

Psychiatric Disorders Among the Mentally Retarded Children: A cross sectional study in a tertiary care hospital

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Summary

It has been experienced that a significant number of children with mental retardation have psychiatric disorders. The objective of this study was to find out the pattern of psychiatric disorders among the mentally retarded children in a tertiary care hospital. A cross-sectional study was conducted with all consecutive mentally retarded patients attending outpatient department of psychiatry and pediatric neurology department of BSMMU, Dhaka from July 2007 to June 2008. Total number of samples was 50. In this study a semi structured questionnaire, Developments and Well – Being Assessment (DAWBA), ICD-10 and WISC R have been used as research instruments. In this study, 22% of mentally retarded children have emotional disorders and 24% behavioral disorders. In total 46% of samples have psychiatric disorders. Among emotional disorders major depressive disorder and generalized anxiety disorder are more common and both are 6%. Among the behavioral disorders the hyperkinetic disorder and oppositional defiant disorder are 16% and 8% respectively. In case of mild mental retardation the emotional disorders are more common (81.8%) but in case of moderate mental retardation the behavioral disorder are more common (83.3%). The mean IQ of emotional disorder children is 59.45 and mean IQ of behavioral disorder children is 45.50. Most of the psychiatric morbidity presents in the age group of 5-10 years (47.1%). The findings emphasize the necessity to evaluate psychiatric problems in children with mental retardation for early diagnosis and proper management to improve the quality of life of those children.

Bang J Psychiatry 2009; 23(2) : 19-29

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Date of Submission of the article: 12.04.10

Date of acceptance of the article: 19.04.11

Introduction

Mental retardation is a term for a pattern of persistently slow learning of basic motor and language skills ("milestones") during childhood, and a significantly below normal global intellectual capacity as an adult. On common criterion for diagnosis of mental retardation is a tested intelligence quotient (IQ) of 70 or below and deficits in adaptive functioning. People with mental retardation may be described as having developmental disabilities, global developmental delay, or learning difficulties. Mental retardation is present in 2-3% of individuals in the general population either as isolated findings, or as part of an underlying disorder. It is the reason for a substantial part of referrals of patients and families to the pediatric genetic counseling units. Mental retardation may be genetically determined, or due to environmental (Including perinatal) influences, physicians often are unable to define the etiology, in at least 30-50% of cases. This report presents the experience with 100 consecutive children with mental retardation admitted to the section of clinical genetics of the university pediatric hospital in Sofia over one year period¹. The reported prevalence of psychiatric disorders among the mental retarded are higher than those in the general population, but because of methodological problems, the range of estimates is wide². The lower the IQ is the greater the difficulty in diagnosing psychiatric syndromes. The severity of retardation affected the type of psychiatric disorder. Disruptive and conduct disorder behaviors occurred more commonly in the mildly retarded group; those with severe mental retardation have particularly high rate of autistic disorder and pervasive

developmental disorders. The point prevalence of Schizophrenia in people with mental retardation is about 3% compared with 1% in the general population³. The rate of depressive disorders is similar to that in the general population anxiety disorders are also frequent³. Adjustment disorders are common among people with mental retardation. Post traumatic Stress disorders have been reported in people with mental retardation who have suffered physical or sexual abuse⁴. Obsessive compulsive disorders are also found and may be more frequent than in the general population. Conversion and dissociative symptoms are sometimes florid, taking forms understandable in terms of the patient's understanding of illness. Persons with fragile X syndrome have extremely high rates (Up to three fourths of those studied) of attention-deficit/hyperactivity disorders. In Down syndrome, language function is a relative weakness; where as sociability and social skills, such as interpersonal cooperation and conformity with social conventions are relative strengths. Personality disorder is common among people with mental retardation, but is difficult to diagnose. In this population, there is a considerable overlap between the diagnosis of behavior disorder and of personality disorder⁵. In the prominent Isle of Wight study (Rutter, 1970), the frequency of psychiatric disorders reported by Rutter and his associates were three to four times greater for children with mental retardation than for children with normal intelligence⁶. Similarly, rates found in the longitudinal study conducted by Koller et al 1982, were approximately four to five times higher than in the total age cohort, and

serious behaviour problems were seven times more prevalent in the group with mental retardation several investigators concluded that the level of ability of the individual partly determines the manifestation of specific psychiatric disorders⁷. Corbett et al. 1975, noted a higher prevalence of severe stereotypies, childhood psychosis, and hyperkinetic disorders among children with severe mental retardation, compared with those with milder forms of retardation⁸.

