

PATTERNS OF CHILD AND ADOLESCENT PSYCHIATRIC DISORDERS IN BENIN CITY OVER ONE YEAR PERIOD

Chikezie, Uzoechi Eze*¹ and Eze, George O²

*¹Consultant Psychiatrist/Lecturer, Department of Mental Health, Faculty of Clinical Sciences, Niger Delta University, Amassoma, Bayelsa state, Nigeria.

²Chief Consultant Psychiatrist, Ministry of Health, Enugu, Enugu state, Nigeria

*¹ezechikezie@yahoo.com

²goeze@yahoo.com

Abstract

Background

Keywords:
Patterns, children, adolescents, psychiatric disorders, Benin City, Nigeria, one year.

Mental health disorders among children and adolescents are quite prevalent. A lot of mental health morbidity among adults usually begin in childhood or adolescence and may run chronic courses. Children and adolescents make up more than half of the Nigerian population, with comparable figures in other developing countries. It is important that childhood disorders be fully explored and understood as this will aid early detection and management of these disorders and reduce associated long term morbidity, thus improving overall quality of life

Methods

We conducted a retrospective study of 151 children and adolescents attending the outpatient clinic of a Psychiatric hospital in southern Nigeria. We analysed their case files for the various diagnostic entities and management modalities, comparing these to various socio-demographic indices where applicable. Data entry and analyses were done using SPSS-16.

Results

There were more males (60.9%) among the subjects. The mean age was 12.86 years with a range of 3 to 17 years. No significant age differences between males and females; 81.5% were brought to the clinic by their mothers alone. Most of the diagnosis were based on the clinical judgement of the consultant psychiatrists. The most common diagnosis among all subjects was seizure disorder (33.1%), followed by schizophrenia (15.2%), mental retardation (12.6%), acute psychotic disorder (11.9%) and depression (7.3%). The diagnosis differed between the age groups and co-morbid disorders were found among 21 (13.9%) subjects. The main therapy was use of medications (100%); use of other treatment modalities was generally limited and 15.2% of subjects defaulted their first follow up visits

Conclusion

Mental health disorders among children and adolescents may be more prevalent than reported. Most cases do not present to the psychiatrist and those that do are often complicated or very severe at presentation. There is thus need for broad exploration of childhood and adolescent disorders to determine their exact nature and extent so as to aid adequate mental health care. There is also a need for massive public health education on these issues.

