A STUDY OF PSYCHIATRIC MORBIDTY AMONGST CHILDREN ATTENDING A CHILD GUIDANCE CLINIC AT A TERTIARY LEVEL TEACHING HOSPITAL IN NEPAL

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Abstract:

Background: Mental health and its related problems are growing concerns over the world. The early onset of emotional and behavioral problem in the young children is related to a variety of health and behavior problems in adolescence. It is a challenging all over the world to determine the epidemiology of childhood mental disorders.

Objective: The aim of this study is to sort out the prevalence and predominance of mental illness and their onset of age and sex among the child and adolescent who attended in the child guidance clinic in TUTH.

Methodology: A retrospective study of a total of 539 consecutive cases of child and adolescent attended in Child Guidance Clinic TUTH. Diagnosis was made according to the criteria of Diagnostic and Statistical Manual of Mental Disorders, 4th edition, Text Revision.

Result: The cases from the age of 0.4 year to 21 years with mean age 8.85±4.08 years. Significantly majority were boys (*n*=343, 63.6%) and most of from out of the Kathmandu valley (*n*=300, 53.2%). Significantly most case referred from ENT OPD of TUTH (*n*=97, 18%) and mental retardation was the commonest (*n*=81, 15%) followed by conversion disorder (*n*=77, 14.3%) and anxiety spectrum disorder (*n*=63, 11.7%)

Conclusion: Boys are common in mental illness among child and adolescents. The common diagnoses among child and adolescent are mental retardation, conversion disorder, anxiety spectrum disorders and Autism spectrum disorder.

Key words*: Mental illness, Child Guidance Clinic, mental retardation, ENT OPD, TUTH*

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Introduction

Mental health in child and adolescent is an essential component of overall health and its importance is being recognized. Many studies have shown increasing a large number of young people being disabled from mental illness in the worldwide.

A comprehensive review study of child psychiatric epidemiology in community surveys noted that the number of children and adolescents has risen from 10 000 in studies published between 1980 and 1993 to nearly 40 00p0 from 21 studies published between 1993 and 2002. The results of these studies indicate that about one out of every three to four youths is estimated to meet lifetime criteria for a Diagnostic and Statistical Manual of Mental Disorders (DSM). [1], [2]

The World Health Organization (WHO) reported that 20% of children and adolescents suffer from different types of mental illness

worldwide [3] and, suicide is supposed as major cause of death among adolescents up to 50% of all adult mental disorders have their onset in adolescence.[4] Similarly, the U.S. Department of Health and Human Services' (DHHS') report estimated that at least one in five (20%) children and adolescents has a mental health disorder at some point in their life from childhood to adolescence and at least one in 10 (10%), or about 6 million people, has a serious emotional disturbance at some point in their life. [5]

The first three years of children life is for school readiness, however emotional health plays an important role in preparing children to engage in cognitive tasks.[6], [7] Before thought and language, the emotion, it is this early affect within the context of the earliest relationships that forms the basis for all future development.[8], [9] Research has also shown that the emergence of early onset emotional/behavioral problems in young children is related to a variety of health and behavior problems in adolescence.[10], [11]

Studies reveal that the risk factors for the development of mental disorders in children have been considered mainly into two perspectives: child characteristics and those of his/her parents/family. Child characteristics include gender, age, ethnicity, physical health, cognitive and psychological function, pre- and perinatal exposures to illness, physical stress, alcohol, drugs, nutrition, infections and other environmental agents, and lifetime history of environmental exposures to toxins, stress, infections, social environment and stressful life events. *F*amily and parent characteristics include parental education, age, social class, employment, psychiatric and medical history, and family function, structure.[12,13,14,15] One of the most, consistent and potent risk factors for the development of mental disorders in children is a parental history of mental disorders.

A results of a recent 3-year follow-up of the UK study of child health found that different risk factors predicted the onset and the persistence of mental and behavior disorders in youth.[16] The onset of emotional disorders was predicted by physical illness, changes in the number of parents in the home, the number of children at home and poor maternal mental health. Predictors of conduct disorder onset included low income, rented accommodations, low maternal education, living in a reconstituted family, special educational needs of the child and changes in maternal mental health over time. Accumulation of stressful life events predicted the onset of either type of disorder. Persistence of mental disorders in general was predicted by poor maternal mental health, low socioeconomic status, and rented accommodations. [16]

In an epidemiology of child psychiatry disorders from different study reviews reveals that mental retardation, neurosis, emotional and behavioral disorders and epilepsy formed the major groups of disorders.[17], [18] A different studies in India have revealed that the prevalence rates of the child morbidity was of 12.5% in 0-16 yrs in one community sample study, 9.4% in 8-12 yrs olds in another group community sample. Similarly 6.3% in 4-11 yrs old school in children sample study [19], [20]

