



**PATTERNS OF PRESENTATION AMONG PATIENTS OF CONVERSION DISORDER  
REPORTING TO THE DEPARTMENT OF PSYCHIATRY AND BEHAVIORAL SCIENCES,  
JINNAH POSTGRADUATE MEDICAL CENTRE, KARACHI, PAKISTAN**

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## ABSTRACT

### OBJECTIVE

To determine the frequency of various patterns of presentation among patients of Conversion Disorder.

### STUDY DESIGN

Cross sectional Study.

### PLACE AND DURATION OF STUDY

Department of Psychiatry & Behavioral Sciences, JPMC, a tertiary care public sector health facility in Karachi. The study extended over a period of one year, from June 2013 to June 2014.

### SUBJECTS AND METHOD

One hundred and fifty five already diagnosed cases of Conversion Disorder, including males and females, between 16 to 60 years of age were included in the study through consecutive purposive sampling. Patients with comorbid neurological disorders, mental retardation and history of substance use were excluded to control the confounding factors. Data was collected using semi-structured Performa and analyzed through SPSS version 17.

### RESULTS

Out of total 155 cases, Conversion disorder is found to be most common amongst females in the age range of 16 to 25 years, unmarried, homemakers, and women with no formal education. Overall the pattern of presentation revealed highest prevalence of motor symptoms (62.6%), followed by convulsions (19.4%) and sensory symptoms (18.1%). Various patterns were affected significantly by the socio-demographic factors.

### CONCLUSIONS

Demographic factor are found to have significant impact on the patterns of presentation. This gathered knowledge can be used for early diagnosis without going for unnecessary investigations thus preventing the waste of time, money, and unnecessary delaying of effective treatment.

### KEY WORDS

Conversion Disorder, Pattern of Presentation, Demographic factors.

## INTRODUCTION

Conversion Disorder is one of the Somatoform Disorders as classified by The Diagnostic and Statistical Manual of Mental Disorders – IV edition (DSM IV). This system of classification defines Conversion Disorder as a disorder characterized by the development of serious and functionally impairing neurological symptoms which cannot be explained by any physical finding, substance use, or any other psychiatric illness. It is strongly related to some psychological stress. The symptoms are not produced intentionally and are not limited to pain or sexual disturbances<sup>1</sup>.

Various Western studies have reported the prevalence of conversion disorder ranging from 11 to 300 per 100,000 populations<sup>2</sup>. However the prevalence rates vary widely across the world. Studies in India reported prevalence of CD for inpatient as 31% and for outpatients as 6-11%<sup>4</sup>. In Pakistan the community studies are deficient, however the prevalence among psychiatric inpatients is found to be 4.8% and 12.8%<sup>3</sup>. Thus the statistics show considerably higher prevalence in our part of world.

Any symptom involving the neurological system can be found in this disorder. For simplification, DSM IV has categorized the presentations of conversion disorder under four categories i.e. motor symptoms, sensory symptoms, convulsions and mixed presentation<sup>1</sup>.

The high prevalence of conversion disorder and deficient research work in our country demands attention. Keeping in view the varying prevalence, we aimed to identify whether the pattern of presentation also varies considerably. It was assumed that the socio-demographic factors might be responsible for this variation. This study aims not only to identify the prevailing pattern of presentation but also to establish any influence of socio-demographic factors on the patterns of presentation.

The gathered knowledge can be transmitted to the general practitioners and other health professionals so that the diagnosis can be made more easily. It will also lead to reduction in the unnecessary investigations. Thus the wastage of precious time and money can be avoided

## SUBJECTS AND METHODS

### Participants

A total of 155 patients including both genders within age range of 16 to 60 years were enrolled in the study after taking informed consent from the Department of Psychiatry and Behavioral Sciences, JPMC, Karachi. Before starting the research, approval from the ethical committee was

taken. Patients having comorbid Depressive Disorder or Anxiety Disorders were included whereas those with substance use, mental retardation or any comorbid neurological disorder (e.g. Epilepsy, Stroke, etc.) were excluded. The matter of confidentiality and other ethical issues was considered carefully.