INTRODUCTION

The World Health Organization (WHO) defines a child as an individual who is 10 years old and below, while an adolescent is between 10 and 19 years. From the 2006 national census, children and adolescents (0-19 years) constitute about 52.4% of the Nigerian population (NPC 2006). Like adults, children and adolescents are also at risk of developing psychological problems. In fact, it is believed that a lot of psychiatric disorders affecting adults would have started in childhood or adolescence (WHR 2000). Psychiatric disorders among children and adolescents have been reported to be significantly prevalent among the Nigerian population (Ohaeri et al 1994, Adelekan et al 1999) and also worldwide (Rutter et al 1976). According to WHO statistics, 20% of children and adolescents worldwide have mental health problems and suicide is the third commonest cause of death among that age group globally (WHR 2000, WHR 2001). Most statistics on prevalence of mental health problems in that age group have been conducted in developed countries. Some studies have put the prevalence of mental health disorders among children and adolescents at about 10-20% (Costello et al 2005, Srinath et al 2010, Gureje et al 1994, WHR 2001). The exact figure depends on the study population and the sampling methods used. These studies are community-based, school-based, hospital-based or combinations of all. Most children and adolescents with mental health disorders are not brought to see a psychiatrist (Giasuddin and Diba 2012, Gureje et al 1995, Makanjuola 1987). They are taken to spiritual healers, traditional healers, general practitioners and others. The psychiatrist is consulted for severe cases or as a last resort. Since a lot of mental health problems among adults begin during childhood or adolescence (WHR 2000), it is important to study the nature of mental health problems among the young. Among general children and adolescent populations, the common types of mental health problems reported are Anxiety disorders, schizophrenia, depression and Attention Deficit Hyperactivity Disorder (ADHD), Oppositional defiant disorder (ODD) (Rutter et al 1976, Barker et al 2000). In the US, Costello et al (2003) found a prevalence of 36.7% of psychiatric disorders among 1420 subjects and rates were higher among males. The prevalence of psychiatric disorders among 704 school children aged 5-11 years was 48% in an Australian study by Langsford et al (2001). The disorders were higher among boys and dysthymic disorder was commonest followed by tic disorder, oppositional defiant disorder (ODD) and conduct disorder. There was 54% co-morbidity. In China, Xiaoli et al (2014) reported 9.49% prevalence of Diagnostic and Statistical Manual (DSM) IV psychiatric disorders among children and adolescents. Anxiety disorders were 6.06%, depression 1.32%, ODD 1.21%, ADHD 0.84% and co-morbidity was reported in 15.2% of cases. Studies from developing countries have reported varying rates of psychiatric disorders among children and adolescents: 22.5% in Chile (Vincente et al, 2012), 63.6% in Nepal (Chapagai et al 2013) and 2-11.4% in India (Jayaprakash 2012, Malhotra and Patra 2014, Sarda et al 2013). In Ethiopia, the prevalence of DSM III disorders was 17% and enuresis was the commonest (12.1%) followed by simple phobia (5.5%), these were more in males (Desta 2008). A study from South Africa found a prevalence of 17.0% (Kleintjes et al 2006). In Nigeria, a recent hospital-based study of types of mental health disorders among children and adolescents in Ilorin reported the following rates of disorders: schizophrenia (50%), delirium (15%) and seizure disorders (9%) (Tunde-Ayinmode, 2010). Previous studies in Nigeria found epilepsy, schizophrenia, autism and developmental delays to be the commonest diagnosis among younger children (Olatawura and Odejide 1976, Makanjuola 1987) while schizophrenia, mood disorders and substance abuse were more common among older children and adolescents (Oyewumi 1989). Gureje et al (1994) reported prevalence of conduct disorders (6.1%), Depressive disorders (6.0%) and Anxiety disorders (4.7%) among 7 to 14 year old children in primary care centres in Nigeria. The pattern of child psychiatric disorders varies with age and changes as childhood progresses to adolescence. Schizophrenia, depression and substance use disorders are commoner in adolescence, while the reverse is noted for enuresis and some developmental disorders (Barker et al 2000). Generally, age, sex and patients' social background have been found to significantly correlate with type of diagnosis made and co-morbidity was reported in 12.5% of patients (Steinhausen et al, 1998).

OBJECTIVES

This study aims at investigating the patterns of child and adolescent (C & A) psychiatric disorders among patients presenting at the Psychiatric Hospital Benin City within a one year period. It also aims at understanding the associated socio-demographic and clinical factors including treatment outcomes.

RELEVANCE OF THE STUDY

These are still few studies on child and adolescent mental health issues in Nigeria. Most of the previous studies were carried out in the South West and did not fully explore socio-demographic determinants and treatment outcomes.

This study aims at exploring these and providing data that will aid planning towards improved child and adolescent psychiatric services especially in the south-south region.

METHODS

This was a retrospective study and conducted at the Psychiatric Hospital Benin City. Case files of all children and adolescents (age 17 years and below) seen at the children and adolescent clinic between October 2010 and October 2011 were included in the study. The case files were retrieved from the medical records unit after due approval was obtained from the head of clinical services and research of the hospital. Those case files with poor data entry or that were irredeemably damaged were excluded. Also case files of patients older than 17 years at time of presentation were excluded. Relevant data were obtained from the case files and entered into the statistical package for social sciences (SPSS-16). The data comprised of socio-demographic information, diagnosis and other clinical data including treatment outcome of each patient. Only diagnoses made by the consultant psychiatrist were included in the study. The diagnoses were based on the International Classification of Diseases (ICD-10) diagnostic guidelines. Treatment outcome was assessed by 3 criteria: first was clinical improvement or otherwise after 4 weeks of treatment, as judged by the patient's caregiver reports and the clinicians input at follow up; reported medication side effects was the second criteria considered and the regularity at first follow up visit was also examined from the records. We also sought for documented reasons for defaulting first follow up visit. The data were analysed using the SPSS-16.

