Morbidity Pattern among Patients Admitted In Child and Adolescent Psychiatric Ward in a Tertiary Care Hospital of Odisha in Eastern India

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ABSTRACT

Introduction: Most of the psychiatric diseases have origin in childhood and adolescent. Early detection and prompt management tremendously improve disease remission and prognosis. Understanding about psychiatric morbidity pattern is necessary for intervention and utilization of the available health care resources, proper planning and policy making for providing better health care to the child and adolescent patients.
Objective: This study aims to know the morbidity pattern of different psychiatric disease among child and adolescent patients admitted in psychiatric ward in a tertiary care hospital, Mental Health Institute.
Methodology: Among 121 child and adolescent patients, 66 males and 55 females admitted during the period of 7 months in psychiatric ward were taken into study. It is a hospital based cross-sectional study. Patients were chosen on the basis of inclusion and exclusion criteria. Informed consent was taken from patients and caregiver. Final diagnosis was made according to Diagnostic Criteria for Research ICD-10. The data were entered into excel sheet, cleaned, both descriptive and chi-square done using the statistical package for social science (SPSS) version 20.
Result: Majority of the cases were in between the age of 14-19 (79.3%) years. Most of the patients belongs to Hindu religion (98.3%). Most common psychiatric diagnosis encountered were belongs to ICD-10 group F20-F29 (schizophrenia, schizotypal and delusional disorder), F70- F79 (mental retardation), F40-F48 (neurotic, stress-related and somatoform disorder) followed by others. There were no cases admitted from group F50- F59 (behavioural syndrome associated with physiological disturbance and physical factor). Rare case like Wilson disease, De- la Tourette syndrome, Tuberous sclerosis, Down syndrome and factitious disorder were also admitted.
Conclusion: Child and adolescent differ from adult in symptomatology, morbidity profile and prognosis. Child and adolescent are very vulnerable to various disabling chronic psychiatric disease, they need early diagnosis and prompt treatment. We can prevent various disabling sever psychiatric illness by intervening at earlier stage. This enlights a special attention to child and adolescent psychiatric patients.

Key wards: Psychiatric morbidity, child and adolescent, psychiatric ward.

INTRODUCTION

Most childhood psychiatric problems have typical ages for development and presentation, these tend to continue in adulthood and several adult mental disorders have their antecedents in childhood. [1] Prevalence of mental disorders among children has been reported to be 14-20% in various studies. [2] Recent studies indicate that about one out of every three to four adolescents are estimated to meet lifetime criteria for a Diagnostic and Statistical Manual of Mental Disorders (DSM) mental disorder. [3] Children who experience early deprivation and neglect have a significantly increased risk of a range of emotional and behavioral disorders. [4,5] It has been suggested that it is not always the traumatic event as such but disruption and chronic pressure surrounding the traumatic

event that are responsible for adverse long-term outcomes [6,7] and giving such children warm and good relations can ameliorate their psychological disturbances. [8,9] Common psychiatric diagnosis among child and adolescent outpatient are mood, anxiety, seizure, dissociative conversion disorder and mental retardation. [11] Several studies have been conducted to analyse the prevalence of psychiatric morbidity among child and adolescent patient. Psychiatric morbidity is highest in the age group of 16-19 year. Commonest diagnosis was dissociative disorder (24%), followed by depression (11%), mental retardation (10%), BPAD (9%), anxiety disorder (9%) etc. [10]

Majority of child and adolescence patient who took consultation were male (63.6%) of urban back ground, belongs to Hindu religion. [11] Most of the patients were between 13-18 year. Most common diagnosis was mental retardation (23.6%), neurotic stress-related disorder (14%), affective disorder (12.7%), emotional and behavioural disorder (11.8%), psychosis (11.8%), epilepsy (12.73%). [11,12]

Most of the studies conducted among child and adolescent psychiatric morbidity pattern were among the OPD patients. There are limited data available regarding the psychiatric morbidity among the patient admitted in psychiatric ward. A proper understanding about the magnitude of psychiatric morbidity is necessary for proper utilisation of health care delivery and patient management.

AIM & OBJECTIVES:
A. This study aims to know the morbidity pattern of different psychiatric disease among child and adolescent patients admitted in psychiatric ward in a tertiary care hospital, Mental Health Institute.
B. To find out the effect of socio-demographic profile of child and adolescent patients on morbidity pattern.

MATERIAL AND METHODS
Design: It is a hospital based cross sectional, descriptive and diagnostic study.

