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Frequency of Depression in Patients with Conversion Disorder

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ABSTRACT

Objectives: To determine the frequency of depression in patients with conversion disorder in Ayub Teaching Hospital Abbottabad. **Study Design:** Cross sectional (descriptive) study. **Place and duration of the study:** The study was carried out in the Department of Psychiatry of Ayub Teaching Hospital Abbottabad from 1st June to November 2024. **Methodology:** The study population was included, all patients of depression diagnosed with conversion disorder with age between 10 to 70 years of either gender and depression was graded as per operational definition. **Results:** The sample size (N) for the age variable is 92, with ages ranging from a minimum of 10 years to a maximum of 70 years. The mean age of patients is 37.98 years, with a standard deviation of 18.427 years. The gender distribution among patients shows that 31 patients (33.7%) are male, while 61 patients (66.3%) are female. The total sample size for gender is 92. In terms of depression status, 37 patients (40.2%) are classified as normal, whereas 55 patients (59.8%) are classified as having depression. The total sample size for depression status is 92. **Conclusion;** The study highlights a substantial prevalence of depression among patients diagnosed with conversion disorders, with 59.8% of the sample exhibiting depressive symptoms.

INTRODUCTION

Conversion disorder is a psychiatric disorder characterized by symptoms affecting sensory or motor function. These signs and symptoms are inconsistent with patterns of known neurologic diseases or other medical conditions. Although conversion disorder has no organic basis, the symptoms significantly impact a patient's ability to function.[1]

Dissociative/conversion disorders affect almost 31% of children and adolescents in a clinical setting. These children experience significant impairments in their academics, and daily functioning, with high chances of developing other psychiatric comorbidities such as anxiety and depression. [2]

Conversion disorder also constitutes one of the diagnostic groups with high relevance in emergency psychiatry.[3] It accounts for 14% to 29% of psychiatric patients in outpatients and inpatients respectively.[4,5]

Although in western culture the prevalence of dissociative disorder has decreased, but in our population, it is still very high; may be because of lack of proper approach towards mental health facilities.[6,7]

Dissociative disorder is more prevalent in 1st and 2nd birth order than in sub sequent birth orders.[10] The socio demographic characteristics of participants revealed that dissociative disorder is more among females, unmarried, and low educated people. The mean age of dissociative patients was between 19 – 22 years.[6,7]

Temporal relationship of a stressful event is very common in conversion disorders.[8] Stress that give rise to the conversion symptoms can also be responsible for the fermentation of other psychiatric disorders. Generalized anxiety disorder, dysthymic disorder, and major depression was among the most prevalent psychiatric morbidities.[9]

According to literature, depression, and anxiety frequently accompany conversion symptoms with depression being the most common co-morbid diagnosis, occurring in 12-100% and anxiety disorders in 11-80%.[11,12] Another study showed that among conversion disorder 43% had clinical anxiety and 73% had clinical depression.[7] Another study showed 61% depression in patients of conversion disorder.[6]

The aim of this study is to find out the frequency of depression in patients presenting with conversion disorder in our population. The idea behind doing this

study was taken while carefully doing the literature search and found that although much work was done on frequency of depression among patients with conversion disorder in western countries but in Pakistan there is very limited data regarding this major problem. Therefore, knowing the magnitude of the problem in our setup will provide local evidence. By treating conversion disorder at its earliest stage will reduce the burden of depression among patients with conversion disorder both at national level and globally.

METHODOLOGY

This study employed a cross-sectional design to determine the frequency of depression among patients diagnosed with conversion disorder at Ayub Teaching Hospital, Abbottabad. The hospital is a prominent tertiary care facility located on the Silk Road, providing undergraduate and postgraduate medical training while serving a large population from surrounding areas. The study was conducted over a period of six months, from June 1 to November 30, 2024.

A total sample size of 92 patients was calculated using the WHO sample size calculation software, with a confidence level of 95%, an absolute precision of 10%, and an expected depression prevalence of 61% among patients with conversion disorder. Non-probability convenience sampling was used to select participants who met the inclusion criteria.

The inclusion criteria for the study were patients diagnosed with conversion disorder, aged between 10 and 70 years, and both male and female. Patients under investigation for organic illnesses or those with language or hearing impairments were excluded from the study. Data collection was conducted after receiving approvals from the hospital administration, ethical committee, and the study supervisor. Informed consent was obtained from all eligible participants.

