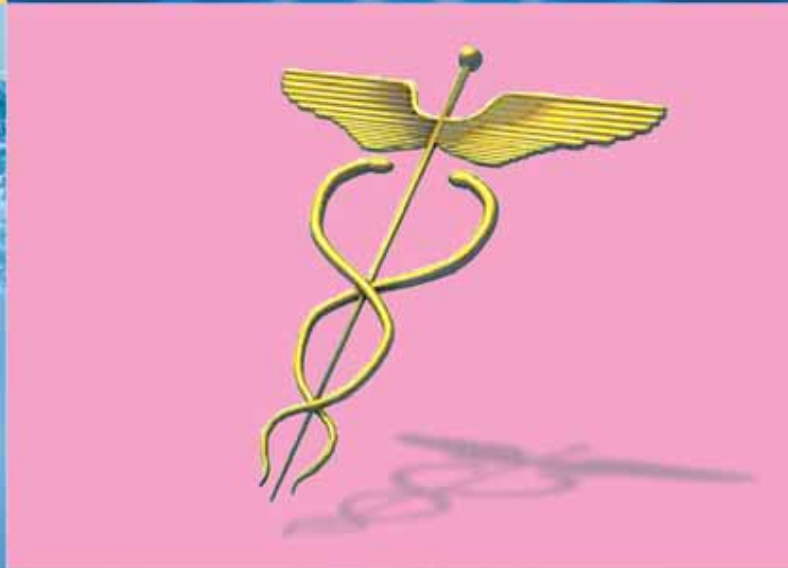


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METABOLIC SYNDROME IN SEVERE MENTAL ILLNESS : A NEW CHALLENGE

Dr. G. Prasad Rao*

More than twenty years back Reaven noted that obesity and insulin resistance were very often accompanied by glucose and lipid metabolism disorder as well as other cardio vascular risk factors. The term “insulin resistance syndrome” and “syndrome X” were used to denote the cluster of cardio vascular risk factors accompanying obesity and insulin resistance. Subsequently many diagnostic criteria for metabolic syndrome emerged, like NCEP-ATP III, WHO definition (Malhotra S. McEtroy SL & Primary Psychiatry vol 10.No 11.2003). The impact of Metabolic syndrome is by now revealed by the finding of numerous studies that prevalence of coronary heart disease (CHD), stroke, Myocardial infarction and type 2 diabetes are greatly increased in person associated with Metabolic syndrome.

Metabolic syndrome is undoubtedly Multifactorial and both genetic and environmental contribution is by now an accepted fact.

The connection between severe mental illness and the Metabolic syndrome is emerging as a major public health problem of importance for both psychiatrists and primary care practitioners (Toalson P, Ahmed et al 2004) Evidence of increase occurrences of metabolic disturbance are common in the patient with severe persistent mental illness with particular emphasis with psychotic and mood disorders.

The prevalence of obesity in individuals with schizophrenia has genuinely been thought to be greater than individuals without disorder (Gopalswamy AK and Morgon et al 1985). Thakore et al have shown increased visceral fat distribution was present in individuals with schizophrenia. More recent evidence has pointed out increased metabolic syndrome in Schizophrenia patient (Kato et al 2003 Lilleral et al 2003).

Markers of Metabolic syndrome, life style factors were correlated to be associated, in a 7.5 years follow up study by Rikkoness et al (2003). Likewise the association between obesity and bipolar mood disorder

has been focus of many a studies and in general, that bipolar disorder patient on a average are more obese than general population (Me elroy elal 2002, elmslic et al 2001).

The challenge of Metabolic syndrome occurring due to atypicals and mood stabilizer is the more recent challenge, psychiatrists face and at times it is difficult to differentiate if the occurrences of Metabolic syndrome in due to the psychiatric disorders or due to the atypical (Lillterell et al 2003 and Eitterll et al 2003).

Fagiolini and his coworkers have analyzed the trend of obesity occurring in bipolar patient due to medications, have observed that the tendency of weight gain occurs early during the course of illness. Likewise in bipolar disorder, diabetes co-occurs more frequently. However depression and diabetes doesn't seem to have association (Talbotad Nowwen et al 2000).

The common pathophysiological link between obesity, diabetes, mood disorder and Metabolic syndrome may be hypercortisolemia. Likewise visceral obesity is associated with insulin resistance and diabetes. There is thus, now more than lurking danger of the chronic psychotic disorder, either because of the disorder factor or due to the medication used, of increasing the Risk of Metabolic syndrome in the patient population.