A study of psychiatric outpatient attendance at the National Institute of Mental Health in Dhaka revealed that 8.6% of cases were children or adolescents⁹. In a different analysis of psychiatric morbidity among the outpatients of the same institute, emotional disorders were found to be the largest group with 32.5%, followed by conduct disorder 18.8%, mental retardation comprised 16.2%, psychotic condition 11.2%, epilepsy with behavioral problems 12.5% and the rest 8.5% comprised of the other group of disorders¹⁰.

From the above studies, it can be concluded that a significant number of mental retarded children having psychiatric disorder. During clinical work researcher observe that majority of the mentally retarded children referred to the psychiatric out patient department has one or more psychiatric co-morbidity. In our country possible similar picture also observed with other mentally retarded children who attended in the hospital for medical care. These findings encouraged the researcher to explore the psychiatric morbidity among mentally retarded children in Bangladesh.

The general objective of this study was to

find out the pattern of psychiatric disorders among the mentally retarded children in a tertiary care hospital. The specific objectives are to identify the type of psychiatric disorders among mentally retarded children and to identify emotional and behavioral disorders according to the severity of mental retardation.

Method

It was a cross sectional study done on special group of children who were mentally retarded and came to the outpatient department of psychiatry and pediatric neurology in BSMMU. The above mentioned departments of Bangabandhu Sheikh Mujib Medical University were chosen because this is a tertiary level hospital of health care system of Bangladesh. This is an academic as well as research institute for the post graduate students, patients are consulted by specialist with full laboratory facilities. Consultation-Liaison psychiatry is also well developed in this institute. Besides this, patients come to this hospital from all parts of the country. Services were easily affordable to people of all economic status. The inclusion criteria for the sample were the diagnosed cases of mental retardation of either sex and age limit was 5 to 18 years. The exclusion criteria were the patients who were severely debilitated and cognitively impaired and those whose guardians refused to give consent for the study. The duration of the study was from July 2007 to June 2008. During this period all consecutive patients who fulfilled the inclusion criteria were taken as the samples. The researcher had to approach a total of 57 consecutive patients, who were diagnosed by the consultants of the respective department. Among 57

patients, two guardians of the patients refused to participate in the study either due to shortage of time or they somehow avoided, the other five patients data sheets were found incomplete before final scrutiny prior to analysis of data. And then the final sample size was 50. Prior to the study pre testing was carried out among cases equivalent to at least 10% of total study population, before finalizing the instruments and methodology. Some modification of questionnaires and other aspects were done. The researchers were duly careful about ethical issues related to this study. In this study the following criteria were set to ensure maintaining the ethical values: The study was not involved with one's body organ, body fluids or fetal tissues. In this study precaution was taken to protect confidentiality of the participants. Informed written consent was obtained from the subject and or from parents or guardian, if subject is minor to give reliable information. The contents of the informed consent are as such-

Explanation of the nature and purpose of the study,

Explanation of the procedure, benefit and duration of the study and

Explaining that they have the right to refuse or accept to participate in the study.

The patients did not gain financial benefit from this study.

In this study the following research instruments were used:

1. Semi structured questionnaire for the study "Psychiatric morbidity among children and adolescents with mental retardation attending psychiatric care facilities in a tertiary hospital" which

was designed by the researchers containing socio-demographic variables like age, sex, habitat, religion, educational status of the child and parents, monthly family income etc.

2. Developments and Well – Being Assessment (DAWBA) : The research assessment of emotional and behavioral disorders was carried out using the (DAWBA) developed by Goodman et al. 2000. It is an internationally well accepted research instrument, and a novel package of questionnaires, interviews, and rating techniques designed to generate ICD-10 and DSM-IV psychiatric diagnoses among children and adolescents of 5 to 16 years (extended up to 18 years). This instrument has been translated in Bangla and standardized and validated by Mullick MSI, 2005. The validated Bangla version of DAWBA was used in this study. The researcher was trained by the supervisor of the study.