In Nepal, a survey was conducted and found that children accounted for 8% (105) of total patients and majority was suffering from mental retardation followed by neurosis and epilepsy. [21] In another study that majority of children attending the psychiatric OPD were suffering from epilepsy. [22] Similarly in another study the children with psychiatric morbidity were of 3.34% of the total outpatient population and more than half were suffering from mental retardation. In another study 31.75% were suffering from behavioral and emotional disorder.[23] [24].[25]

Determining the epidemiology of childhood mental disorders is a challenge throughout the world. The definition or recognition of disorder varies or has variable interpretations and the cultural component of what constitutes a disorder is only now being more fully appreciated by epidemiologist and researchers. In studying the epidemiology of psychiatric disorder in children and adolescents in developing and developed countries, it is important to define not only the prevalence and incidence of the disorders but also the associated burden of disease as measured in terms of cost of care over the lifespan and lost human potential. It must be recognized that the impairment associated with disorder may vary in different cultures [26]

Materials and Method

Study method

Patients, who were recorded as new case, during the period in between 14th April 2010 to 18th Dec 2011, were included in the study.The detail demographics and diagnosis was obtained. Diagnoses were made according to DSM-IV TR diagnostic criteria..

Data analysis

The data were analyzed using the Statistical package for the social science version 12 for Windows. Descriptive statistic for all demographic and clinical variables is used in the logistics as following tables.

Results

Five hundred thirty nine participants were assessed for prevalence of psychiatric morbidity in child and adolescents. Four hundred eighty eight participants met criteria DSM-IV TR psychiatric morbidity diagnosis. Demographic variable with the data were listed in Table 1. The mean age of participants was 8.85 years (SD=4.08); 64% (n=539) of the sample were boys and 56% (n=539) were

of out of the valley (Figure 2); 50.1% (n=539) were age group of 10-19 years.

Figure 1: Chi2 test and Anova Significance $p<.05, p<.01**,$*

$p<.001***$
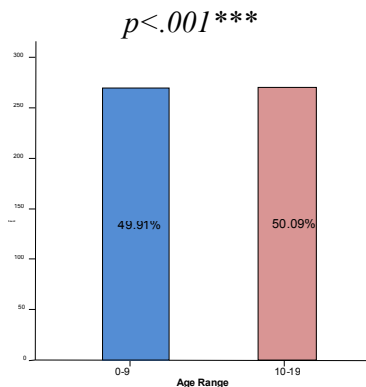
The number of cases of age group 0-9 did not differ significantly from the cases of 10-19 age groups. In the Area, the numbers of case among three group was differ significantly ($p=.000$). Similarly, the mean age of participant in among three area groups was differ significantly (shown in Table 1 $p=.013$). The number of cases (63.6%) in boy group was differ significantly from the number of cases (36.4%) ($p=.000$)

In terms of referral, 18.0% (n=97) cases were referred from ENT OPD and 16.7% (n=90) cases were from Pediatric OPD of the hospital. The Kanti Children Hospital referred the cases about 11% (n= 60). About 20.2% (n=109) cases came to the clinic by self. About 15.6% (n=84) cases didn't have any record in the referral. The referral from different OPD and hospital was differ significantly ($p=.000$) (Table 2)

In an educational level, about 309 cases reported of their attendance in schooling, and among them 16.2% (n=50) cases were in Primary level and 2.9% (n=9) in grade X. Table 3 shows that the cases in different level of education were significantly different ($p=.001$)

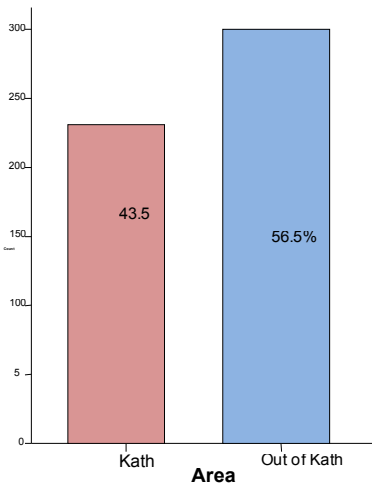**Figure 2: Distribution of cases according to geographical location**

Table 2: Distribution of cases according to pattern of referral

Referral	cases (n=539)	%	χ^2-value/ df/p-value
Psychiatric OPD	15	2.8	
Pediatric OPD	90	16.7	
Medical OPD	33	6.1	
ENT OPD	97	18.0	
Other OPD	12	2.2	329.510
KCH	60	11.1	10
Dhulikhel Hospital	2	0.4	.000***
Army Hospital	5	0.9	
Self	109	20.2	
Other	84	15.6	

***p<0.001*

During the period of the study, the cases of mental retardation were found very high 15.0% (*n*=81) and which was followed by the conversion disorder 14.3% (*n*=77) which also included the cases of psychogenic vomiting (Table 4). Similarly the cases of anxiety disorder was also found higher 11.7 (*n*=63) in visiting the clinic during the study period which also included the cases of school refusal and school phobia.

