

Method

The study sample was purposively selected from Children's hospital and Services hospital of Lahore. The sample consisted of 16 conversion patients (81 % females and 19 % males) and 16 school going children (females and male). The inclusion and exclusion criteria was:

Inclusion criteria

- All the participants included in the sample were between 9-16 years.
- Patients who were firmly diagnosed as having conversion disorder by a clinical psychologist and a psychiatrist according to DSM IV TR criteria were included in the study.
- Patients who fulfilled DSM-IV-TR criteria for conversion disorder as tested by the researcher.
- School going children with no background of conversion symptoms.

Exclusion criteria.

- Participants who were less than 9 years and more than 16 were not selected for the study.
- Patients with dual diagnosis were not selected for the study.
- School going children who had conversion symptoms at any point were excluded from the study.

Instrument

Hand Test

The Hand Test [14] is a projective technique that utilizes pictures of hands as a means of eliciting responses. It has been widely used to measure personality dimensions and action tendencies in children, adolescents and adults. It consists of 10 cards, 9 of these have shapes of hands and one card is blank. It has the advantage of both quantitative and qualitative scoring dimensions. The quantitative scoring includes four major scoring categories of interpersonal, environmental,

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maladjustive and withdrawal. Each of these categories is divided into sub categories. The qualitative scoring dimensions are 17 including ambivalent, denial, emotion, movement, original and so on. The test retest reliability found in different researches has been found to be in the range of .51 to .89. Split half reliability was found to be between .85 to .92 while the inter judge agreement has been found to be between 78 % to 96 %.

Procedure

Before conducting the study formal permission was taken from the ethical committee of the Children's Hospital Lahore and Services Hospital Lahore. After reviewing the study objectives the ethical committee members granted permission for the collection of data. Participants were told about the purpose of the study and a total of 15 children with conversion disorder and 15 school going children participated in the study. Only those who were willing to participate in the study were selected.

Demographic information was obtained from the participants. Afterwards, the hand test was administered individually on each client. Following instructions were given to the participants *"I have a number of cards on which pictures of hands are drawn. I am going to show you the cards, one at a time, and I want you to tell me what it looks like the hands might be doing."* After getting participants responses on all the 10 cards, he/she was debriefed about the whole process. They were encouraged to ask questions and to air their concerns if any. It took almost 7 to 10 minutes to complete the administration.

Results

Sample Description of Conversion patients

The sample of conversion patients was predominantly female and mean age was found to be 12.56 (*SD* = 1.89). The majority of participants were middle born (62.40%), while first born and last born were in equal proportion (18.8%). Majority of children having conversion disorder had large family size with six or more than six siblings (68.8%) as compared to few having smaller family size of less than six siblings (31.2%).

Sample Description of home living children

The sample of school going children was predominantly female (69 %) and mean age was found to be 13.06 (SD =.859). The majority of participants were middle born (63%), followed by first born (25 %) and last born were least in proportion (12%). Majority of school going children had small family size with less than six siblings (75%) as compared to few having large family size of more than six siblings (25%).

Hand Test Analysis

The main focus of the study was comparing the responses of school going children and children diagnosed as having conversion disorder on different personality dimension as measured by the quantitative interpretation of hand test using Chi-square analyses. Before conducting the analyses, inter-judge reliability of the Reponses of hand test was calculated.

Inter-judge Reliability

In order to establish the inter judge reliability of the hand test responses, the response sheets of whole of the sample were scored independently by the two judges. The results indicated that the agreement between the two judges was 85.17 % which is considered to be quite high.

Quantitative hand test categories among two groups.

In order to compare the two groups of school going children and children having conversion disorder on the quantitative categories of hand test, independent sample t-test was carried out.

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Table 1

Mean, SD, t and p Values on the Hand Test Categories by School Going *and conversion patients.*

Categories	Group	Mean	*SD*	*t*
Interpersonal	School Going Conversion disorder	6.93 3.00	2.08 1.54	6.072***
Environmental	School Going Conversion disorder	3.875 3.675	2.50 1.40	.349^{ns}
Maladjustive	School Going Conversion disorder	1.00 2.00	1.547 2.000	1.734^{ns}
Withdrawal	School Going Conversion disorder	.187 1.37	.403 1.360	3.348**

df = 30; *** $p < .0001$, **$p < .01$

Table 1 shows that the two groups of school going children and children with conversion disorder differ significantly on the categories of interpersonal and withdrawal with school going children having more interpersonal responses and less withdrawal responses as compared to children having conversion disorder.

% of hand test responses among two groups. In order to look at the differences in the individual responses of school going children and children having conversion disorder on hand test, percentages were computed.