3. ICD-10: Diagnostic Criteria for Research: ICD-10 (International classification of disease – 10th edition) classification of mental and behavioral disorders is acceptable to a wide range of users in different cultures. It is easy to use and available in widely spoken languages. This is the official diagnostic tool for mental and behavioral disorders. It has three versions. The first of these consists of clinical descriptions and diagnostic guidelines. The second version is the operational criteria entitle 'Diagnostic Criteria for Research'. The third document is a

shorter, simpler version of the clinical description, which is suitable for use in primary care. A multi axial system is also produced. To make the study much more sound, the Diagnostic Criteria for Research was used. The content of Diagnostic Criteria for Research is derived from chapter V (F), mental and behavioral disorders, of ICD-10. It contains specific criteria for the diagnoses contained in clinical descriptions and diagnostic guidelines (CDDG), which was produced for general clinical and educational use by psychiatrists and other mental health professionals.

4. WISC R: A test measuring intelligence in 6 to 16 year olds is called the Wechsler Intelligence Scale for Children (WISC) It was revised in twice in 1974 and 1991. It has two components. Verbal scale and performance scale.

During the procedure of data collection, first the children and adolescent who satisfied the inclusion and exclusion criteria were selected. Then informed consent was taken from the parents or legal guardian of the cases. After taking consent, they were interviewed by the researcher by using questionnaire for socio-demographic variables. Then the parents of all cases were interviewed by using parent version of DAWBA. In this study, standardized and validated Bangla version was used for the diagnosis of emotional and behavioral problems. Then ICD-10 was used to assign the diagnosis of above disorders and other co morbid psychiatric disorders. IQ assessments were done by using WISC-R by the child psychologist of pediatric neurology,

BSMMU. To reduce the biasness during the application of the DAWBA, researcher was blind to the IQ assessment. The data was computed into the computer based diagnostic program for generating computer-based diagnosis. Then it was rated by the consultant psychiatrist who is an internationally recognized and experienced rater for the diagnosis. All collected data were checked and rechecked for omissions, inconsistencies and improbabilities. Data analysis was performed by Statistical Package for Social Science (SPSS), version-12. After cleaning of data it was edited, coded and entered into the computer. Then rate of emotional and behavioral disorders were estimated between children with MR. After this, specific types of psychiatric disorders were calculated in two groups. Type of psychiatric disorder in relation to IQ was also analyzed and t test (one tailed) was done to measure the level of significance. Result was presented as text, tables and figures. The level of significance in this study was considered as 5% level or higher.

Results

In this study participation rate of samples was found 87.72%.

Table 1: Participation rate in the study

Characteristics	Number	Percent
Total samples approached	57	100
Refused to participate by guardians	2	3.51
Missing data	5	8.77
Final participation	50	87.72