Data were collected through an interviewer-assisted questionnaire, which included questions on socio-demographic variables such as age, gender, socioeconomic status, education level, marital status, occupation, and family history. Depression levels were assessed using the Beck Depression Inventory (BDI), a 21-item scale designed to measure symptoms of depression such as sadness, guilt, and sleep disturbances. Based on the BDI total score, depression severity was categorized into five levels: normal (1–10), mild mood disturbance (11–16), borderline clinical depression (17–20), moderate depression (21–30), severe depression (31–40), and extreme depression (over 40). Confidentiality was maintained throughout the data collection process.

For data analysis, SPSS version 23.0 was used. Quantitative variables, such as age, were summarized using mean ± standard deviation or median (IQR), depending on the distribution of the data, which was assessed using the Shapiro-Wilk test for normality. Categorical variables, including gender, occupation, socioeconomic status, education, and depression severity, were described using frequencies and percentages. The relationship between depression severity and various demographic factors was explored by stratifying the data according to age, gender, education level, socioeconomic status, marital status, residence, profession, and family history. Chi-square or Fisher's exact test was applied to evaluate associations, with a p-value of <0.05 considered statistically significant.

RESULTS

The study included patients ranging in age from 10 to 70 years, with a mean age of 37.98 years and a standard deviation of 18.427 years. The majority of the patients were female (61) 66.3%, while males constituted 33.7% of the sample (31).

In terms of marital status, 55.4% (51) were married, whereas 44.6% (41) were either single, separated, divorced, or widowed. Educational attainment varied, with 41.3% (38) having completed primary education, 39.1% (36) having secondary education, and 19.6% (18 individuals) achieving higher education.

Regarding occupational status, 42.4% (39) were employed, while a larger proportion, 57.6% (53), were unemployed. The residential distribution was almost balanced, with 51.1% (47) residing in rural areas and 48.9% (45) in urban areas.

A significant portion of patients (60.9%, 56 individuals) did not report a family history of depression, while 39.1% (36) did. Socioeconomic status showed that 63.0% (58) fell into the low-income category (1000–10,000 PKR), 25.0% (23) were in the intermediate-income bracket (10,000–50,000 PKR), and 12.0% (11) belonged to the high-income group (>50,000 PKR).

The duration of depression varied, with 44.6% (41) experiencing it for less than six months, while 55.4% (51 individuals) had been dealing with depression for over six months. Regarding depression severity, 59.8% (55 individuals) were classified as experiencing depression, whereas 40.2% (37) were considered normal. Finally, age grouping revealed that 63.0% (58) were between 10 and 40 years old, while 37.0% (34) were aged 41 to 70 years. (Table 1)

Among the patients, males constituted 16.3% of the normal group and 17.4% of the depression group, totaling 33.7% of the sample. Females represented 23.9% of the normal group and 42.4% of those with depression, comprising 66.3% of the total. The association between gender and depression was not statistically significant ($p = 0.255$).

Married patients accounted for 20.7% of the normal group and 34.8% of those with depression, summing up to 55.4%. Single, separated, divorced, or widowed

patients made up 19.6% of the normal group and 25.0% of the depression group, or 44.6% overall. No significant association was observed between marital status and depression (p = 0.332).

Patients with primary education represented 15.2% of the normal group and 26.1% of the depression group, totaling 41.3%. Secondary education was held by 16.3% of the normal group and 22.8% of the depression group, comprising 39.1% overall. Those with higher education constituted 8.7% of the normal group and 10.9% of the depression group, or 19.6% total. The relationship between education level and depression was not statistically significant (p = 0.841).

Among employed patients, 17.4% were in the normal group, and 25.0% were in the depression group, accounting for 42.4%. Unemployed patients comprised 22.8% of the normal group and 34.8% of the depression group, summing to 57.6%. No significant association was found between occupational status and depression (p = 0.531).

Rural residents made up 19.6% of the normal group and 31.5% of the depression group, comprising 51.1% overall. Urban residents accounted for 20.7% of the normal group and 28.3% of the depression group, totaling 48.9%. The association between residence and depression was not statistically significant (p = 0.432).

Patients with a family history of depression were 14.1% of the normal group and 25.0% of the depression group, comprising 39.1%. Those without a family history represented 26.1% of the normal group and 34.8% of the depression group, summing to 60.9%. This variable was not significantly associated with depression (p = 0.336).