The cases of seizure disorder were also found high 7.1% (*n*=38) in visiting the clinic. The cases of Hearing Impairment 7.8% (*n*=42) were in visiting the clinic referred from ENT due to speech delay caused by hearing impairment. The variance in case distribution in the disorders was found significant (*p*=.001.

In terms of sex and childhood disorder, in most of the cases the disorders were found higher in boys than in girls though there was no difference significantly (*p*=.081). However in childhood depression the cases were much in girls than boys.

Discussion

In this study, the most of the cases were associated with boys which is difference significantly and prevalence of the cases in childhood illness were mostly mental retardation, anxiety disorder, conversion disorder and speech delayed with or without hearing loss. The distribution of age variance in this study between the age group 0-9 & 10-19 was approximately similar. However, baseline and the mean age of the disorder group was 8.86 years (SD=4.08). We had the cases coming from resident of the Kath valley and out of the valley and relatively more from the out of the valley. This finding was consistent with fact that the hospital is tertiary setting and the largest one in the country in terms of equipments and human resources.

Forty three percent of the total subjects were advised to consult a psychiatric service by other department of the institute (Pediatric, ENT, and Internal Medicine); about twelve percent were referred in the clinic by other hospitals (mainly Kanti Children Hospital,

Dhulikhel Hospital and army hospital). Twenty percent were by self however about 15% were by other Sources e.g. friends, relative, neighbors, other patients, traditional healer and even the media. The high numbers of cases were of grade five (13.6%). However, the cases were also high from other grade levels (11% grade seven 10% in grade three and four).

The prevalence of different psychiatric disorders were consistent with the diagnostic profile of the study showing disorder usually first diagnosed in infancy, childhood or adolescence; anxiety spectrum, somatoform, and seizure disorders as main diagnosed. We had the predominance of Mental Retarded cases, followed by conversion disorder and anxiety spectrum disorder and seizure disorder as well. About 3% cases were diagnosed of ADHD and 1.9% cases were with co-morbid. The finding of predominance of mental retardation, seizure disorder and low cases of ADHD is consistent with the study in India and Nepal. The high prevalence of mental retardation (15%) in the study may due to the large number of cases referred from ENT and Pediatric OPD of the institute and Kanti Children Hosptial which is very close distant to the institute and easier to refer in this setting for Intelligence assessment to those subjects who develops poor communication hearing impairment as well as who have behavior problem with poor academic performance. Similar high prevalence of mental retardation has also been reported by various study in children and adolescent mental health in Nepal in different period, 21, 23, 27[27] and other different studies in different areas of India.18, 28, 20 The mental retardation is also second common diagnosis (16.2%) in another study in India.29 Somatoform disorder, mainly the conversion disorder was found the second major disorder in this study which may be due to the clinic is special for child and there were many cases referred for evaluation of seizure disorder or conversion disorder from different settings

and hospitals. Moreover culturally, girls are perceived as weak person and have less opportunity to express their feeling and stress verbally then consequently the psychological stresses come out in physical symptoms. The finding of high prevalence of somatoform disorder in this study is similar to the finding of various studies in Nepal 27, 22, 25

The diagnosis of anxiety disorder is third (11.7%) predominance disorder which is also common diagnosis in study of general adult psychiatric clinic setting in Eastern Nepal.30 Male is predominance in the diagnosis of most disorders in this study which was similar to the different studies in Nepal and India, 27, 29, 30

Conclusion

Mental retardation is the most commonly diagnosed in our setting of Child guidance clinic may be due to considering only the measuring of academic performance and IQ finding but usually overlooking the patients' adaptive functioning. The most disorders are male dominant and conversion and anxiety disorders are very common in diagnosis in the child and Adolescents cases.

Limitation of this Study: Since this study was done in Child guidance Clinic of the hospital and most of diagnosis was made based on the first history taking by the residents. No supplementary tools were used.