Figure 1: Distribution of Psychiatric disorders among participants

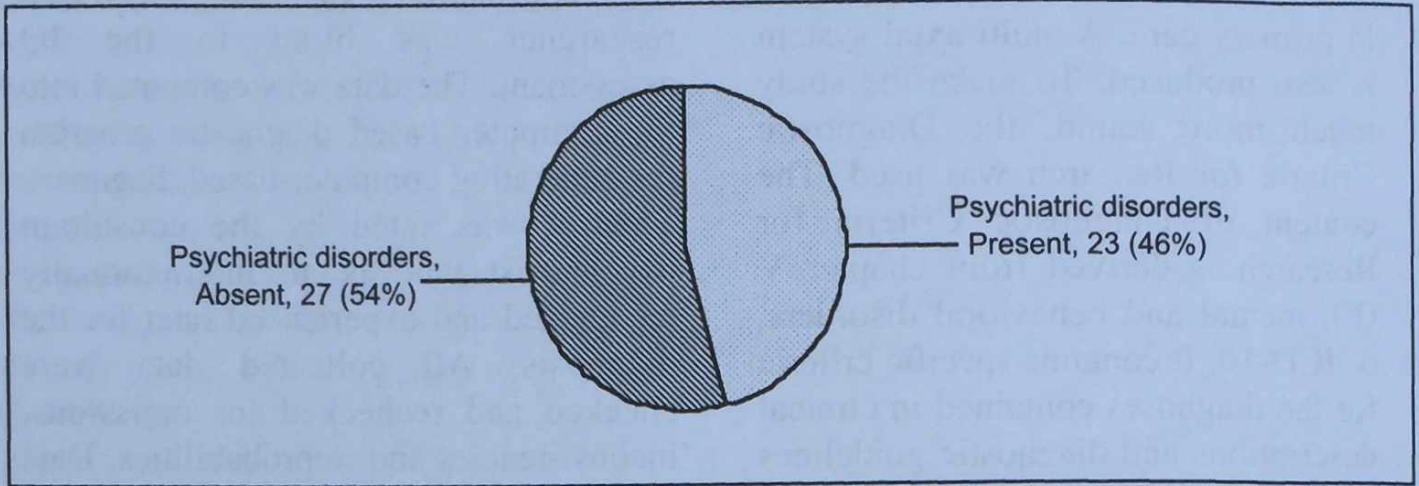


Figure 1 shows the distribution of psychiatric disorders among 50 mentally retarded children where 46% participants had psychiatric disorders.