RESULTS

From the available entry records, about 178 children and adolescents were attended to in the clinic within the study period stated. However, only 151 subjects' case files met the inclusion criteria and were analysed. The sample was made up of 92(60.9%) males and 59 (39.1%) females. The mean age of the subjects was 12.86 years (range 3 to 17 years). There was no significant difference in the mean ages of males and females ($t=320$, $p=0.750$). Forty-four subjects (29.1%) were 3 to 10 years old and 107 (70.9%) are 11 to 17 years old. Most of them (65%) were at the secondary level of education and 81.5% were accompanied to the clinic by their mothers alone. Sixty-three percent were from monogamous homes and most of the mothers had secondary level of education (49.7%) and were into trading (55%). Data on family income and social status were generally inconsistent and were left out. The socio-demographic information are presented in Table 1.

The commonest primary diagnosis was seizure disorders (33.1%). This was followed by schizophrenia (15.2%), mental retardation (12.6%), acute psychosis (11.9%) and depression (7.3%). The primary diagnoses and their subtypes (where applicable) are shown in Table 2.

Twenty-one (13.9%) subjects also had co-morbid diagnoses. Twelve (7.9%) had co-morbid mental retardation, 3 (1.99%) had schizophrenia and 2 (1.3%) had depression. The co-morbid diagnoses are shown in Table 3.

The commonest primary diagnoses among those aged 3 to 10 years are seizure disorders ($n=26$, 59%), mental retardation ($n=8$, 18.2%) and ADHD ($n=3$, 6.8%). Among those 11 to 17 years, seizure disorders ($n=24$, 22.4%), schizophrenia ($n=22$, 20.6%), acute psychosis ($n=15$, 14%) and depression ($n=11$, 10.3%) were the commonest primary diagnoses in that order. Co-morbidity was significantly higher among subjects aged 3-10 years old ($\chi^2=6.381$, $p=0.018$). Table 2 also shows the primary diagnoses among the two age groups.

Males and females had comparable rates of the different primary diagnoses and there was no significant difference in these rates ($p=0.198$). Similarly, the occurrence of co-morbid disorders was comparable among the genders and there was no significant difference in the rates between males and females ($p=201$). Table 2 also shows the primary diagnoses among males and females. No significant association was found between the primary diagnosis and demographic factors such as subjects' level of education, maternal level of education, maternal occupation, family structure and other demographics previously stated.

Most (138, 91.4%) of the subjects had documented baseline investigations such as full blood count and urinalysis. Seventeen subjects out of fifty had records of electroencephalography (EEG) studies for confirmation of seizure disorders and 1 subject had a computerized tomography (CT) scan done on account of head injury (subdural haematoma). No subject had any intelligence quotient (IQ) test from the data examined. Most diagnoses among all subjects were based on the clinical judgements of the consultant psychiatrists.

All the subjects received pharmacological treatments which comprised mainly of anticonvulsants (mostly carbamazepine and sodium valproate), antipsychotics, antidepressants, diazepam and occasional anticholinergics (benhexol and biperidine). The use of other forms of therapy was low (counselling 8%, psychotherapy 5%, family

therapy 2%). There was no use of occupational therapy. Table 4 shows the management options and outcome indices among the subjects.

Most (139, 92.1%) of the subjects were treated as out patients while (12, 7.9%) had in patient care at presentation. Two subjects were eventually referred to consultant neurologist/neurosurgeon on account of cerebral palsy and subdural haematoma after CT scan confirmation of the later.

Ninety-eight (65%) subjects had reported some clinical improvements in their complaints after 4 weeks of treatment. Common symptoms that had improved were seizures (reduction in frequency and severity), sleep disturbances (mainly insomnia), low appetite, restlessness and disruptive behaviours.

Medication side effects were documented in 16 case files. These were mainly among those subjects who had typical antipsychotic medications. These side effects include tremors, rigidity, acute dystonic reactions, excessive sedation and salivation.