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Table 1: Distribution of cases according age group and gender

Variables	Range	Cases	%	χ^2 Value/ df	*p-value*	Mean (age)	SD	*t/ χ^2*
Age (years)	0.4-21	(*n=539*)				8.85	4.08	
Age group =.000***	0-9	(*n=269*)		49.9	.002/ .966	5.38	2.40	t
Age group	10-19	(*n=270*)		50.1	1	12.30	1.86	
Sex								
Boy 4.08 t=.000***		(*n=343*)	63.6	10.182/	.000***	8.31		
Girl		(*n=196*)	36.4	1		9.78	3.88	
Area								
Kath 4.09 =.013*		(*n=231*)	44.8	259.284/	.000***	9.25		
Out of Kath		(*n=300*)	53.2	2		8.46	4.00	
Unidentified		(*n=8*)	1.9		11.6	4.90		

Figure 1: Chi2 test and Anova Significance p<.05*, p<.01**, p<.001***

Table 3: Distribution of cases according to level of education

Education	Cases (*n=309*)	%	mean age	Std	SEm	χ^2-value df	*p-value*
Primary level	50	16.2	6.66	2.49	.35		
grade I	27	8.7	7.67	1.90	.37		
II	25	8.1	9.40	2.04	.40		
III	32	10.4	9.84	1.83	.32		
IV	33	10.7	10.30	1.33	.23	52.220 10	.000**
V	42	13.6	11.60	1.82	.28		
VI	25	8.1	12.20	1.08	.21		
VII	35	11.3	13.09	1.54	.26		
VIII	14	4.5	13.21	.89	.24		
IX	17	5.5	13.88	1.05	.26		
X	9	2.9	15.67	1.50	.50		

***P<0.001

Table 4: Prevalence of childhood psychiatric disorder and cases of boys and girl with the Chi-Square

Classification	Diagnosis(n=539)	x^2/df p-value	Sex x^2/df p-value (DSM-IV TR)		
			Male/ n=343 (63.6%)	Female/n=196 (36.4%)	
Disorder usually first	MR		81 (15.0)	53 (9.8)	28(5.2)
Diagnosed in infancy, Childhood or Com. Disorder	MR Co morbid		17 (3.2)	12 (2.2)	5 (0.9)
Adolescence Expressive Language Disorder			4 (0.7)	3 (0.6)	1 (0.2)
Speech Delay	17 (3.2)		12 (2.2)	5 (0.9)	
PDD					
Autism Spectrum disorder	20 (3.7)		13 (2.4)	7 (1.3)	
ADHD	16 (3.0)		12 (2.2)	4 (0.7)	
ADHD Co morbid	10 (1.9)		10 (1.9)	0 (0.0)	
ODD	7 (1.3)		6 (1.1)	1 (0.2)	
Tic Disorder	3 (0.6)		3 (0.6)	0 (0.0)	
Enuresis	2 (0.4)		1 (0.2)	1 (0.2)	
Mood Disorder	BPAD		6 (1.1)	3 (0.6)	3 (0.6)
Childhood Depression	8(1.5)	801.98	2 (0.4)	6 (1.1) 40.172a	
Anxiety Disorder	Anxiety Disorder		63 (11.7) 29	.001** 38	
(7.1) 25 (4.6)	29 .081				
OCD	2 (0.4)		1 (0.2)	1 (0.2)	
ASR	19 (3.5)		11 (2.0)	8 (1.5)	
Somatoform disorder	Conversion Disorder		77 (14.3)	37 (6.9)	40 (7.4)
Headache (tension type)			14(2.6)	8 (1.5)	6 (1.1)
Somatization	4 (0.7)		3 (0.6)	1 (0.2)	
Eating Disorder	Pica		1 (0.2)	1 (0.2)	0 (0.0)
Anorexia nervosa	1 (0.2)		1 (0.2)	0 (0.0)	
Sleep disorder	Sleep disorder		2(0.4)	2 (0.4)	0 (0.0)
Axis III General	Childhood psychiatric Disorder sequel of				
Medical condition	Organic Brain Disease		16 (3.0)	7 (1.3)	9 (1.7)
Seizure Disorder			38 (7.1)	23 (4.3)	15 (2.8)
Seizure Disorder Comorbid			5 (0.9)	4 (0.7)	1 (0.2)
Migraine			5 (0.9)	5 (0.9)	0 (0.0)
Hearing Impairment			42 (7.8)	32 (5.9)	10 (1.9)
Down's syndrome			8 (1.5)	6 (1.1)	2 (0.4)
Congenital Anomalies			3 (0.6)	2 (0.4)	1 (0.2)
Under evaluation			44 (8.2)	28 (5.2)	16 (3.0)
No Psychiatric Abnormality			4 (0.7)	4 (0.7)	0 (0.0)

***p<0.001