

## Prevalence of Psychiatric Disorders in Western U.P. Region- A School Based Study

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### Abstract

**Background:** Psychiatric epidemiology has contributed a lot in the etiology of mental disorders. It deals with important aspects like disease, distribution of disease, determinants of disease, human population and methods employed to control the occurrence of illness. Children and adolescents are at high risk of developing mental disorders. Epidemiological studies conducted in India on mental and behavioral disorders report varying prevalence rates, ranging from 9.5 - 10.2 percent.

**Aims & Objective:** The basic aim of this study was to know the overall prevalence rate of psychiatric disorders of children and adolescents in a school based study and to evaluate how the false reporting due improper knowledge can be avoided.

**Material & Method:** This study was conducted on 1100 students with male to female ratio 1: 0.9. The sample was collected by Stratified sampling technique. ICD- 10 criteria tools was used. Statistical Analysis was done using appropriate test like "t" test and Chi-Square test

**Result:** Total prevalence of psychiatric disorder was found to be 11.48%. Chi-Square analysis indicated no significant difference in prevalence between the number of male and female children. There were no significant differences among the prevalence rates among the children who belonged to middle-class urban, and the rural areas ( $p>0.5$ ).

**Conclusion:** Psychiatric epidemiologists need to move beyond their current opinion and policies to develop collaborations with their colleagues involved in preventing mental illness as well as with social policy analysts, who are currently at the forefront of developing, implementing, and evaluating intervention.

**Key Words:** Psychiatric Epidemiology, Mental Disorders Screening Tools

### Introduction:

Psychiatric epidemiology is the study of the distribution and determinants of mental illness frequency in humans, with the aim of understanding and controlling the occurrence of mental illness. Prevalence of mental disorders among children has been reported to be 14-20% in various studies.<sup>1,2</sup> According to World Health Report (2000), 20% of children and adolescents suffer from a disabling mental illness worldwide.<sup>3</sup> The issue of childhood psychiatric morbidity is more serious in middle and

low income countries because these countries have a much larger proportion of child and adolescent population; much lower levels of health indices; poorer infrastructure and resources to deal with problems. Child welfare agencies are increasingly being encouraged to screen all children for mental health concerns. The Child Welfare League of America (CWLA) asserts that, "A standardized, screening and assessment protocol, used by all systems, to identify at-risk children and accurately assess their mental health. For this purpose

instruments that are designed to identify children and adolescents who are at-risk of having mental health problems or concerns and would most benefit from more in-depth assessment.”

Psychiatric disorders are known to vary across time within the same population and also vary across populations. Most of the community-based Indian epidemiological studies are on point prevalence. These community-based epidemiological studies conducted in India on mental and behavioral disorders report varying prevalence rates, ranging from 9.5<sup>4</sup> to 102<sup>5</sup> per 1000 population.

The adult epidemiological finding that mental disorders have early ages of onset has created interest in the minds of psychiatrist. Children and adolescents are at high risk of developing mental disorders. The majority of available Indian psychiatric epidemiological studies have not utilized specific tools for addressing the disorders in children and adolescents. Most of the researchers formulated their own screening instruments in which they have missed out mental apathy in children and adolescents.

Hence this article attempts to critically evaluate the (overall) prevalence rate of psychiatric disorders in India. Epidemiological data from western Uttar Pradesh would be critical in outlining needs for mental health services

## Material & Methods:

The sample was selected by stratified sampling. (Different groups in demographic area). All children (except a few) below 16 year from a school were included in the study after obtaining informed consent from Principal, and guardians. Ethical Clearance was taken from ethical committee of the Teerthanker Mahaveer University, Moradabad.

## Tools

Psychiatric diagnosis was made as per ICD-10 criteria.

**1. Socio demographic proforma (SDP):** This is 17-item proforma .It shows details like type of area, informant, name of the head of the household, address, caste/religion, family

income, family size and number of children below the age of 16 years.