Twenty-three subjects (15.2%) defaulted their first follow-up visits. This was commoner among males. Reasons given for default include long distance, financial constraints, medication side effects and perceived clinical improvement which made them conclude there was no need for further consultations.

DISCUSSION

There were 178 clinic attendees out of which 151 cases were selected. Compared to previous studies in Nigeria,(Tunde-Ayinmode 2010, Adelekan et al 1999, Ohaeri et al 1994) the attendance is relatively very high over 1 year period. It could be because the Psychiatric Hospital in Benin generally has high patient loads. It receives patients from most of the Niger delta states and parts of the South eastern and South western regions. As reported in other studies (Tunde-Ayinmode 2010, Giasuddin and Diba 2012, Chapagai et al 2013), there were more males among the subjects in this study. This could reflect reports of higher rates of most psychiatric disorders among male children and adolescents compared to their female counterparts from those studies. More subjects were within the age group 11 to 17 years. The upper age limit of 17 years was chosen because the hospital refers adolescents older than 17 years to the adult clinic. Some studies had the same upper age limit (Giasuddin and Diba 2012, Xiaoli et al 2014), some had slightly higher upper age limit (Chapagai et al 2013, Tunde-Ayinmode 2010, Vincente et al 2012, Jayaprakash et al 2012) and others had lower age limit (Costello et al 2003, Sarda et al 2013, Desta 2008) depending on study designs and methods. As expected, most of the subjects were at the secondary level of education and were accompanied to the clinic by their mothers.

The most common diagnoses among all the subjects were seizure disorders, schizophrenia, mental retardation, acute psychosis and depression in decreasing order. In contrast, an earlier Nigerian study found schizophrenia and delirium to be the commonest diagnoses among children and adolescents (Tunde-Ayinmode 2010). The subjects in that study were relatively much older than those in our study, this could account for the variations observed. Even among our subjects, diagnosis of schizophrenia was higher among those in the higher age group. Generally, the diagnoses among the age groups in our study are in keeping with trends previously reported (Adelekan et al 1999, Ohaeri et al 1994). Co-morbid disorders were reported among 21 subjects, most of whom were 3-10 years old. Mental retardation was the most common co-morbid diagnosis made. Other studies have also reported significant co-morbidity among children and adolescents with mental illnesses (Costello et al 2003, Giasuddin and Diba 2012, Olatawura and Dejde 1976). This calls for vigilance on the part of caregivers to enable early detection and management of these conditions to improve quality of life.

This study did not find any significant relationship between the type of diagnosis and other socio-demographic factors such as family type, maternal level of education or occupation, previous studies in Nigeria did not comment on this(Tunde-Ayinmode 2010, Adelekan et al 1999). Though most of the subjects had some baseline investigations, we found that the diagnoses were mainly based on the clinical judgement of the attending consultants. One subject had a CT scan to diagnose subdural haematoma. Out of 50 subjects with a primary diagnosis of seizure disorder, only 17 had EEG done and none of the cases of mental retardation had IQ test done. Financial difficulties and poor access to investigation facilities are some of the reasons given. This highlights the constant challenges physicians in the third world face in patient care and may limit the credibility of some of these diagnoses with regards to international standards.

As reported in other studies from Nigeria, pharmacotherapy was the main treatment received by the subjects (Tunde-Ayinmode 2010,). All the subjects in our study received medications which were usually given in various combinations. These medications were anticonvulsants, antipsychotics, antidepressants, diazepam. The use of other forms of treatment was limited. Similar trends in treatment modalities have been reported in Nigerian studies

