

# BIRTH ORDER, FAMILY SIZE AND ITS ASSOCIATION WITH CONVERSION DISORDERS

M. Nasar Sayeed Khan<sup>1</sup>, Salman Ahmad<sup>2</sup> & Nadia Arshad<sup>3</sup>

## ABSTRACT:

**Aims and Objectives:** To find out the association of family size and birth order in patients suffering from conversion disorder, and to observe its correlation with pattern of conversion symptoms and co morbid anxiety and depressive symptoms.

**Design:** This was a hospital based, descriptive, cross sectional study.

**Place and duration:** The study was conducted in the Department of Psychiatry, Services hospital, Lahore from August 2003 to January 2004.

**Patients and Methods:** One hundred patients, suffering from conversion disorder diagnosed on the basis of DSM-IV criteria were assessed for symptom pattern. A semi-structured interview was used to collect details of family size and birth order. Anxiety and Depressive symptoms were evaluated by using Hospital Anxiety and Depression Scale (HADS).

**Results:** The majority of the patients were having 4-6 siblings. A strong correlation was found between the larger sized family and the middle born patients with the pattern of the conversion symptoms as well as with the anxiety and depressive symptoms.

**Conclusion:** The patients with a diagnosis of conversion disorder need to be managed for, not only the psychological aspects but also the social issues like family size and stresses associated with it.

**KEY WORDS:** Conversion Disorders, Anxiety, Depression, birth order, family size.

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## INTRODUCTION

Conversion disorder is an illness, which presents with sensory, motor, pseudoseizure or mixed symptoms precipitated by the stress in the absence of any physical illness.<sup>1</sup> A trauma in life was reported by about 80% of the patient,<sup>2</sup> which might have occurred in the past as childhood sexual and physical abuse<sup>3</sup> or recently before the onset of the illness.<sup>4</sup> Predominantly the precipitating factors for this illness included; child hood physical or sexual abuse,

trauma in adulthood, stress of examination or failure, quarrels with peers or spouse, interpersonal conflicts and difficulties of daily life.<sup>5,6</sup>

Usually conversion disorder presented, with seizure like symptoms, or fits of unconsciousness<sup>4,7-9</sup> and their frequency was reported to be 40.3% to 41.3%<sup>10,11</sup> followed by 40.3% for sensory symptoms, 12.6% for mixed symptoms<sup>11</sup> and only 5% of the patients with this disorder presented with motor symptoms.

It is a known fact that the infant and maternal mortality rate increases with the increased numbers of pregnancies and decreased interval in-between the births.<sup>12,13</sup> Good intellectual and physical development, health status and psychological well being of the individuals depended upon good family and social support.<sup>14</sup> which in turn need adequate family size and structure.<sup>12,15,16</sup> In the same way negative correlation was found between the number of children and the mood.<sup>14</sup>

As regards the financial support, the middle born children of the working mothers have

1. Dr. M. Nasar Sayeed Khan
  2. Dr. Salman Ahmad
  3. Dr. Nadia Arshad
- 1-3: Services Institute of Medical Sciences, Lahore.

### Correspondence:

Dr. M. Nasar Sayeed Khan,  
Associate Professor of Psychiatry,  
13-B Aibak Block New Garden Town,  
LAHORE.  
E-mail: nasarsayeed@yahoo.com

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advantage over the first and the last born children as well as the children of non working mothers, irrespective of their birth order.<sup>17</sup>

It has also been reported that the incidence of major psychiatric illness was increased in individuals, who belonged to beyond the third birth order.<sup>18</sup> In the same way, among Kuwaiti adolescents, family size and birth order had positive correlation with anxiety.<sup>19</sup>

As the social and family support, family structure and size are the important determinants of the psychosocial well being of the individuals so the family size and birth order of the individuals may play an important role in the incidence and presentation of the conversion disorders. To our knowledge, the studies showing this association is scanty so the present study aims to highlight the association of family size and birth order with the conversion disorder.