Figure 2: Broad category of psychiatric disorders

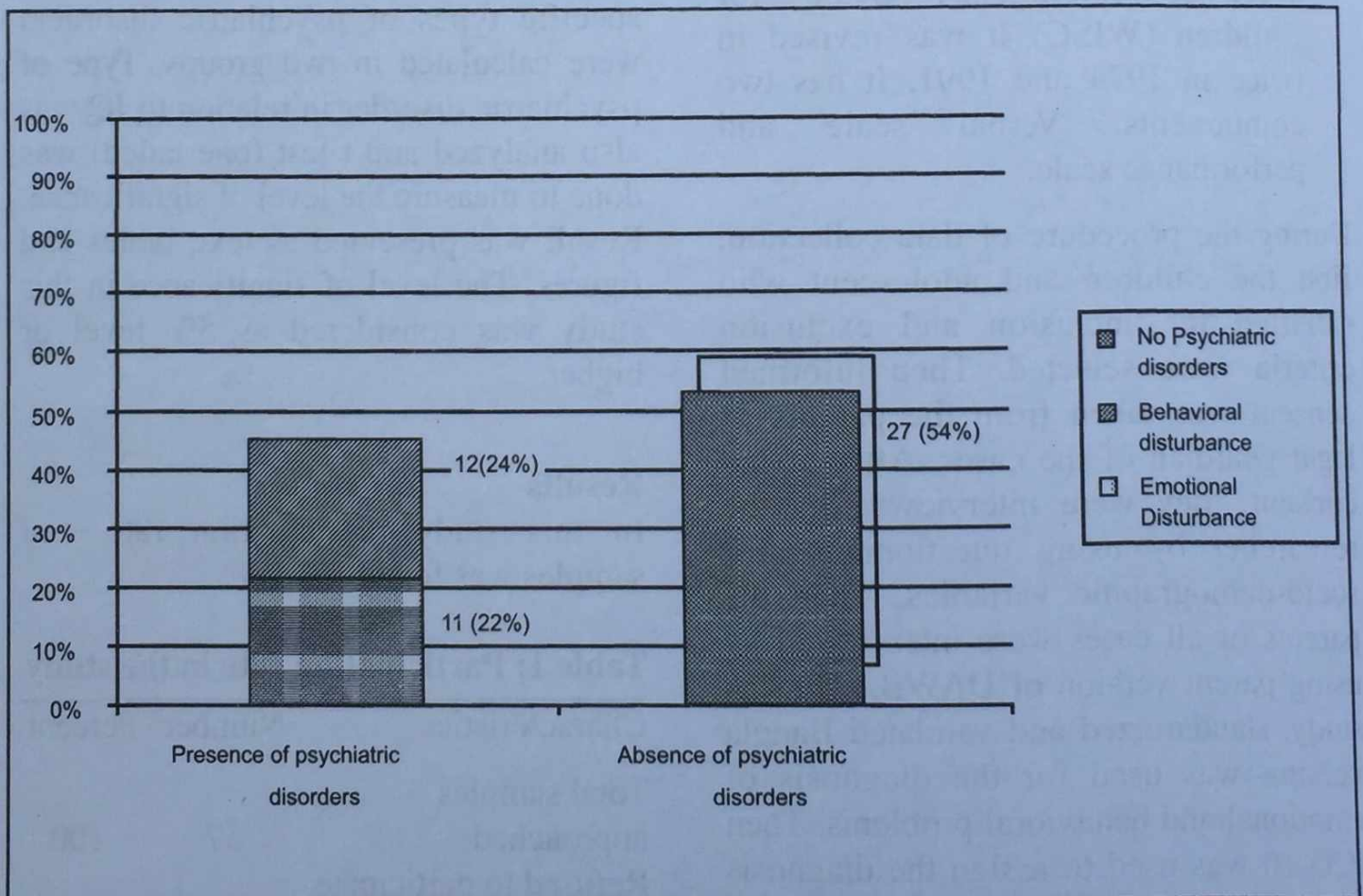


Figure 2 shows the broad category of psychiatric disorders, where the emotional category was 22 % and the behavioral category was 24%.

Figure 3: Specific type of psychiatric disorders (emotional and behavioral categories)