**Instruments and Procedure**

A semi-structured Performa was used to assess patient's particulars and the outcome variables (Annexure I). The data collected was analyzed using computer packages SPSS (Statistical Packages of Social Sciences) version 17. Mean and standard deviation (SD) were computed for all the quantitative variables (e.g. age). Categorical variables (such as gender, education) and the outcome variable (i.e. various Patterns of Presentation) were measured in frequencies and percentages. Stratification was done with regard to gender, age group and educational status, for all the outcome variables (i.e. various patterns of presentation) in order to see the impact of these on the outcome variables by using chi-square test. P-value less than 0.05 were considered as significant.

**RESULTS**

It was found that out of 155 patients, females comprised of 74.8% (166) and males were 25.2% (39) of the sample. Ages of the patients were stratified into groups of 10years. Results revealed that majority

(104; 67.1%) of patients belonged to the age group of 16 years to 25 years of age. Those amongst group of 26 years to 35 years of age were 36 (23.2%), and the group of 36 years to 45 years comprised of 15 patients (9.7%). Minimum age was 16 years in this study. No patient was found to be above 45 years of age in the study population making the maximum age to be 45 years. Out of 155 patients 95 (61.3%) were single, 57 (36.8%) were married and 3 (1.9%) were widowed however none of the patients had a history of divorce or separation. As per educational status of patients 59 patients (38.1%) had primary religious education (predominantly capability of reciting Holy Quran), 18 (11.6%) had primary education, 14 (9%) were educated till middle, 34 (21.9%) were matriculate, and 18 (11.6%) had no formal education. Occupation of majority of the patients was household i.e. 81 (52.3%), next highest number i.e. 46 (29.7%) was of students, 17 (11%) were laborer, 5 (3.2%) were professionals and 6 (3.9%) were jobless (Table 1 for details).

Pattern of presentation showed that the predominant presentation was with motor symptoms 97 (62.6%), convulsions were found in 30 (19.4%) and sensory symptoms were seen in 28 (18.1%).

The study analyzed the effect modification of frequency of different patterns of presentation by stratifying gender, age, marital status, level of education and occupation. It was found that male patients had more motor symptoms as compared with females (i.e. 79.5% in males VS 56.9% in females), female patients had more sensory symptoms as compared with males (i.e. 19.8% in females VS 12.8% in males) and females had more convulsions as compared with males (i.e. 7.7% in males VS 23.3% in females),  $\chi^2 = 6.836, p = 0.033$  (Table 2 for details).

The effect modification of age on the pattern of presentation revealed that motor symptoms were highest amongst the patients belonging to age group of 36 years to 45 years (i.e. 100% in age 35yrs to 45 yrs. VS 61.5% in age group of 16yrs to 25yrs. VS 50% in age group 26yrs to 35yrs), sensory symptoms were highest in age group of 26yrs to 35yrs (i.e. 25% in age group of 26yrs to 35yrs. VS 19% in age group of 16yrs to 25yrs. VS 0% in age group of 36yrs to 45yrs). Convulsions were most common in the age group of 16yrs to 25yrs (i.e. 21% in age group of 16yrs to 25yrs. VS 9% in age group of 26yrs to 35yrs. VS 0% in age group of 36yrs to 45yrs),  $\chi^2 = 11.489, p = 0.022$  (Table 2 for details).

The effect modification of Marital Status showed that motor symptoms were most common amongst widowed (i.e. 100% in widowed VS 68.4% in married VS 57.9% in single). Sensory symptoms were most common amongst single patients (i.e. 20% in single VS 15.8% in married VS 0% in widowed). Convulsions were most common amongst single (i.e. 21% in single VS 9% in married VS 0% in widowed),  $\chi^2 = 3.544, p = 0.471$  (Table 2 for details).

Effect modification of educational status over pattern of presentation revealed that motor symptoms were most frequent amongst those having education till middle (100%) and those educated till intermediate (100%). Sensory symptoms were most frequent amongst those having no formal education (27.8%), convulsions were seen most commonly amongst graduates (50%) followed by those having no formal education (38.9%) and those educated till primary (33%),  $\chi^2 = 34.707, p = 0.001$  (Table 2 for details)

**Table 1**  
Socio-demographics (n= 155)

Socio-demographics	Frequency	Percentage
<b>Gender</b>		
Female	116	74.80%
Male	39	25.20%
<b>Age</b>		
16yrs to 25yrs	104	67.10%
26yrs to 35yrs	36	23.20%
36yrs to 45yrs	15	9.70%
<b>Marital Status</b>		
Single	95	61.30%
Married	57	36.80%
Widowed	3	1.90%
<b>Educational status</b>		
Primary Religious	59	38.10%
Primary	18	11.60%
Middle	14	9.00%
Matriculation	34	21.90%
Intermediate	6	3.90%
Graduate	6	3.90%
No formal education	18	11.60%
<b>Occupation</b>		
Student	46	29.70%
Household	81	52.30%
Laborer	17	11%
Professional	5	3.20%
Jobless	6	3.90%