Table 2

Percentages of Individual Responses of School Going Children and Conversion Patients on Hand Test

Response Categories	School Going Children (%)	Conversion Patients (%)
AFF	15	7
DEP	2	3
COM	12	3
EXH	5	1
DIR	12	8
AGG	14	10
ACQ	8	3
ACT	22	24
PAS	3	13
TEN	3	4
CRIP	6	18
FEAR	0	1
DES	1	6
FAIL	1	10
BIZ	0	0

Table 2 showed some interesting findings. It was found that in some individual responses both the groups differed quite significantly. The results indicated that school going children showed more AFF and COM responses as compared to conversion patients. On the other hand, conversion patients showed more responses on PAS, CRIP, DES and FAIL as compared to home living children.

INT vs ENV responses among two groups

The Hand test provides an estimate of INT and ENV responses of the subjects. This comparison gives an overall reaction pattern of the subject towards interpersonal or intrapersonal world. In

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order to explore the variations in INT and ENV responses among the home living children and conversion patients, these groups were sub-divided into two further groups of those children who have INT responses greater than ENV responses and second group have ENV responses greater than INT responses. In order to test the differences Chi-square analysis was carried out.

Table 3

Chi square and % of INT and ENV Responses of School Going (n=16), and Conversion Patients (n=16) on Hand Test

	School Going	Conversion Patients	χ^2	*df*	*p*
INT > ENV	13	5	8.00	1	6.64***
INT < ENV	3	11			

*** $p < .001$

Table 3 shows that the two groups of school going and conversion patients differ significantly. School going children had more INT responses and less ENV responses as compared to conversion patients. It indicated that conversion patients had more intrapersonal response pattern and less interpersonal responses.

Pathological responses among two groups

Hand test also provides the pathological responses which point towards the presence or absence of possible pathology. In order to explore the difference in pathology score of home living children and conversion patients t-test was carried out.

Table 4

M, SD, t and p Value of School Going Children (n=16) and Conversion Patients (n= 16) on Pathological Score of Hand Test.

Factors	Groups	*M*	*SD*	*t*	*p*<
Pathological Score	School Going Children	1.375	1.405	4.471	.001
	Conversion Patients	4.170	2.670		

Table 4 showed that the two groups differed significantly on pathological score with conversion patients having significantly high pathological score than school going children.

Discussion

The main aim of the study was to try an indirect approach to detect and identify vulnerability to develop somatic symptoms among children. The results of the study revealed some interested findings.

Experience ratio on hand test explains personality variations. The comparison of two groups on mean scores of the experience ratio (ER) of hand test revealed that children with conversion disorder showed more environmental responses (4), less interpersonal responses (3), more maladjustive responses (2) and withdrawal responses (1) as compared to school going normal children (7:4:2:1).

The fewer interpersonal responses as compared to environmental responses may indicate the lack of interest or initiative in relating with people and investing less energies in communicating their distress to caregivers around them. It must not be ignored that in environmental category, 32% of the responses given be conversion patients were of Passive, again indicating lack of struggle and

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initiative in dealing with life issues and situations. On the contrary, only 5% passive responses were given by school going normal children.

Similarly, the conversion patients as expected showed more maladjustive responses (22%) as compared to school going children (8%). The higher maladjustive responses have been considered to be a strong indicator of neurosis. Out of these maladjustive responses, conversion patients showed more crippled responses (82%) than home living children (68%). These crippled responses point towards the self concept of children, how effective they view themselves? The results indicated that children with conversion disorder may have feelings of inadequacy and ineffectiveness. It might be because of these feelings that children develop physical symptoms to express their distress.

Like maladjustive responses, conversion patients had greater percentage of withdrawal responses (15%) as compared to school going children (2%). The presence of withdrawal responses has been considered to be significant in pointing towards rejection of life circumstances and life roles. Most surprisingly, among withdrawal responses, conversion patients gave 64% failure responses. Presence of failure responses has been found to be a strong indicator of dissociative tendencies, thus explaining conversion symptoms.

The results of the study highlighted the effectiveness of hand test responses in explaining conversion symptoms. The presence of more environmental (passive) responses, maladjustive (crippled) responses, withdrawal (failure) responses, all points towards a psychological inability of conversion patients to deal with their environment in an effective manner. They view themselves as inadequate and inefficient and sometimes simply fail to respond to environmental and interpersonal life circumstances. This response pattern was further aggravated by the presence of fewer interpersonal responses indicating the lack of initiative and interest in communicating and relating with people around them which, if present, can prove to be a good source of channelizing their distress.

This small study is an illustration of using indirect method of eliciting responses from conversion patients and knowing the dimensions of their personalities. The study highlights the use of hand test as protective means to identify personality dimensions that can make a particular child more vulnerable to develop somatic symptoms. It can be used as a starting point in identifying conversion vulnerability among different populations.

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