(Tunde-Ayinmode 2010, Olatawura and Dejide 1976). Possible reasons for this could be inadequate training and experience with psychotherapy and other treatments in our environment. As such, the postgraduate mental health training has to emphasize acquisition of skills in the other forms of treatment among psychiatrists in Nigeria. Most of the subjects had shown significant clinical improvements after 4 weeks of treatment. This indicates that treatments available are effective in the management of mental health disorders among children and adolescents. Thus it is important that early detection and treatment of psychiatric disorders among this population should be encouraged and pursued. Significant side effects of medications are important aspects of the treatment outcomes. Side effects were documented in case files of 16 subjects, mainly extrapyramidal drug reactions. These were more among those who were prescribed typical antipsychotics. It is important to identify those at risk of medication side effects and take steps to prevent or limit them because poor medication adherence and clinic defaults are usual consequences of occurrence of these side effects. Among our subjects, 23 defaulted their first clinic visit and various reasons were stated for this, including medication side effects. As much as possible, use of typical antipsychotics among children and adolescents should be avoided or used at minimal effective doses. It becomes obvious that mental health disorders are prevalent among children and adolescents. Most do not present to the psychiatrist for several reasons. There is need for public education on these issues, especially to educate them on availability of effective treatment for these conditions which many people in our environment consider as spiritual problems by virtue of the prevailing religious and cultural beliefs and practices.

CONCLUSION

Mental health problems are common among children and adolescents depending on their ages. A lot of mental health problems among adults usually begin at younger ages. Most affected children do not present to the psychiatrist for several reasons; and even when they do it is usually late and with complications. This therefore underscores the need for adequate public health education on the nature of mental health problems among children. Also to let them know that effective treatments for these conditions are available and affordable. The government should also make mental health services easily accessible to the public with adequate manpower training and provision of services even at the primary health care level.

Ethical considerations

Permission for this study was obtained from the Head of Clinical Services, Research and Training of the Psychiatric Hospital Benin City at the time prior to commencement of the study.

Competing interests

The authors have declared no competing interests

AUTHOR'S CONTRIBUTIONS

Both authors were involved in conceptualizing this study. CUE did most of the literature review and data collection and write up. EGO did most of the analysis and contributed to the final write up and proof reading. Both authors approved the final draft

REFERENCES

1. Adelekan, M., Ndom, R., Ekpo, M., Oluboka, O. (1999). Epidemiology of childhood
2. Behavioural disorders in Ilorin, Nigeria - findings from parental reports. *West Afr J Med* 18: 39-48. Erratum in *West Afr J Med* 1999, 18: 152
3. Baker GA, Brooks J, Buck D, Jacoby A (2000). The stigma of epilepsy: a European perspective. *Epilepsia* 41: 98-104.
4. Chapagai M, Man dangol K, Tulachan P. (2013). A study of psychiatric morbidity amongst children attending a child guidance clinic at a tertiary level teaching hospital in Nepal. *Journal of Nobel Medical College*, vol. 2, no. 1, issue 3, pp. 55-63
5. Costello EJ, Mustillo S, Erkanli A, Keeler G, Angold A. (2003). Prevalence and development of psychiatric disorders in childhood and adolescence. *Arch Gen Psychiatry* 60: 837-844.
6. Costello E., Egger H., Angold A. (2005). 10-year research update review: the epidemiology of child and adolescent psychiatric disorders: I. Methods and public health burden. *J Am Acad Child Adol Psychiatry*. 44: 972-986.