Place of study: Department of psychiatry, MHI, SCB MCH, Cuttack, Odisha.

Sample: The study was carried out among 121 child and adolescent patients admitted in psychiatric ward of MHI, during the period of 7 month between February-September 2019. The study was explained in regional language to the participant and their caregivers. Informed consent was obtained from patients and caregivers. Necessary care is taken to keep the information confidential. The final diagnosis was made according to ICD-10 diagnostic criteria for research. Mental status examination, psychometric tests, detail clinical examination, necessary investigations are carried out to reach at the diagnosis. Patients referred to the other department like general medicine, neurology, paediatric, endocrinology etc. for expert opinion in case of any diagnostic dilemma or comorbidities.

Their psychosocial risk factor and family pathology are addressed with the help of department of Psychiatric and Social Work. Detailed psychometric assessment and psychometric tools are used to diagnose the cases with the help of department of Clinical Psychology. Collected data are entered into excel sheet, cleaned both descriptive and chi-square are done by using IBM software for statistics (SPSS for window version-20).

Inclusion criteria
1. Patients admitted in child and adolescent psychiatric ward for management of psychiatric illness.
2. Age group up to 19 years.
3. Those who gave informed consent to participate in the study.
4. Patients with other comorbidities and organic, including symptomatic mental disorders.

Exclusion criteria
1. Patients admitted for other reason like disability assessment, medicolegal referral, other than psychiatric treatment.
2. Patient readmitted or left against medical advice (LAMA).
3. Age group above 19 years.

4. Those who did not give informed consent to participate in the study.

Tool used for the study:

- Researcher design socio-demographic data questionnaire. It captured identification of data, and important socio-demographic variable like name, age, gender, religion, district.

- The ICD- 10 Classification of Mental and Behavioural Disorder, Diagnostic Criteria for Research, WHO (1993).

- Mental status examination, psychometric tests, detail clinical examination, necessary investigation are carried out to reached at the diagnosis.

- SPSS for window version-20 is used.

RESULT

A. Gender distribution.

Table-1: Showing gender distribution of child and adolescent patients.

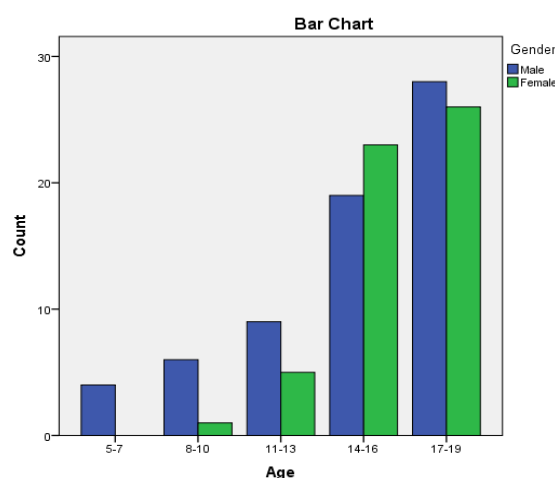| Gender	No. of Patients (%)	Chi- square value	P- Value	Significant
Male	66 (54.5%)	1.000	0.317	No
Female	55 (45.5%)			
Total	121 (100%)			

Out of 121 patients taken into study 66 (54.5%) are male and 55 (45.5%) are female. Male to female ratio among child and adolescent psychiatric patient is found to be 1:0.83.

B. Age distribution

Table-2: Showing age distribution of child and adolescent patients.

Age in Years	Male	Female	No. of Patients (%)	Chi- square	P- value	Significant
0-4	0	0	0	83.174	0.000	Yes
5-7	4	0	4 (3.3%)			
8-10	6	1	7 (5.8%)			
11-13	9	5	14 (11.6%)			
14-16	19	23	42 (34.7%)			
17-19	28	26	54 (44.6%)			
Total	66	55	121 (100%			

Above data shows prevalence of psychiatric disease increasing with age. Psychiatric diseases are more prevalent between the age group of 14- 19 year (79.3%). Male child and adolescent patient have an earlier onset of psychiatric disease as compare to female.

C. Religion

Table-3: Showing distribution of child and adolescent patients on the basis of religion.

Religion	No of Patients	Chi- square	P- value	Significant
Hindu	119 (98.3%)	113.132	0.000	Yes
Muslim	2 (1.7%)			
Total	121 (100%)			

Most of the patients are belongs to Hindu religion (98.3%). 1.7% belongs to Muslim religion. No patients belong to any other religion.