PREVENTION:

In conclusion patient with severe mental disorder and particularly schizophrenia and bipolar mood disorder have been demonstrated to have higher *prevalence* of Metabolic syndrome or its components compared to general population

Hence it is prudent to start using baseline and periodic medical evaluations as standard component of clinical practice in our day to day management of severe mental disorder.

Likewise using both behavioral and other management techniques for the management of obesity and

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hypercortisolemia is becoming a routine. Patient education about this component of metabolic syndrome will also help in the patient acceptance of the disorder and also drug compliance when help in the achieving long term success. It is almost mandatory for us to closely follow our patients and watch for early occurrence of Metabolic syndrome components.

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FOCUS ISSUES IN PSYCHIATRIC EPIDEMIOLOGY : SPECIAL REFERENCE TO INDIA

Dr. J.K.Trivedi*

Dr. Sujit Kar**

ABSTRACT

Psychiatric epidemiology studies frequency of mental disorders in a given specified population. It covers disease symptomatology to risk factors and outcome. The epidemiological research in psychiatry is based on collection of data of interest from specific population. Epidemiological researches face many hurdles in collecting data to reaching at a conclusion. Many notable advances have occurred in psychiatric epidemiology over last two decades. This review article focuses on different aspects of psychiatric epidemiology and barriers of mental health care delivery with special reference to India.

Key words : *psychiatric epidemiology, epidemiological research, hurdles, India.*

INTRODUCTION

Epidemiology is defined in different ways by different authors till now from the era of Hippocrates, but the most accepted definition of epidemiology was given by John M. Last, who defined epidemiology as the study of “distribution and determinants of health-related states or events in well defined populations and the application of the study to control them”.¹ Epidemiology is rational for public health policies and services. It is also important in evaluating the public health policies and services but not in delivering and implementing those services and policies respectively.² Psychiatric epidemiology is one of the important sub-branches of epidemiology dealing with frequency, distribution and evaluation of mental health related events. It covers disease symptomatology to risk factors and outcome.

EPIDEMIOLOGY IN MENTAL HEALTH

The psychiatric epidemiology measures

- I. Frequency of occurrence of mental illness
- II. Distribution of mental illness in a given population

(i.e. distribution of the mental illness among different age groups/gender/race/religion)

- III. Determinants of mental illness for testing or formulating epidemiological hypotheses (determinants can be etiological factors, risk factors, prognostic factors etc.)

The epidemiological research in psychiatry is based on collection of data of interest from specific population. Assessment and quantification of the collected data is done by –

1. measurement of random variables
2. estimation of parameters of population
3. statistical analysis of epidemiological hypotheses

Preventive programs are planned for a defined population on the basis of studying the effect of intervention on disease frequency. The studies compare the rates of mental illness in the population receiving specific intervention with the population not receiving any specific intervention. By this study methods different risk, protective and prognostic factors are evaluated.

In epidemiological studies, quality of data is very important. Ideally the data should be accurate, precise, reliable and valid one. To get a good quality data of mental disorders, the diagnosis should be accurate. For accurate diagnosis, the diagnostic criteria is examined on the basis of four parameters –

- I. specificity
- II. sensitivity
- III. negative predictive value
- IV. positive predictive value

Most of the epidemiological studies measure the disease occurrence by measuring “incidence”, “prevalence” and rarely by measuring absolute number of diseased population. Analysis of data is done by applying statistics.

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Risk factor association is measured by “attributable risk”, “relative risk” and odd’s ratio.

In epidemiological research, the basic study design can be “*descriptive epidemiology*” or “*analytical epidemiology*”. The descriptive epidemiology includes three types of studies:

- correlational (ecological) study
- case reports and case series
- cross-sectional surveys

The analytical epidemiology, the study design is of two types –

- o observational study (includes cohort study or “follow-up” study and case control study)
- o experimental study

Epidemiological studies in mental health are more prone for bias. Bias can occur due to defective method of data collection, analysis, interpretation, publication or review of data.