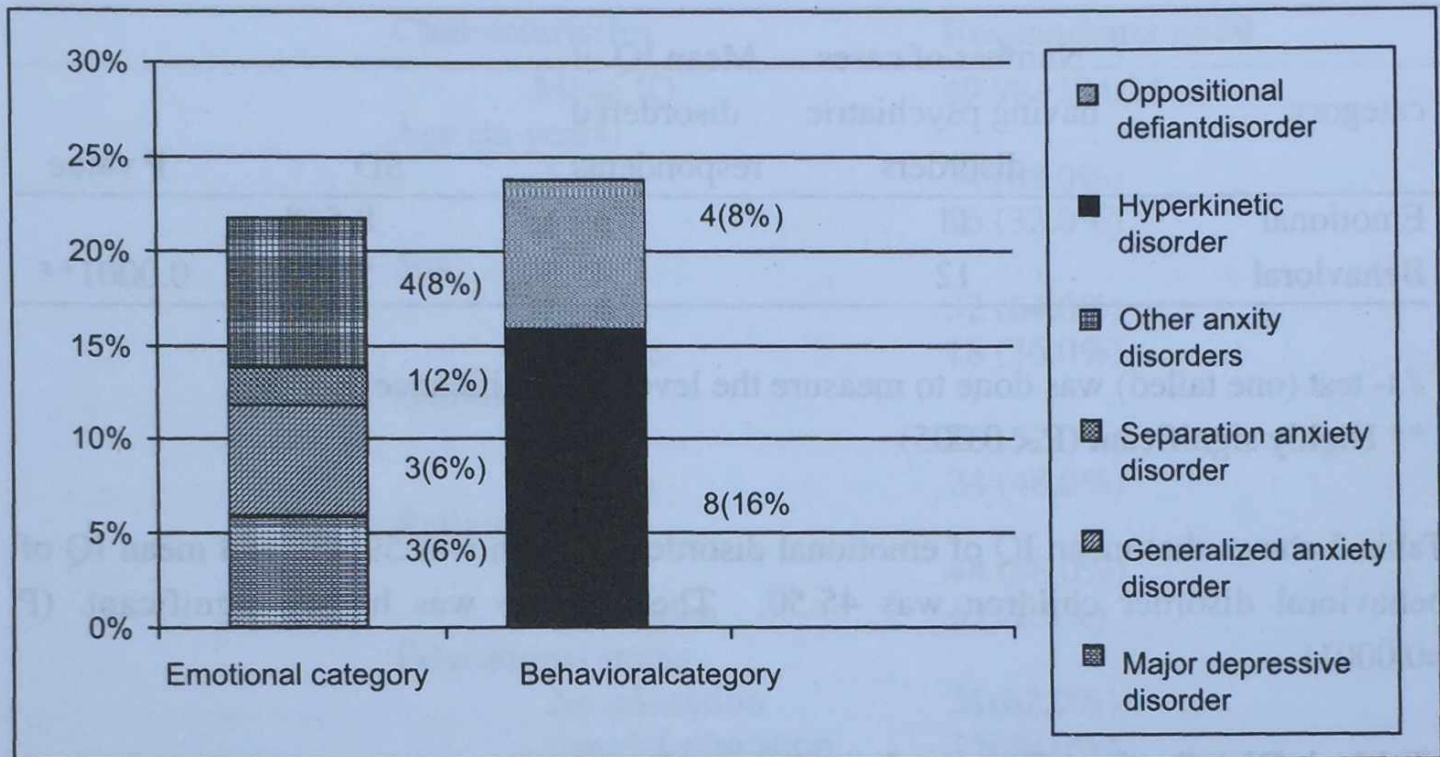


Figure 3 shows the specific type of psychiatric disorders (emotional and behavioral category) where the hyperkinetic disorder was 16% and oppositional defiant disorder was 8%. The other diagnoses were major depressive disorder (6%), generalized anxiety disorder (6%), separation anxiety disorder (2%) and other anxiety disorder (8%).

Table 2: Distribution of emotional and behavioral disorder among mental retarded children

Severity of mental retardation	Psychiatric disorders		P value
	Emotional disorder	Behavioral disorder	
Mild	9 (81.8%)	2 (16.7%)	.002**
Moderate	2 (18.2%)	10 (83.3%)	
Total	11 (100%)	12 (100%)	

† Figure within parentheses denoted corresponding percentages

Chi square test was done to measure the level of significance

** Highly significant (P < 0.005)

Table 2 shows that in mild mental retarded children and adolescents 9 (81.8%) had emotional disorders and 2(16.7%) had behavioral disorders. In moderate mental retarded children and adolescent 2(18.2%) had emotional disorders and 10(83.3%) had behavioral disorders. The result is statistically significant.

Table 3: Distribution of emotional and behavior disorders by Mean IQ.

category	Number of cases	Mean IQ of	SD	P value
	having psychiatric disorders	disordered respondents		
Emotional	11	59.45	8.548	0.0001**
Behavioral	12	45.50	5.317	

t- test (one tailed) was done to measure the level of significance

** Highly significant (P < 0.005)

Table 3 shows that mean IQ of emotional disorder children was 59.45. and mean IQ of behavioral disorder children was 45.50. The P value was highly significant. (P =0.0001)

Table 4: Distribution of respondents by age (in years)

Age	Psychiatric disorders		Total
	Present (n=23)	Absent (n=27)	
5-10 Years	16 (47.1%)	18 (52.9%)	34(100.0)
11-18 Years	7 (43.8%)	9 (56.3%)	16 (100.0)
Total	23 (46.0%)	27 (54.0%)	50 (100.0)

† Figure within parentheses denoted corresponding percentages

Chi square test was done to measure the level of significance

Chi-Square = .048; df=1; p< .827

Table 4 shows that in age group 5-10 years of respondents: psychiatric disorder present 16(47.1%) and absent 18(52.9%). In age group 11-18 years of cases: psychiatric disorder present 7(43.8%) and absent 9(56.3%).

Table 5: Distribution of total respondents by socio-demographic characteristics

Characteristics	Respondents n=50
Mean IQ	49.98±10.034
Age (in years)	
5-10	34 (68.0%)
11-18	16 (32.0%)
Sex	
Male	32 (64.0%)
Female	18 (36.0%)
Habitat	
Rural	26 (52.0%)
Urban	24 (48.0%)
Religion	
Islam	44 (88.0%)
Hinduism	6 (12.0%)
Educational status	
No education	31(62.0%)
Special education	15(30.0%)
Up to primary	4(8.0%)
Up to secondary	0(0.0%)
Monthly family income in Tk.	
<10000 Tk.	19 (38.0%)
10000-20000	16 (32.0%)
>20000 Tk.	15 (30.0%)