- 2. Screening checklist (SCL):** This 33 item checklist covers a range of behaviour problems usually present among children aged 0-3 years, but can be used for age above 3years.
- 3. Child behaviour checklist (CBCL):** The 113-item behaviour problems section of the CBCL is used as a screening tool for 4-16 years old.
- 4. Additional module (AM):** An additional module with 12 items in a yes/no format is added to screen for developmental disorders, scholastic problems, epilepsy, mental retardation, enuresis and phobias.
- 5. Children’s behaviour questionnaire (CBQ):** The Children’s Behaviour Questionnaire rated by teachers.
- 6. Felt treatment needs (FTN):** This 8-item questionnaire in a yes/no format is prepared to assess parental awareness of their child’s problems.
- 7. Diagnostic interview schedule for children (DISC):** The DISC is a structured diagnostic interview schedule, with two parallel versions. One with the parent as informant (DISC-P) for children aged 6 year and above and the other with the child as informant (DISC-C), for children aged 12 year and above.
- 8. Structured interview schedule (SIS):** The SIS is compiled from the DISC – P to evaluate children aged 4-6 year.
- 9. Parent interview schedule (PIS):** A shortened version of this semi-structured interview schedule is used to assess disturbance in the child’s family and environment.
- 10. Vineland social maturity scale (VSMS):** An Indian adaptation of the Vineland Social Maturity Scale.
- 11. Binet kamat test (BKT):** This Indian adaptation has items at each age level and yields intelligence quotient.
- 12. Specific learning disability (SLD) battery:** A battery of tests to assess attention, reading, writing, spelling, comprehension, arithmetic,

visuo-motor skills and auditory and visual memory.

- 13. Children's global assessment scale (C-GAS):** It reflects the lowest level of functioning of the child during a specified period of time and measures the degree of functional impairment.
- 14. Physical examination proforma (PE):** This includes a general physical examination and a systems review.

**Procedure:**

The main study commenced with the screening followed by the detailed evaluation stage. All children aged 4-16 year were screened using age appropriate screening instruments. Children selected as positive were taken for a detailed evaluation. A doctor placed in community center was requested to physically examine all children. Clinician's judgment was used to combine the information and make the final diagnosis. Statistical analysis was done using appropriate tests.

**Results:**

**Table No.1: Psychiatric Disorders Present in Children 4-16 Years**

Name of disorder	Number of cases	Percent
Mild depressive episode	1	0.09
Social phobia	2	0.18
Separation anxiety disorder	1	0.09
General anxiety disorder	2	0.18
Simple phobia	18	1.63
Agro phobia	1	0.09
Panic	2	0.18
Enuresis	38	3.45
Stammering	12	1.09
Pica	4	0.36
Behavior disorder NOS	5	0.45
Sleep disorder	2	0.18
Non organic encopresis	1	0.09
OCD	3	0.27
Conduct disorder	1	0.09
CD (NOS)	1	0.09
Oppositional defiant disorder	6	0.54
Trans tic	1	0.09
Chro tic	1	0.09
Feeding disorder	2	0.18
ADHD	8	0.72
Hyperkinetic .cd	1	0.09
Other psychiatric disorders	3	0.27
Mild mental retardation	7	0.63
Moderate mental retardation	3	0.27
Severe mental retardation	1	0.09
<b>Total</b>	<b>127</b>	<b>11.48</b>

Out of 1285 Students 1100 students could be examined due to many factors like absence from the school and lack of co-operation by some students. Out of 1100 students whom we put under study 127 students showed some sort of psychiatric disorders mentioned in Table No. 1. Out of 1100 students 25.6% students were in the range of (4-6 years) and remaining 74.4% were in the age range of (7-16 years). Response to information was poor from children below 6 years of age and sufficiently good among 7-16 years of age. Response to different assessment tools for different age groups was also significantly different. The response to Child behavior checklist (CBCL) was the best followed by PIS & CBQ. Mothers was found to be the best informants followed by grandparents, father and local guardians. (CI: 9.8-12.6%) indicated a 93 per cent certainty. Chi-square test showed that there is considerable difference in prevalence of psychiatric disorders between 4-6 and 7-16 years of age in which former being the more susceptible (Chi Square=5.86)

Total prevalence of psychiatric disorder was found to be 11.48%. Chi-Square analysis indicated no

significant difference in prevalence between the number of male and female children. There were no significant differences among the prevalence rates among the children who belonged to middle-class urban, and the rural areas ( $p>0.5$ ).

The most common findings of interest were enuresis (3.45%), simple phobia (1.68%) & stammering (1.09%). This school is located in urban area, for the sake of confidentiality name of the school cannot be mentioned here.

### Discussion:

Psychiatric epidemiology has been defined as 'the study of the distribution of mental illnesses in a population<sup>6</sup> and psychiatric disorders represent a substantial and pervasive health burden.<sup>7-9</sup> The ultimate goal of epidemiology is to contribute to the understanding of the onset and course of disease and thereby to its prevention and control.<sup>10</sup> Studies on childhood mental disorders are scarcely available in literature. Some of the studies conducted on mental disorders are tabulated in Table No. 2.