In last 20 years, National Institute of Mental Health (NIMH) provided support to population based epidemiology in mental health. In the 1980s, Epidemiological Catchment Area (ECA) study in United States provided the scenario (prevalence) of mental disorders of the country as per the DSM-III diagnostic criteria.³ In the 1990s, the National Co-morbidity Survey (NCS) studied the prevalence of mental disorders in a sample of US population as per the DSM-III diagnostic criteria.⁴ These studies laid the foundation of modern psychiatric epidemiology in United States. It has also provided the concept of use of –

- i. structured diagnostic assessment tools that a lay person can administer.^{5,6}
- ii. diagnostic validity evaluation comparing interviews conducted by lay persons and professionals.^{7,8,9}
- iii. sampling strategies to identify samples representing a nation

The combined effort of Epidemiological Catchment Area (ECA) study, National Co-morbidity Survey (NCS) and many more relevant international studies in psychiatric epidemiology had shown high prevalence of mental illnesses in general population.¹⁰⁻¹² The diagnostic criteria adopted from Diagnostic and Statistical Manual in National Co-morbidity Survey – revised (NCS-R) was diagnostically reliable but not

valid. It studied the symptoms in population based samples.¹³ The limitations in (NCR-S) are due to unavailability of more valid diagnostic criteria. Assessment of the burden of psychiatric disorders, associated co-morbidities and mental health care delivery service are essential elements of national and international mental health policy. There are several factors that influence epidemiology of disorders. In psychiatric epidemiology, these factors have crucial role. These factors are –

- migration of population
- cultural factors
- limited resources (fund, trained staff, etc)

In epidemiological studies, while studying and working in a mental disorder, the investigator should have knowledge about the cultural background of the patient and his family as the cultural factors influence the clinical presentation and likely possibility to respond to treatment.¹⁸ In developing countries, migration is a big issue. Migration can extend from “rural to urban area” to “country to country”. Migration of population has great impact on disease epidemiology. Due to limited resources (i.e. inadequate funding and / or unavailability of trained staff and psychiatrists) in developing countries detection, diagnosis and documentation of data are not accurate.

FOCUS ISSUES IN PSYCHIATRIC EPIDEMIOLOGY

In several epidemiological studies, disease frequency is related to health care requirement and delivery. Currently much importance is given to the data regarding frequency and distribution of mental illness and its impact on mental health care delivery. Another area of interest in psychiatric epidemiology is assessment of effectiveness of different treatment modalities in mental illness and mental health care delivery.

Another challenge in psychiatry is determining epidemiology of mental illnesses in children and adolescents. In developing and developed nations, psychiatric epidemiology need to demonstrate the burden of mental illness in terms of incidence, prevalence and more over cost of mental health care. A series of epidemiological studies revealed that there is no difference in clinical manifestation of psychiatric disorders in developed countries in comparison to developing countries.¹⁷

In current scenario, epidemiological study guidelines are accessible to majority of countries. It depends on the policy of the governments to set their priority in providing mental health care and providing resources for it. The pharmaceutical companies play a crucial role in providing education, funding epidemiological research, population based trials, and direct public education throughout the world. But at the same time it is observed that pharmaceutical industry's focus often remains in specific disorders and areas of their own interest. At times they over emphasize certain aspects of disorders which in true sense carry little significance. It leads to misconception about incidence and prevalence of mental disorders. Very often disorders like ADHD and anxiety are over-diagnosed. This biasing varies from country to country. Due to inadequate resources and /or underdeveloped infrastructure often mental disorders are under- diagnosed and mental health care facility is not accessible to majority of the population. Currently there is increasing concern for development of integrated mental health care delivery systems in most of the developed countries and few developing countries.

INDIAN CONTEXT OF PSYCHIATRIC EPIDEMIOLOGY

India is a heavily populated country with extreme variation in languages, culture, religious practices, climate, level of education, socio-economic status and availability of mental health care facility. In country like India where majority of population reside in rural areas being dependent on cultivation and deprived from the available limited health care facility, meeting the mental health needs of the community is always a challenge. In India, mental health is an important and essential element of public health due to high prevalence of mental illnesses in the community adding to its burden.¹⁴⁻¹⁵ Epidemiological studies revealed – out of the 10 leading causes of disability adjusted life years (DALYs), four are mental disorders. But the epidemiological studies demonstrated varying prevalence of mental disorders in Indian population which matches with findings of different international epidemiological studies.²⁵⁻²⁶ Different population based studies explored that mental disorders are highly prevalent among following population group¹⁶ -

- living under rapid social change
- natural calamities & disasters
- conflict situations

- migrant populations
- poor people
- farmers under financial crisis

Factors that may influence the findings of epidemiological studies on mental health in India are-

- i. variation in used diagnostic tools
- ii. unavailability of diagnostic and structured interviewing tools in different languages
- iii. continuous and rapid migration of rural population to urban slums
- iv. stigma leading to under reporting
- v. unavailability of trained staff to carry out epidemiological studies
- vi. absence of mental health policy
- vii. cultural beliefs
- viii. exclusion of private sectors from study
- ix. poor source of information and many other factors

In India, there is scarcity of psychiatrists, nurses and staff trained in mental health, epidemiologists and statisticians. Available psychiatrists are involved in providing mental health care facility due to heavy burden of patients in hospitals and clinics. Very few trained professionals are interested in epidemiological research. There is poor documentation of data related to mental health. All these factors ultimately lead to failure of epidemiological studies. Most of the diagnostic and structured interviewing tools are available in English, Hindi and very few regional languages. When these tools are used by lay-interviewers or investigators, there is always risk of erratic framing / translation leading to over or under rating of the illness.