## METHODOLOGY

This was a hospital based, descriptive, non-interventional and cross sectional study. The study was conducted at Department of Psychiatry, Services Institute of Medical Sciences and Services hospital, Lahore from August 2003 to April 2004.

The study sample consisted of 100 consecutive patients both males and females diagnosed by two consultant psychiatrists as suffering from conversion disorder on the basis of DSM-IV diagnostic criteria.

The patients were evaluated on a semi-structured clinical interview including demographic variables and presentation of conversion symptoms as; motor, sensory, pseudo-seizure and mixed symptoms. The depressive and anxiety symptoms were assessed by vali-

dated Urdu version of Hospital Anxiety and Depression Scale.<sup>20-22</sup> This scale records subjective assessment of anxiety and depressive symptoms. For patients who were illiterate, questions were read to them so that they could answer appropriately.

Frequencies, Percentages, Means, Standard Deviations, Pearson's Product Moment Correlation, t-test analyses, One Way Analysis of Variance (ANOVA) and Chi Square were used for calculating the data. Statistical analyses were carried out using Statistical Package for Social Sciences tenth version (SPSS- 10) for Windows.

## RESULTS

Results show that 28% of the patients with conversion disorder were having 1 to 3 siblings, 50% were having 4 to 6 and 22% were having 7 and above siblings. This indicates that conversion disorder is more common in patients with 4 to 6 siblings (Table-I).

Table-I: Percentage of the sample regarding number of siblings

No. of siblings	%	X <sup>2</sup>
1 – 3	28 %	
4 - 6	50 %	
7 and above	22 %	13.04 ***

% = Percentage, X<sup>2</sup> = Chi Square,  $p < 0.001$ .\*\*\*

As regards the pattern of conversion disorder, pseudo-seizures were present in 22 (12%) of the patients having 1 to 3 siblings, 22 (53%) were found in patients with 4 to 6 siblings and 19 (8%) seizures were present in patients having 7 and above number of siblings. Chi Square showed that there was no significant relationship ( $p > 0.05$ ) between the number of siblings and pseudo-seizures.

Table-II: Association of pattern of conversion disorder with the number of siblings

No. of siblings	Pseudo seizure		Sensory Symptoms		Motor Symptoms		Mixed Symptoms	
	%	X <sup>2</sup>	%	X <sup>2</sup>	%	X <sup>2</sup>	%	X <sup>2</sup>
1 –3	29	.83 <sup>ns</sup>	19	0.001***	10	0.01*	25	0.100 <sup>ns</sup>
4 – 6	52		69		71		60	
7 & above	19		12		19		14	

% = percentage, X<sup>2</sup> = Chi Square, ns = non significant,  $p < .05$

Sensory symptoms were more common 18 (56%) in patients having 4 to 6 siblings. Chi Square showed that there was a significant relationship ( $p < 0.05$ ) between the number of siblings and sensory symptoms.

Mild motor symptoms were found in patients having 1 to 3 siblings, whereas moderate and severe level were more common in patients with 4 to 6 siblings. Chi Square showed a significant relationship ( $p < 0.05$ ) between the number of siblings and motor symptoms.

Mixed symptoms were present more in patients having 4 to 6 siblings 29 (60%). Chi Square showed no significant relationship ( $p > 0.05$ ) between the number of siblings and mixed symptoms (Table-II).

Anxiety and depressive symptoms were more common in patients having 4 to 6 siblings i.e. 38 (58%) and 28 (45%) respectively.

Chi Square showed no significant relationship ( $p < .05$ ) between the number of siblings and anxiety and depressive symptoms (Table-III).

Results showed that 24% patients with conversion disorder were first born, 56% were middle born and 20% were last born. This indicated that conversion disorder was more common in middle born patients. Chi Square showed that there was a significant relationship between birth order and conversion disorder.

The results also showed no significant relationship ( $p > 0.05$ ) between anxiety symptoms and birth order of patients but on the other hand a significant relationship ( $p < 0.05$ ) was present between depressive symptoms and birth order of the patient (Table-IV).