Graph-1: Showing age distribution of child and adolescent patients and comparison between male and female.

Graph: 2 showing distribution of patient on the basis of religion.

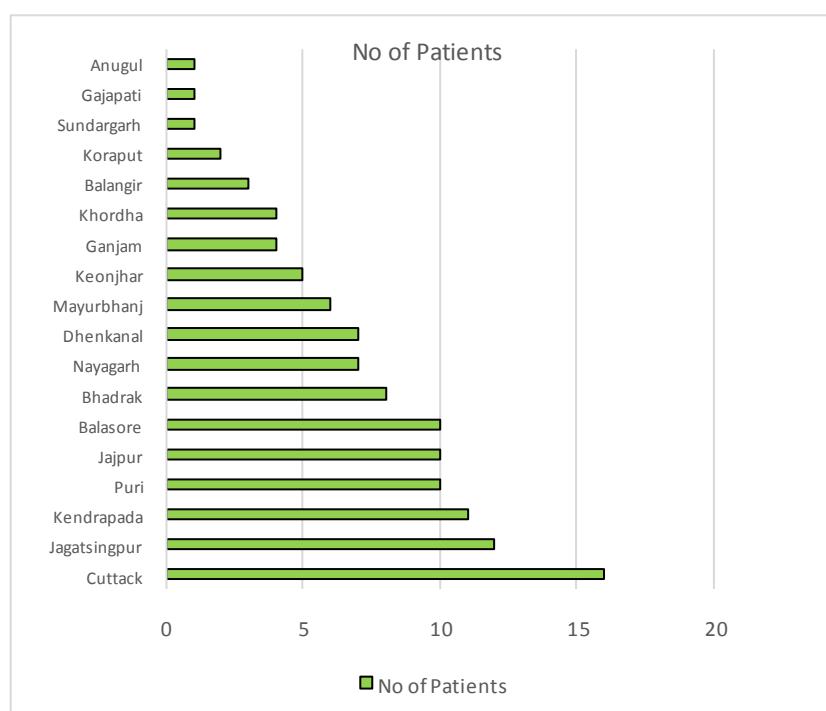## D. Districts wise distribution of number of patients in the state of Odisha, India.

Table-4: Showing district wise distribution of child and adolescence psychiatric patients.