In India, rapid urbanization in past few decades resulted in migration of rural population to urban areas. The migrated population group is likely to produce errors in epidemiological studies.

Social stigma is strongly associated with mental disorders. In developing countries like India with extreme cultural diversity, stigma is a major hurdle in mental health care delivery. Stigma also leads to under reporting of mental disorders leading to serious problem in disease epidemiology.³⁰ Due to stigma, interviewers are unable to elicit reliable information about mental illness.³¹

Traditional healers constitute a major portion of health care facility provider. Due to cultural beliefs large

portions of the population seek the help of traditional faith healers.²⁰ Traditional healing is very common with mental disorders. Due to existence of these unqualified traditional healers in the community a big portion of patients with mental disorders are not able to reach to a qualified mental health professional. This data is always lacking from all epidemiological studies.

The Government of India is providing health care facilities through different health care delivery systems at reasonable or free of cost. Simultaneously many private sectors provide health care facility across the country, but it is costly. In last few decades, the private sectors have emerged as an important health care delivery system in the country. Most of the epidemiological studies consider the data from government sector and ignore the data of private sectors.¹⁹ Poor source of information in India, makes the epidemiological studies error prone. Other factors like poverty, illiteracy, changing family dynamics, poor initiative by the government and unconcern staff are important factors that influence psychiatric epidemiology.

Earlier epidemiological studies conducted in India were inefficient in detecting anxiety disorders, phobic disorders, personality disorders, substance abuse, sexual dysfunction, mild depression etc due to ignorance or under reporting or stigma or defective screening procedure.^{25,27,28,29}

Till now, India does not have any separate mental health policy. So, all expenditures for mental health come from the fund for general health policy. Government of India runs a programme in the name of National Mental Health Programme (NMHP) to make mental health accessible and affordable for all. This programme aims at delivering basic mental health care facility, studying the distribution of mental health in community and epidemiological research in mental health. There are many fallacies, notably time-limited funding,²²⁻² lack of need based approach, that make this programme less effective.²⁴ Recently much importance is given to mental health in India. The Tenth Five Year Plan (2002-2007) has increased the funding eight times for the National Mental Health Programme in the budget.

With rising concern for mental health, for last 20 years many non-governmental organizations (NGOs) got themselves involved in delivering mental health care in India. The NGOs also conduct epidemiological studies

in different mental disorders. Few examples of NGOs involved in epidemiological research in India are –

- o for chronic mental illnesses like schizophrenia (the Schizophrenia Research Foundation, Chennai, and the Richmond Fellowship Society, Bangalore and Delhi)
- o for suicide (Sneha, in Chennai)
- o for elderly people (the Alzheimer's and Related Disorders Society of India (ARDSI) in Kerala and several other states)
- o for children (Sangath, Goa) and
- o for substance abusers (T. T. Ranaganathan Research Foundation, Chennai)

Through NGOs self-help groups are created which consists of the family members of patients with mental disorders.²¹

CONCLUSION

Epidemiology shows light to a wider aspect of psychiatric illness. Not only has it defined the illness in a particular individual, but also it looks towards the illness in terms of variation in its presentation, incidence & prevalence of the illness in the community, course and prognosis. Epidemiology is one of the important areas of research in public health. In India most researches in the field of psychiatry are in psychiatric epidemiology. Epidemiological research is very essential to know the disease as a whole. Epidemiological research is required to evaluate the relevance of implementing a study in a programme considering the cultural context. Though resources are limited in developing countries like India, but epidemiological studies and researches can be conducted in collaboration with other countries. In India most of the epidemiological studies lack innovative ideas and a good number of them are replication of western studies. Indian investigators need to develop better methodology considering its socio-cultural factors, language and religious diversity, availability of resources and relevant contextual factors into account.