The effect modification of occupation over pattern of presentation revealed that motor symptoms were most frequent amongst laborer (100%), followed by household (63%), students (56%), jobless (50%) and 0% amongst professionals. Sensory symptoms were found to be most frequent amongst jobless (i.e. 33% in jobless VS 22% in household VS 17% in students VS 0% in laborers and professionals). Convulsions were most frequent amongst professional (100% in professionals VS 26% in students VS 16% in jobless VS 14% in household VS 0% in laborers),  $\chi^2 = 34.945$ ,  $p = 0.000$  (Table 2 for details).

**Table 2**  
Pattern of Presentation of CD in Relation to Various Socio-Demographic Factors

Socio-demographics	Motor symptoms	Sensory symptoms	Convulsions
<b>Gender</b>			
Female	56.90%	19.80%	23.30%
Male	79.50%	12.80%	7.70%
<b>Age</b>			
16yrs to 25yrs	61.50%	18.30%	20.20%
26yrs to 35yrs	50.00%	25.00%	25.00%
36yrs to 45yrs	100.00%	0.00%	0.00%
<b>Marital Status</b>			
Single	57.90%	20.00%	22.10%
Married	68.40%	15.80%	15.80%
Widowed	100.00%	0.00%	0.00%
<b>Educational status</b>			
Primary Religious	55.90%	20.30%	23.70%
Primary	50.00%	16.70%	33.30%
Middle	100.00%	0.00%	0.00%
Matriculation	76.50%	23.50%	0.00%
Intermediate	100.00%	0.00%	0.00%
Graduate	50.00%	0.00%	50.00%
No formal education	33.30%	27.80%	38.90%
<b>Occupation</b>			
Student	56.50%	17.40%	26.10%
Household	63.00%	22.20%	14.80%
Laborer	100.00%	0.00%	0.00%
Professional	0.00%	0.00%	100.00%
Jobless	50.00%	33.30%	16.70%

## DISCUSSION

In this study out of 155 patients, majority comprised of females, young adults, unmarried, having no formal education, and home makers. These findings are in accordance with the already existing data.<sup>5,6,7,8,9</sup>

Before commenting over the pattern of presentation, we need to review the already existing data. A study done in India showed that 85.7% patients of CD presented with motor symptoms.<sup>10</sup> A similar study conducted in Pakistan replicated the finding of high prevalence of motor symptoms (48%) followed by unresponsiveness (41%).<sup>11</sup> Our study also reported an overall preponderance of motor symptoms (62.6%). Although in all of the mentioned studies we find a

preponderance of motor symptoms, but at the same time it is also very clear that the relative ratios of the symptom pattern vary considerably. The variation became ever clearer when we stratified the sample into groups of various socio-demographic factors. Thus, the study confirmed that the most common presentation is that of motor symptoms; and it also succeeded in proving that the demographic factors do have significant effect on the pattern of presentation.

## LIMITATIONS

There is strong need of strengthening of the results by replication of this research over a wider population preferably community surveys. This study is limited by a small sample size, short duration and a cross-sectional design. It focused only on already diagnosed cases of conversion disorder so it cannot be referred to for the prevalence of conversion disorder in our society. Thus a community based research is recommended for further analysis of the data. The methodology can further be improved by using a questionnaire with lesser closed ended questions. Some other important factors also need to be assessed in relation with the pattern of presentation, such as the nature of psychosocial stressors, the underlying conflicts and comorbid psychiatric disorders.

## CONCLUSION

The results can be transmitted to the general practitioners and other health professionals so that the diagnosis can be made more easily. It will also lead to reduction in the unnecessary investigations. Thus the wastage of precious time and money can be avoided.




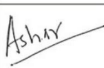

Actions such as development of social support system, self-help books, community seminars, education at school and use of electronic media can prove fruitful for improving the awareness and overall mental health status of our society. This in turn will certainly lead to reduction in the burden of mental health illnesses in general and conversion disorder in specific. Better mental health of our society is the need of hour for progressing in today's world.

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