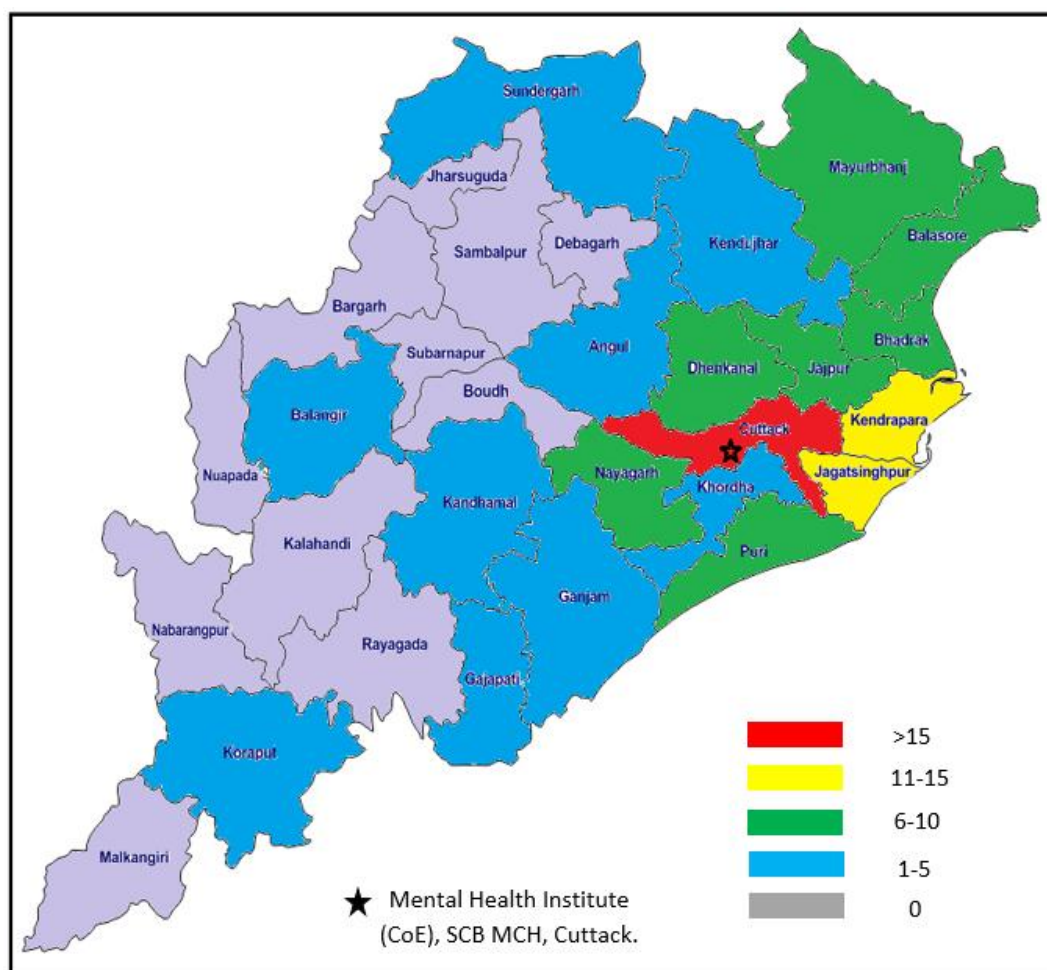| Districts	Male	Female	Total no of patients (%)	Chi-square	P- Value	Significant
Cuttack	8	8	16 (13.2%)	69.041	0.000	Yes
Jagatsingpur	8	4	12 (9.9%)			
Kendrapada	6	5	11 (9.1%)			
Puri	7	3	10 (8.3%)			
Jajpur	2	8	10 (8.3%)			
Balesore	3	7	10 (8.3%)			
Bhadrak	5	3	8 (6.6%)			
Nayagarh	4	3	7 (5.8%)			
Dhenkanal	5	2	7 (5.8%)			
Mayurbhanj	4	2	6 (5.0%)			
Keonjhar	4	1	5 (4.1%)			
Ganjam	2	2	4 (3.3%)			
Khordha	1	3	4 (3.3%)			
Balangir	2	1	3 (2.5%)			
Koraput	1	1	2 (1.7%)			
Sundargarh	1	0	1 (0.8%)			
Gajapati	0	1	1 (0.8%)			
Anugul	1	0	1 (0.8%)			
Kandhamal (Phulbani)	0	1	1 (0.8%)			
Srikakulum (AP)	1	0	1 (0.8%)			
Paschim Madinipur (WB)	1	0	1 (0.8%)			

Maximum number of the patients were belonging to Cuttack district (16), followed nearby district like Jagatsinghpur (12), Kendrapada (11), Puri (10), Jajpur (10), Balesore (10). There were no cases came from district Jharsuguda, Debagarh, Sambalpur, Bargarh, Subarnapur, Boudh, Nuapada, Kalahandi, Raygada, Nabrangpur, Malkangiri.

Two cases are reported from outside of Odisha belongs to Paschim Medinipur (west Bengal) and Srikakulam district (Andhra Pradesh).

Numbers of cases admitted were mostly from Cuttack and nearby district. There is inverse relationship found between the number of patients admitted and distance from MHI, SCB MCH, Cuttack.