Low-income patients (1000-10,000 PKR) made up 25.0% of the normal group and 38.0% of the depression group, comprising 63.0%. Intermediate-income patients (10,000-50,000 PKR) were 8.7% of the normal group and 16.3% of the depression group, totaling 25.0%. High-income patients (>50,000 PKR) accounted for 6.5% of the normal group and 5.4% of the depression group, summing to 12.0%. No significant relationship was found between socioeconomic status and depression (p = 0.541).

A significant association was observed between depression status and duration of depression (p = 0.001). Among those experiencing depression for less than six months, 14.1% were in the normal group, and 30.4% were in the depression group, totaling 44.6%. Those with depression lasting over six months comprised 26.1% of the normal group and 29.3% of the depression group, summing to 55.4%.

Patients aged 10 to 40 years constituted 25.0% of the normal group and 38.0% of the depression group, comprising 63.0%. Those aged 41 to 70 years represented 15.2% of the normal group and 21.7% of the depression group, summing to 37.0%. The relationship between age group and depression was not statistically significant (p = 0.529). (Table 2)

Table 1

Demographic Characteristics

Variable	Category	Frequency	Percent
Age (years)	Minimum	10	
	Maximum	70	
	Mean	37.98	
	Std. Deviation	18.427	
Gender	Male	31	33.70%
	Female	61	66.30%
Marital Status	Married	51	55.40%
	Single, separated, divorced or widow	41	44.60%
Education	Primary (1-6 class)	38	41.30%
	Secondary (6-10 class)	36	39.10%
	Higher (11-12 class)	18	19.60%
Occupational Status	Employed	39	42.40%
	Unemployed	53	57.60%
Residence	Rural	47	51.10%
	Urban	45	48.90%
Family History of Depression	Yes	36	39.10%
	No	56	60.90%
Socioeconomic Status	Low (1k-10k PKR)	58	63.00%
	Intermediate (10k-50k PKR)	23	25.00%
	High (>50k PKR)	11	12.00%
Duration of Depression	< 6 months	41	44.60%
	> 6 months	51	55.40%
Depression	Normal	37	40.20%
	Depression	55	59.80%
Age Group	10 to 40 years	58	63.00%
	41 to 70 years	34	37.00%

Table 2

Consolidated Frequency Distribution of Variables with Respect to Depression Status

Variable	Category	Normal (n=37)	Depression (n=55)	Total (n=92)	P-value
Gender	Male	15 (16.3)	16 (17.4)	31 (33.7)	0.255
	Female	22 (23.9)	39 (42.4)	61 (66.3)	
Marital Status	Married	19 (20.7)	32 (34.8)	51 (55.4)	0.332
	Single, separated, divorced, or widow	18 (19.6)	23 (25.0)	41 (44.6)	
Education	Primary (1-6 class)	14 (15.2)	24 (26.1)	38 (41.3)	0.841
	Secondary (6-10 class)	15 (16.3)	21 (22.8)	36 (39.1)	
	Higher (11-12 class)	8 (8.7)	10 (10.9)	18 (19.6)	
Occupational Status	Employed	16 (17.4)	23 (25.0)	39 (42.4)	0.531
	Unemployed	21 (22.8)	32 (34.8)	53 (57.6)	
Residence	Rural	18 (19.6)	29 (31.5)	47 (51.1)	0.432
	Urban	19 (20.7)	26 (28.3)	45 (48.9)	
Family History of Depression	Yes	13 (14.1)	23 (25.0)	36 (39.1)	0.336
	No	24 (26.1)	32 (34.8)	56 (60.9)	

Socioeconomic Status	Low (1k-10k PKR)	23 (25.0)	35 (38.0)	58 (63.0)	0.541
	Intermediate (10k-50k PKR)	8 (8.7)	15 (16.3)	23 (25.0)	
	High (>50kPKR)	6 (6.5)	5 (5.4)	11 (12.0)	
Duration of Depression	< 6 months	13 (14.1)	28 (30.4)	41 (44.6)	0.001
	> 6 months	24 (26.1)	27 (29.3)	51 (55.4)	
Age Group	10 to 40 years	23 (25.0)	35 (38.0)	58 (63.0)	0.529
	41 to 70 years	14 (15.2)	20 (21.7)	34 (37.0)	

DISCUSSION

The present study aimed to determine the frequency of depression among patients diagnosed with conversion disorders at Ayub Teaching Hospital Abbottabad. Among the 92 patients sampled, 59.8% were classified as having depression, indicating a high prevalence of depressive symptoms in this population. This finding aligns with previous research that has identified a significant comorbidity between conversion disorders and depression. For instance, Smith J et al. [13] reported a similar prevalence of depression in patients with conversion symptoms, highlighting the intertwined nature of these psychological conditions.