Figure within parentheses denoted corresponding percentages

Discussion

Childhood is the perfect period of one's physical, mental, social and moral development. Since the experience and attitude of this age is carried throughout his life and determine to a considerable extent how the child will adjust to later life. Childhood is not a homogeneous epoch and child change with age. Many psychiatric conditions in childhood are distortions of psycho-social development. The child's disorder must therefore be appraised in a developmental context. An influential conceptual approach emphasizing this and thereby forging links between the study of development and psychiatric disorder is termed

developmental psychopathology. This concerns itself with explanations as to why variations between children arise in emotional, behavioral and cognitive development, examines the continuities and discontinuities between normality and abnormality and considers interactions between genetic and environmental influences. Disorders are understood to be the outcome of complex interactions between etiological factors rather than resulting from single disease processes.

Mental retardation is not a disease: rather it is the result of a pathological process in the brain characterized by limitations in intellectual and adaptive function. The

cause of mental retardation is often unidentified, and the consequences become evident by a person's difficulty with intellectual functioning and living skills. It is, therefore important to understand and focus probable emotional or behavioral disorders of mentally retarded children for their healthy and sound mental developmental functioning. Reviewing different literature on mental retardation, we tried to understand the distress of huge burden of psychiatric problem on children with mental retardation considerable evidence indicates that emotional and behavioral problems are more frequent among mentally retarded children than without mental retardation. Our study was a cross sectional study done in patients attending psychiatric care-facilities in a tertiary hospital. We observe psychiatric disorder among child with MR was 46%. This result is consistent with the prominent Isle of Wight study⁶. The prominent study about the frequency of psychiatric disorders was conducted in Isle of Wight by Rutter and his associates. The results were three to four times greater for children with mental retardation than for children with normal intelligence.

We found different specific types of emotional and behavioral disorders among children with mental retardation. These include major depressive disorder (6.0%), generalized anxiety disorder (6.0%), separation anxiety disorder (2.0%), other anxiety disorder (8.0%), hyperkinetic disorder (16.0%), and oppositional defiant disorder (8.0%). All of these have higher incident among children with mental retardation, but the result were statistically non significant due to small sample size which was a limitation of this study.

Reiss found the prevalence of anxiety

disorders among children with mental retardation was 31.4% of individuals at a community based day program for individuals with MR¹¹. A small European study of a psychiatric clinic for children younger than 16 years of age with mental retardation found that 22% had anxiety disorders¹². The reported prevalence of hyperkinetic disorders among European children with mental retardation was 11%¹³. These findings are consistent with the present study.

The present study shows that emotional disorder (81.8%) are more common among mild mentally retarded children and behavioral disorders (83.3%) are more common among moderate mentally retarded children. The findings also consistent with the Isle of Wight study (Rutter, 1970), have found that the frequency of most behavior disorder is inversely related to IQ among children with and without mental retardation⁶.

In Bangladesh, generally emotional disorders are the commonest childhood psychiatric diagnosis¹⁰. Mulla, Khanam and Islam (1995) found that the largest group of children (32.5%) attending outpatient department of the Institute of Mental Health and Research had emotional disorder. This may be due to protective factors of Bangladeshi culture, this may have reflected in the present study.

The findings emphasize the necessity to evaluate and address psychological problems in children with mental retardation. We suggest that assessment of the child's behavioral and emotional functioning in early childhood can make children proper function in future life.

In the light of this research work, the researcher recommended to make awareness among parents, mental health workers, agencies who work for mental

retardation about psychiatric disorders, to arrange programs where psychiatrist, pediatricians, neurologists, psychologist, social workers, school teachers and psychiatric nurses will work together as a multidisciplinary team for children and adolescents on the management of psychiatric disorders with mental retardation. Treatment of emotional and behavioral disorders should be made available in the hospital and provide parent education. Further multi-centered prospective and population-based studies should be designed to find out the exact situation.

Psychiatric morbidity was significantly present in children with mental retardation that was found in this study and supported other represented studies that need to be addressed. The findings emphasize the necessity to evaluate psychiatric problems in children with mental retardation for early diagnosis and proper management to improve the quality of life of those children.

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