Graph-3: Showing districts wise distribution of number of child and adolescent patients in the state of Odisha.
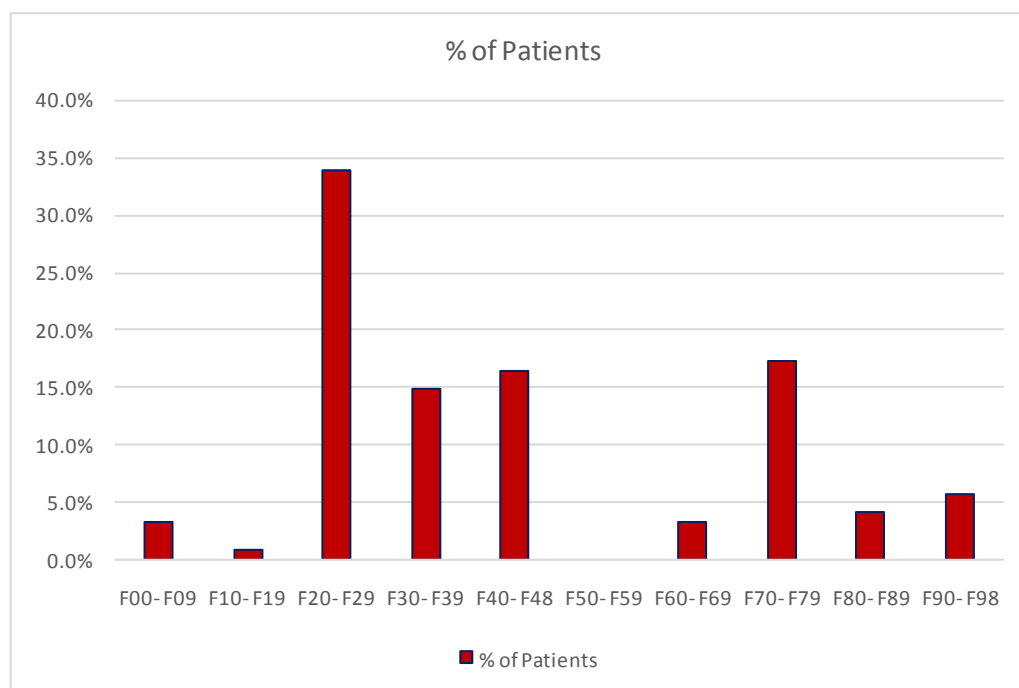
Figure- 1: Map of state of Odisha showing district wise Distribution of patients admitted at Child and adolescence psychiatric ward MHI, Cuttack. (N= 121)

E. Psychiatric diagnosis according to ICD-10, DCR.

Table- 5: Showing psychiatric diagnosis according to ICD- 10, DCR.

ICD code	Psychiatric diagnosis	No of Pt.	M	F	M: F	
F00- F09:	Organic, including symptomatic, mental disorders	4 (3.3%)	2	2	1:1	Chi-square- 98.645 P- value- 0.000 Significant- Yes
F10- F19:	Mental and behavioural disorder due to psychoactive substance use	1 (0.83%)	1	0	-	
F20- F29:	Schizophrenia, schizotypal and delusional disorders	41 (33.9%)	20	21	1:1.05	
F30- F39:	Mood (affective) disorders	18 (14.9%)	10	8	1:0.8	
F40- F48:	Neurotic, stress-related and somatoform disorders	20 (16.5%)	5	15	1:3	
F50- F59:	Behavioural syndrome associated with physiological disturbances and physical factors	0	0	0	0	
F60- F69:	Disorder of adult personality and behaviour	4 (3.3%)	2	2	1:1	
F70- F79:	Mental retardation	21 (17.4%)	14	7	2:1	
F80- F89:	Disorder of psychological development	5(4.1%)	5	0	-	
F90- F98:	Behavioural and emotional disorders with onset usually occurring in childhood and adolescence	7 (5.8%)	7	0	-	
Total		121 (100%)	66	55	1:0.83	

Most common psychiatric diagnosis encountered were belongs to ICD-10 group F20-F29 (schizophrenia, schizotypal and delusional disorder), F70- F79 (mental retardation), F40-F48 (neurotic, stress-related and somatoform disorder) followed by others. There were no cases admitted from group F50- F59 (behavioural syndrome associated with physiological disturbance and physical factor). Disease wise most common psychiatric diagnosis are ATPD and Schizophrenia (25.6%), Mental retardation (15.7%), Mood disorder (14.8%), Dissociative (conversion) disorder (11.6%). Rest other diagnosis constitute 32.3%. Rare case like Wilson disease, De- la Tourette syndrome, Tuberous sclerosis, Down syndrome and factitious disorder were also admitted.

Graph: 4 Showing prevalence of psychiatric disease according to DCR, ICD- 10.

Table-6: χ^2 of categorical variables to find the homogeneity of data.

Variable	Mean	SD	df	Chi- square	P- value	Significant
Gender	1.45	0.500	1	1.000	0.317	No
Age	5.12	1.042	5	83.174	0.000	Yes
Religion	1.02	0.128	1	113.132	0.000	Yes
District	6.58	4.717	20	69.041	0.000	Yes
Psychiatric diagnosis according to DCR ICD-10	5.06	2.440	9	98.645	0.000	Yes

The above table shows chi-square value of all categorical variables to find out homogeneity of data. This table includes categorical variables such as gender, age, religion, district, psychiatric diagnosis according to DCR ICD-10. The mean score of the gender is 1.45, Standard deviation is 0.500 with df 1. The chi-square value of gender is 1.000, which is not significant at point 0.05 level (P=0.317>0.05). The chi-square value of age, religion, district, psychiatric diagnosis according to DCR ICD-10 are 83.174, 113.132, 69.041, 98.645 respectively, which are significant at 0.01 level (P=0.000<0.01).