7. Desta M. (2008). Epidemiology of child psychiatric disorders in Addis Ababa, Ethiopia.
8. UMEÅ UNIVERSITY MEDICAL DISSERTATIONS
9. New Series No 1155 - ISSN 0346-6612 - ISBN 978-91-7264-511-0
10. Gureje O, Omigbodun OO, Grater R, Acha RA, Ikuesan BA, Morris J. (1994). Psychiatric disorders in a paediatric primary clinic. *Br J Psychiatry*. 165: 527-530.
11. Gureje O, Omigbodun OO. (1995). Children with mental disorders in primary care: functional status and risk factors. *Acta Psychiatrica Scandinavica*. Vol. 92, Issue 4, pages 310–314.
12. Jayaprakash R. (2012). Clinical Profile of Children and Adolescents Attending the Behavioural Paediatrics Unit OPD in a Tertiary Care Set Up. *J Indian Assoc. Child Adolesc. Ment. Health* 2012; 8(3):51-66
13. Kleintjes S, Flisher AJ, Fick M, Railoun A, Lund C, Molteno C, Robertson BA. (2006). The prevalence of mental disorders among children, adolescents and adults in the western Cape, South Africa. *S Afr Psychiatry Rev*. 9:157-160
14. Langsford S, Houghton S, Douglas G, Whiting K. (2001). Prevalence and Comorbidity of Child and Adolescent Disorders in Western Australia Mainstream School Students. *The International Forum for Psychiatry*. 8:1-7.
15. Makanjuola JDA. (1987). Paediatric psychiatry at the neuro-psychiatric hospital Aro, Abeokuta, Nigeria – a five year review. *West Afr J Med* . 6 (3): 185-191
16. Malhotra S, Patra BN. (2014). Prevalence of child and adolescent psychiatric disorders in India: a systematic review and meta-analysis. *Child and Adolescent Psychiatry and Mental Health*. 8:22.
17. National Population Commission (NPC) census 2006. Available at: www.population.gov.ng/images/prioritytablesvol.1.updatesPDF. Assessed on 18th March, 2015
18. Ohaeri JU, Odejide OA, Gureje O, Olatawura MO. (1994). Psychiatry morbidity among children attending health facilities in primary health care in a rural Nigeria community. *Niger Med J*. 26 (3): 93-95.
19. Olatawura MO, Dejide AO. (1976). Child psychiatric disorders in Ibadan. *Niger J Paediatrics*. 3(1): 9-14.
20. Oyewumi LK. (1989). Inpatient adolescent psychiatry in a teaching hospital in Nigeria. *Acta Psychiatr Scand*.80: 639-643.
21. Rutter M, Cox A, Tupling C, Berger M, Yule W. (1975). Attainment and adjustment in two geographical areas. The prevalence of psychiatric disorder. *Br J Psychiatry*.126:493–509.
22. Rutter M, Graham P, Chadwick O et al. (1976). Adolescent turmoil: fact or fiction? *J Child Psychol Pysch*. 17: 35–56.
23. Sarda R, Kimmatkar N, Hemnani JT, Hemnani TJ, Mishras P, Jain SK. (2013). Prevalence of psychiatric disorders in Western UP region- a school based study. *International J Scientific Study*. Vol. 1, Issue
24. Srinath S, Kandasamy P, Golhar TS. (2010). Epidemiology of child and adolescent mental health disorders in Asia. *Curr Opin Psychiatry*. 23(4):330-6. doi: 10.1097/YCO.0b013e32833aa0c1.
25. Srinath S., Girimaji S.C., Gururaj G., Seshadri S, Subbakrishan D.K., Bhola P. et. al. (2005). Epidemiological study of child and adolescent psychiatric disorders in Urban and rural areas of Bangalore, India. *Indian J Med Res* 2005; 122: 67-79.
26. Steinhausen HC, Metzke CW, Meier M, Kannenberg R. (1998). Prevalence of child and adolescent disorders: the Zurich epidemiological study. *Acta Psychiatr Scand* 98:262–271.
27. Tunde-Ayinmode MF. (2010). Audit of child and adolescent psychiatry in a teaching hospital in Nigeria: Prevalence, pattern and implication for improved services. *SAJP*, vol. 16, no. 1, pp. 20-26.
28. Vincente B, Saldivia S, de la Barra F, Kohn R, Pihan R, Valdivia M, Rioseco P, Melipillan R. (2012). Prevalence of child and adolescent mental disorders in Chile: a community epidemiological study. *J Child Psychology and Psychiatry*. ** (2012), pp **-** doi:10.1111/j.1469-7610.2012.02566.x_2012
29. World Health Organization (WHO): Adolescent health 2008. Available at: www.who.int/maternal_child_adolescent/dev/en Assessed on 18th March 2015
30. WHO The World Health Report 2000- Health Systems: Improving performance, Geneva: World Health Organization ; 2000
31. WHO. Mental Health: New Understanding, New hope. The World Health Report. Geneva: World Health Organization; 2001
32. Xiaoli Y, Chao J, Wen P, Wenming X, Fang L, et al. (2014). Prevalence of Psychiatric Disorders among Children and Adolescents in Northeast China. *PLoS ONE* 9(10): e111223. doi:10.1371/journal.pone.0111223