**Table No. 2: Studies of Psychiatric Epidemiology in Different Parts of World**

S.N.	Place	Prevalence (%)	Authors
1	Ethopia	17.7	Tadesse et al, 1999 <sup>11</sup>
2	Bangladesh	15	Mullick & Goodman 2005 <sup>12</sup>
3	Brazil	12.7	Flietlich & Goodman 2004 <sup>13</sup>
4	Canada	18.1	Offord & Ontario 1987 <sup>14</sup>
5	Germany	20.7	Weyerer et al, 1988 <sup>15</sup>
6	Switzerland	22.5	Steinhausen et al, 1998 <sup>16</sup>
7	USA	21	United States Department of Health and Human Services, 1999 <sup>17</sup>
8	Bangalore	12.5	Srinath et al, 2005 <sup>18</sup>
9	Kerala	9.4	Hackett et al, 1999 <sup>19</sup>
10	Chandigarh	6.3	Malhotra et al, 2002 <sup>20</sup>
11	Present study Hapur	11.48	Sarda et al, 2013

Two community-based Indian studies<sup>21,22</sup> reported surprisingly low prevalence rates School going children, 0.6 and 0.0 per cent respectively. This strengthens the issue of using appropriate assessment tools to identify childhood psychiatric disorders. Studies from other countries<sup>23</sup> reported a prevalence rate of 17.5 per cent in two-stage studies. The rate of 12.4 per cent for the entire sample (0-16 yr) validates the conclusion that prevalence rates in India are definitely lower.

There are only a few epidemiological studies which were exclusively conducted to assess the prevalence rate in the children. The first study in this regard reported a prevalence rate of 94 per 1000 in a sample of 1403 rural children aged 8-12 years.<sup>24</sup> Another methodologically strong ICMR-sponsored study conducted by<sup>18</sup>, has reported a prevalence rate of 12.5% among children aged 0-16 years.<sup>19</sup>

It has been reported that most of the childhood onset disorders have higher incidence in males, whereas, most of adolescent disorders are more in females.<sup>25</sup> This difference was not found in our study which may be due to any factor which limits the specificity and sensitivity of present study. The epidemiological finding that mental disorders have early ages of onset has promoted interest in the mental health of children and adolescents. Two reasonable factors limit studies of younger generation: Childhood disorders poses special challenges for their assessment; and it is very difficult to carry out direct interviews with children, making it necessary to rely on parents and teachers as informants.

Even when children are old enough to be interviewed, questions arise about their integrity to understand questions.<sup>26</sup> How so ever, there is a problem in this; that informant reports often diverge.<sup>27</sup> This creates problems in knowing how to combine the different reports into overall prevalence estimates.<sup>28</sup> There are reports that ethnicity is one of the factors in prevalence of psychiatric disorders in children. In a report of a survey of mental health of children and adolescents in Great Britain,<sup>29</sup> it was shown that the overall psychiatric disorder, among 5-15 years, as per ICD-10, was 10%.

Costello et al<sup>30</sup> in their review of epidemiology of childhood psychiatric disorders have opined “that onset before adulthood may be a characteristic of the majority of adult mental disorders”. The present study showed lower prevalence rate of psychiatric disorders, this might be due to the reasons that we have excluded children with severe psychopathology and mental dysfunctions.

In addition to addressing above barriers, we recommend that researchers should keep in mind the following assessments prior to adopting mental health screening in schools: availability of trained staff and other resources to conduct screening, selection of age-appropriate screening measures, confidentiality and information-sharing between schools and collaborating community agencies & availability of mental health providers.

### **Conclusion:**

Psychiatric epidemiology lags behind other branches of epidemiology due to difficulties encountered in conceptualizing, defining a case, sampling technique, and lack of trained manpower. Descriptive epidemiological studies are often used by community based agencies to estimate the magnitude of untreated disorders and to study barriers to receiving treatment for purposes of planning future changes in outreach and treatment activities. We need some other approaches to increase the usefulness of such surveys for resource allocation planning purposes. A good deal of work along these lines is currently in progress. A number of short fully structured measures of psychopathology have been developed to screen for clinically significant mental disorders. These instruments can be self-administered in very less time and yield fairly accurate assessments of overall psychopathology. These characteristics make such instruments much more feasible. A number of encouraging advances have occurred in psychiatric epidemiology over the past twenty years. However, uncertainty regarding diagnostic categories and criteria and underreporting due to respondent reluctance to admit symptoms continue to be major sources of difficulty. Psychiatric epidemiologists need to move beyond their current

opinion and policies to develop collaborations with their colleagues involved in preventing mental illness.

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