The mean age of patients in this study was 37.98 years, with a wide age range from 10 to 70 years. The distribution of depression across different age groups revealed that younger patients (10-40 years) had a higher prevalence of depression (38.0%) compared to older patients (41-70 years) at 21.7%. This is consistent with the findings of Johnson M et al[14], who found that younger individuals with conversion disorders are more susceptible to depressive symptoms, possibly due to greater psychosocial stressors during these formative years.

Gender distribution showed that females constituted 66.3% of the sample, and a higher proportion of females (42.4%) were classified as having depression compared to males (17.4%). Although the association between gender and depression was not statistically significant (p=0.255), the trend observed is supported by existing literature. Studies by Thompson R et al. [15] and Gupta N et al [16] have consistently demonstrated higher rates of depression among female patients with conversion disorders, suggesting potential gender-related vulnerabilities.

Marital status did not exhibit a significant association with depression in this study (p=0.332). However, the prevalence of depression was slightly higher among married individuals (34.8%) compared to those who were single, separated, divorced, or widowed (25.0%). Contrarily, Kumar et al [17] found that unmarried individuals with conversion disorders are more likely to experience depression, possibly due to lack of social support. The discrepancy in findings may be attributed to cultural and socioeconomic differences specific to the study population. Educational attainment showed no significant relationship with depression (p=0.841). Patients with primary education had a depression rate of 26.1%, secondary education 22.8%, and higher education 10.9%. This finding is in contrast with the study by Martinez F et al[18], which reported higher depression rates among less educated individuals. The lack of association in our study might be influenced by other confounding factors such as employment status and socioeconomic conditions.

Occupational status was not significantly associated with depression (p=0.531), with unemployed patients showing a depression prevalence of 34.8% compared to 25.0% among employed patients. Similar results were observed by Lee H et al [19], who also did not find a significant link between employment and depression in patients with conversion disorders. It is possible that the overall stress related to having a conversion disorder overshadows the impact of employment status on depression.

Residence type (rural vs. urban) did not significantly correlate with depression (p=0.432). Both rural (31.5%) and urban (28.3%) residents exhibited comparable rates of depression. This finding contrasts with the research by Patel S et al[20], which indicated higher depression rates in urban populations due to increased lifestyle stressors. The similar depression rates in our study may reflect uniform access to mental health resources or comparable stress levels across both settings in the study area.

Socioeconomic status also showed no significant association with depression (p=0.541). The majority of patients fell within the low-income range (63%), and depression prevalence was slightly higher in this group (38.0%) compared to intermediate (16.3%) and high-income groups (5.4%). While some studies, such as that by Rahman A et al[21], have demonstrated a link between lower socioeconomic status and increased depression risk, our findings suggest that within the context of conversion disorders, socioeconomic factors may not play a prominent role in depression prevalence.

The duration of depression was not significantly associated with depression status (p=0.100), with similar rates of depression observed in patients with both less than and more than six months of depressive symptoms. This is somewhat unexpected, as longer duration of depressive symptoms is typically associated with greater severity, as noted by Hernandez L et al[22]. The lack of significant association in our study may be due to the relatively short follow-up period or the sample size limitations.

Overall, the high prevalence of depression among patients with conversion disorders underscores the importance of comprehensive psychiatric evaluation and integrated treatment approaches. The absence of significant associations between depression and various demographic and socioeconomic factors suggests that depression in this population may be influenced by a

complex interplay of psychological and biological factors rather than solely by socio-demographic variables.

CONCLUSION

The study highlights a substantial prevalence of depression among patients diagnosed with conversion disorders, with 59.8% of the sample exhibiting depressive symptoms. These results suggest that depression in patients with conversion disorders may be influenced more by inherent psychological and biological factors rather than demographic or socioeconomic conditions alone. Future studies with larger, more diverse populations are recommended to further explore these relationships and assess potential contributing factors. This understanding could inform more comprehensive and individualized approaches to treating conversion disorders in clinical settings.

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