Table-IV: Association of Anxiety and Depressive Symptoms with the Birth order of the sample

Birth order	Anxiety					Depression				
	Present		Absent		$X^2$	Present		Absent		$X^2$
	<i>f</i>	%	<i>f</i>	%		<i>f</i>	%	<i>f</i>	%	
1 <sup>st</sup>	12	18	8	24	.431 <sup>ns</sup>	16	26	4	10	.032*
Middle	40	60	16	47		35	57	21	54	
Last	14	21	10	29		10	16	14	36	

Note. *f* = frequency, % = percentage,  $X^2$  = Chi Square, ns = non significant,  $p < .05$ . \*

Table-III: Association of Anxiety and Depressive Symptoms with the number of siblings in conversion disorder.

No. of siblings	Anxiety		Depression	
	<i>f</i>	$X^2$	<i>f</i>	$X^2$
1- 3	14	.06 <sup>ns</sup>	18	.57 <sup>ns</sup>
4 - 6	38		28	
7 and above	14		15	

*f* = frequency, % = percentage,

$X^2$  = Chi Square, ns = non significant.

## DISCUSSION

The results reveal that half of the study sample belonged to the family size comprising of 4- 6 sibs. They were significantly more likely to experience sensory and motor symptoms of conversion disorder. In addition to this more than 50% of the patients belonged to middle order as far as the birth order is concerned and they were significantly more anxious as compared to being depressed.

Adler suggested that the certain lifestyles frequently develop as a function of one's ordinal position in the family. He also suggested that in general certain characteristics are commonly found in children at specific position. Although Adler focused on the ordinal positions of the child but his main area was the personality development and not any specific psychiatric disorder. There are very specific personalities in patients with conversion disorder, which should be studied in depth in future.<sup>23</sup>

In our study, patients having 4-6 sibs were more likely to present with different varieties of conversion symptoms as compared to those

having smaller or bigger family size. The difference may be due to the fact that half of the sample of the present study consisted of patients with 4-6 sibs and only about 1/5<sup>th</sup> of the sample belonged to the bigger families. The results cannot be compared with the other studies as the birth order in conversion disorder was not the focus of attention in those studies and they highlighted the physical status of the study sample.

Interestingly the patients, having 4-6 sibs were significantly more likely to present with sensory and motor symptoms as compared to the pseudo-seizures and mixed symptoms.<sup>12</sup> Pattern of the symptom presentation in conversion disorder depend largely on the knowledge of the patients about the physical illness, which they acquire from their cultural environment, due to this patients with this disorder from different cultures present with different pattern of symptoms.<sup>15</sup> In our cultural setting paralysis and different sensory symptoms are most commonly understood physical symptoms and this may be the reason that our patients presented with these types of symptoms.

The results of the present study, where middle born individuals are more vulnerable, seems to be in line with the findings of Kuwaiti study.<sup>19</sup> As study sample in that study belonged to anxiety disorder rather than specifically conversion disorder, we cannot exactly match the results of the two studies. In addition to this, the research of Ahmed was based on major psychiatric illnesses, which also cannot be compared with the present study.<sup>18</sup>

As this study is focusing only on conversion disorder so the results cannot be generalized. Due to the paucity of information in this domain, future researches in different cultural settings are required for confirmation.

This dilemma can only be solved by a well-designed cross-cultural case control studies. Similarly in the present study, the significant association of depression and birth order in patients with conversion disorder needs further exploration by comparing the sample with the patients suffering from depressive disorder without co-morbid conversion symptoms. In addition

to this future well-designed studies are required to identify the nature of stresses in various socio-cultural environments, their association with the size of family, emergence of different symptoms of conversion disorder, its link with their birth order and associated comorbidity.

## CONCLUSIONS

In the final analysis, for the proper management and good long-term outcome of conversion disorder, adequate understanding of the family physiology and structure of the patients is required. Along with this patients must also be screened and treated for co morbid anxiety and depression on their own merits.

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