TABLES

TABLE 1: SOCIO-DEMOGRAPHIC INFORMATION OF SUBJECTS

| | | |
|---|---------------------|------------|
| Sex | Males | 92(60.9%) |
| | Females | 59(39.1%) |
| Age groups (in years) | 3-10 | 44(29.1%) |
| | 11-17 | 107(70.9%) |
| Education | None/Not documented | 2(8%) |
| | Primary | 41(27%) |
| | Secondary | 98(65%) |
| Family type | Not stated | 32(21.2%) |
| | Monogamous | 95(63%) |
| | Polygamous | 24(15.8%) |
| Parental Relationship | Not stated | 29(19.2%) |
| | Married | 84(55.6%) |
| | Single Parent | 10(6.6%) |
| | Divorced/Separated | 28(18.6%) |
| Accompanied by | Both Parents | 11(7.3%) |
| | Mother alone | 123(81.5%) |
| | Father alone | 5(3.3%) |
| | Others | 5(3.3%) |
| | Not stated | 7(4.6%) |
| Mother's occupation (Based on ILO (ISCO) Classification). | Not stated | 9(6.0%) |
| | Trading | 83(55%) |
| | Civil Servant | 26(17.1%) |
| | Teaching | 17(11.3%) |
| | Others | 5(3.3%) |
| | Unemployed | 11(7.3%) |
| Mother's level of education | No formal education | 14(9.3%) |
| | Primary | 31(20.5%) |
| | Secondary | 75(49.7%) |
| | Tertiary | 8(5.3%) |
| | Not stated | 23(15.2%) |

TABLE 2: PRIMARY DIAGNOSES AMONG THE GROUPS AND GENDER OF SUBJECTS

| Primary Diagnosis | Age group (in years) | | Sex | | Total n (%) |
|--------------------------|----------------------|----------------|---------------|-----------------|------------------|
| | 3-10 n (%) | 11-17 n (%) | Male n (%) | Female n (%) | |
| Seizure disorders | 26 (17.2) | 24 (15.9) | 30 (19.9) | 20 (13.2) | 50 (33.1) |
| Generalized tonic/clonic | 10 (6.6) | 13 (8.6) | 18 (11.9) | 5 (3.3) | 23 (15.2) |
| Complex partial seizure | 10 (6.6) | 10 (6.6) | 7 (4.6) | 13 (8.6) | 20 (13.2) |
| Simple partial seizure | 2 (1.3) | 1 (0.7) | 2 (1.3) | 1 (0.7) | 3 (2.0) |
| Absence seizure | 2 (1.3) | 0 (0) | 1 (0.7) | 1 (0.7) | 2 (1.3) |
| Atonic seizure | 1 (0.7) | 0 (0) | 1 (0.7) | 0 (0) | 1 (0.7) |
| Myoclonic seizure | 1 (0.7) | 0 (0) | 1 (0.7) | 0 (0) | 1 (0.7) |