DISCUSSION

Among 121 patients taken into study 66 (54.5%) were male and 55 (45.5%) were female. More male child and adolescent patient are admitted as compare to female. Similar finding (59.2%) male has been found in study conducted by Basnet M et. al. at Nepal. [13] Other studies show similar results. [16-18] This study is contradicting the results of study conducted by Shakya DR (47% male) [14] and Amol P (28.6%) male. [10]

Psychiatric diseases are more prevalent in the age group of 17-19 years (44.6%) followed by 14-16 Year (34.7%). Results of our study shows that psychiatric diseases increase with increase in age. This result similar to study conducted by Amol P where 67% of patients are between the age group of 16-19 year. [10]

This result is supported by the fact that maturation of the brain is complete at the end of the late adolescent period and late adolescent group are more exposed to emotional and social stress.

98.3% of the patients are belongs to Hindu religion and only 1.2% are belongs to Muslim. No patients were admitted from any other religion. This is according to the result of Odisha Religion Censes 2011, which shows 93% Hindu and 2.17% Muslim in general population of Odisha. [15]

Maximum number of patients belongs to Cuttack district (16), Followed by Jagatsingpur (12), Kendrapada (11), Puri (10), Jajapur (10), Balesore (10). As MHI, SCB MCH is situated in Cuttack district that is why maximum number of patients are from Cuttack and nearby district. No cases admitted from district like Jharsuguda, Debagarh, Sambulpur, Bargarh, Subarnapur, Budh, Nuapada, Kalahandi, Rayagada, Nabarangpur, Malgangir. These districts are located far away from MHI, SCB MCH, Cuttack. This study shows that distance from the health care institute has an inverse relationship with number of patients admitted. This may be contributed by communication problem, high transportation fare, excess time spend during travel. It is also fact that patient from western Odisha prefer to visit nearby mental health hospital Central Institute Psychiatry (CIP) which is located at Ranchi, Jharkhand.

Two cases are reported from outside of Odisha. One belongs to Pachim Medinipur (WB) and another belongs to Srikakulum district (AP).

Most common psychiatric diagnosis encountered were belongs to ICD-10 group F20- F29 (schizophrenia, schizotypal and delusional disorder), F70- F79 (mental retardation), F40- F48 (neurotic, stress-related and somatoform disorder) followed by others. There were no cases admitted from group F50- F59 (behavioural syndrome associated with physiological disturbance and physical factor). Disease wise most common psychiatric diagnosis are ATPD and Schizophrenia (25.6%), Mental retardation (15.7%), Mood disorder (14.8%), Dissociative (conversion) disorder (11.6%). Rest other diagnosis constitute 32.3%. Rare case like Wilson disease, De-la Tourette syndrome, Tuberous sclerosis, Down syndrome and factitious disorder were also admitted.

Neurotic and stress related disorder and schizophrenia related disorder have higher prevalence in girls than boys. 25 out of 121 patients have associated comorbidities. Most common comorbidity found to seizure disorder in 8 patients. There are 5 patients presented with catatonia and 3 patients reported to develop Extra Pyramidal Symptoms (EPS) during the period of treatment.

Most of the patient improved and discharged in a stable condition. No case of death is reported during the period of 7 month of study.

Study conducted in child and adolescent OPD shows major psychiatric diagnosis were mood (affective) disorder (32%), followed by anxiety disorder (16%), and schizophrenia related disorder 6% Shakya DR. [14] According to study done by Amol P, maximum number of patients were dissociative disorder (24.1%) followed by depression (11.7%). [10]

CONCLUSION

From the above study, it is concluded that component of socio-demographic profile has a significant effect on the child and adolescent morbidity pattern. Child and adolescent differ from adult in symptomatology, morbidity profile and prognosis. Most common psychiatric morbidity encountered are ATPD and schizophrenia, mental retardation with behavioural problem, mood disorder, dissociative (conversion) disorder. Child and adolescent are very vulnerable to various disabling chronic psychiatric disease, they need early diagnosis and prompt treatment. We can prevent various disabling sever psychiatric illness by intervening at earlier stage. Knowledge about psychiatric morbidity pattern will help us in making treatment protocol, resource utilization, according to the health care need of child and adolescent patients. This enlights a special attention to child and adolescent patients.

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