| | | | | | |
|----------------------------|---------|-----------|----------|----------|------------------|
| Schizophrenia | 1 (0.7) | 22 (14.6) | 13 (8.6) | 10 (6.6) | 23 (15.2) |
| Hebephrenic | 1 (0.7) | 12 (7.9) | 7 (4.6) | 6 (4.0) | 13 (8.6) |
| Paranoid | 0 (0) | 4 (2.6) | 4 (2.6) | 0 (0) | 4 (2.6) |
| Undifferentiated | 0 (0) | 2 (1.3) | 1 (0.7) | 1 (0.7) | 2 (1.3) |
| Catatonic | 0 (0) | 1 (0.7) | 0 (0) | 1 (0.7) | 1 (0.7) |
| Not clarified | 0 (0) | 3 (2.0) | 1 (0.7) | 2 (1.3) | 3 (2.0) |
| Mental Retardation (MR) | 8 (5.3) | 11 (7.3) | 10 (6.6) | 9 (6.0) | 19 (12.6) |
| Mild MR. | 0 (0) | 1 (0.7) | 0 (0) | 1 (0.7) | 1 (0.7) |
| Moderate MR | 2 (1.3) | 1 (0.7) | 2 (1.3) | 1 (0.7) | 3 (2.0) |
| Severe MR | 2 (1.3) | 4 (2.6) | 4 (2.6) | 2 (1.3) | 6 (4.0) |
| Profound MR. | 0 (0) | 1 (0.7) | 1 (0.7) | 0 (0) | 1 (0.7) |
| Not clarified | 4 (2.6) | 4 (2.6) | 3 (2.0) | 5 (3.3) | 8 (5.3) |
| Acute Psychosis | 0 (0) | 18 (11.9) | 12 (7.9) | 6 (4.0) | 18 (11.9) |
| Depression | 0 (0) | 11 (7.3) | 5 (3.3) | 6 (4.0) | 11 (7.3) |
| Organic Psychosis | 1 (0.7) | 7 (4.6) | 5 (3.3) | 3 (2.0) | 8 (5.3) |
| Bipolar affective disorder | 0 (0) | 8 (5.3) | 6 (4.0) | 2 (1.3) | 8 (5.3) |
| ADHD | 3 (2.0) | 1 (0.7) | 3 (2.0) | 1 (0.7) | 4 (2.6) |
| Anxiety disorder | 2 (1.3) | 0 (0) | 2 (1.3) | 0 (0) | 2 (1.3) |
| Cannabis abuse | 0 (0) | 2 (1.3) | 2 (1.3) | 0 (0) | 2 (1.3) |
| Autism | 1 (0.7) | 0 (0) | 0 (0) | 1 (1.3) | 1 (0.7) |
| Conduct disorder | 1 (0.7) | 0 (0) | 1 (0.7) | 0 (0) | 1 (0.7) |
| ODD | 0 (0) | 1 (0.7) | 1 (0.7) | 0 (0) | 1 (0.7) |
| Sleep walking | 0 (0) | 1 (0.7) | 1 (0.7) | 0 (0) | 1 (0.7) |
| Cerebral palsy | 1 (0.7) | 0 (0) | 1 (0.7) | 0 (0) | 1 (0.7) |
| Subdural haematoma | 1 (0.7) | 0 (0) | 0 (0) | 1 (1.3) | 1 (0.7) |

TABLE 3: CO-MORBID DISORDERS

| Secondary diagnosis | n | % |
|---------------------|-----|------|
| Nil | 130 | 86.1 |
| Mental retardation | 11 | 7.3 |
| Schizophrenia | 3 | 2.0 |
| Depression | 2 | 1.3 |
| Cannabis abuse | 1 | 0.7 |
| ADHD | 1 | 0.7 |
| Autism | 1 | 0.7 |
| Enuresis | 1 | 0.7 |
| Otitis media | 1 | 0.7 |

TABLE 4: MANAGEMENT AND TREATMENT OUTCOMES AMONG SUBJECTS

| Management Index | n (%) |
|--------------------------------|--------------|
| <i>Investigations done</i> | |
| Baseline (FBC, Urinalysis) | 138 (91.4) |
| E + u + cr | 12 (7.9) |
| Fasting /Random blood sugar | 9 (6.0) |
| EEG | 17 (11.3) |
| CT Scan | 1 (0.7) |
| IQ assessment | 0 (0) |
| Others / Not stated | 15 (9.9) |
| <i>Treatment Modalities</i> | |
| Medications | 151 (100) |
| Counseling | 12 (7.9) |
| Psychotherapy | 8 (5.3) |
| Family therapy/meetings | 3 (2) |
| Occupational therapy | 0 (0) |
| ECT | 0 (0) |
| Others | 11 (7.3) |
| <i>Response to treatment</i> | |
| Reported improvement | 98 (65) |
| No improvement | 17 (11.3) |
| Worsening symptoms | 5 (3.3) |
| Not documented | 31 (20.5) |
| <i>Medication side effects</i> | |
| Present | 16 (10.6) |
| Absent | 83 (55) |
| Not documented | 52 (34.4) |
| <i>First follow up visit</i> | |
| Attended | 122 (80.8) |
| Defaulted | 23 (15.2) |
| Not documented | 6 (4.0) |