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POST TRAUMATIC STRESS DISORDER IN CHILDREN (A FEW UNANSWERED QUESTIONS)

Dr. Avinash De Sousa

ABSTRACT

While recent years have seen a vast increase in the literature on adult trauma, interest in childhood trauma has only recently started gaining momentum. This has led to many challenging questions, new research and evidence based interventions. The present reviews looks at childhood onset post traumatic stress disorder (COPTSD) along with the challenges it poses for the busy clinician and researcher alike. Many issues remain unresolved and the directions available are fuzzy. This review looks at risk and protective factors in the development of COPTSD, conceptualization and promotion of resilience and newer emerging interventions that may enhance of the quality of life of children exposed to trauma.

KEY WORDS : Childhood onset Post Traumatic Stress Disorder.

INTRODUCTION

With the recent spate of terror attacks and bomb blasts across various nations, road and rail accidents occurring daily and more countries going to war with each other Childhood Onset Post Traumatic Stress Disorder (COPTSD) is on the rise worldwide and in India. Yet, in the present literature on psychological trauma and response to trauma, children occupy a disproportionately small place. This paradox reflects the tendency towards denial, and the skepticism regarding the existence of the severe effects of psychological trauma in childhood, resulting in the lack of proper care for many children that may need it. This present article looks at certain critical issues in COPTSD as well some controversies that surround it.

Children in India are exposed to psychological trauma every day, including life-threatening

accidents, disasters, violence in their families and communities, as well as physical, sexual and emotional abuse or neglect. We could add to this the effect of bullying by peers at school. Research on children shows that psychological trauma has a detrimental effect on their mental, physical and academic development.¹ Yet there is little systematic information about how they actually cope with trauma and the possible intervention methods to help them. At a global level, post 9/11 and serial bombings across various nations, trauma and terrorism have become a focus of international attention for professionals, social workers and the public.² The development of specific interventions for traumatized children has however not received major attention. Systematic and planned longitudinal research is needed to decipher how children not only cope but also grow and thrive after exposure to psychological trauma. This must be done while studying the longitudinal long term effects of trauma in the same child as he becomes an adult.³

Fortunately, scientific and clinical studies of the long-term impact of traumatic experiences on the developmental trajectories of children and adolescents are now beginning to appear more often. Clinicians and scientists are exploring the interplay of possible protective factors in coping, adaptation, resilience, and recovery from trauma, with sensitivity to the developmental phase of the child.⁴

Children exposed to trauma may develop a number of transient acute or chronic emotional, behavioral and physical problems that may include anxiety, depression, fears, physical ill health and COPTSD. Studies in the United States showed that at least two out of three children had experienced one traumatic event, with more than 12% percent of the exposed children developing posttraumatic stress disorder symptomatology. These are numbers from the

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developed world while data from India and less privileged nations will in fact reflect a worse state of affairs.⁵

Children exposed to trauma are at a double risk for developing childhood and adult psychiatric disorders compared to those not exposed, particularly anxiety and mood disorders. The prognosis is worse for children exposed to multiple traumatic events as they grow. An analysis of studies, also looks at the type of traumatic event as a contributor in this direction.⁶ It is also well known that traumatic events may at times differ across the sexes. This is common with rape and child sexual abuse being more common in girls while accidents, bullying and physical abuse or neglect being more common in boys.⁷ Studies point to the differential rates of posttraumatic distress after different types of traumatic experiences, such as maltreatment, traffic accidents, medical illness, disaster, war, and violence.⁸ It has also been noted that childhood interpersonal trauma was a greater risk factor for PTSD than accidents and other disasters while terrorism and man made events had an edge over natural disasters.⁹

Children take many different paths to recover from psycho-logical trauma and problems such as persistent anxiety, depression, anger, dissociation, alienation and impulsivity. Some children are adversely affected but show remarkable resilience in overcoming their initial stress reactions and regaining good adjustment while some show a waxing and waning course and alternate between periods of recovery and distress.¹⁰ Some children never fully overcome the impact of psychological trauma, and develop chronic psychological, behavioral, and medical problems that persist for the rest of their lives, becoming more extensive and severe over time. However many children seem almost immune to posttraumatic stress and grow stronger in the face of psychological trauma.¹¹

SHOULD A DIAGNOSIS OF PTSD IN CHILDREN BE AGE SPECIFIC?

The new diagnosis of posttraumatic stress disorder was officially introduced in DSM-III.¹² In the 1987 publication of the DSM-III-R,¹³ features of PTSD specific to children were added, to account for the unique characteristics of the clinical picture in childhood and developmental differences. Children with PTSD may not have (or disclose) actual

memories but may instead enact past traumatic experiences repetitively in play, artwork or peer relationships. Children or adolescents with PTSD also may regress developmentally in reaction to reminders of past traumatic experiences. For example, a school-age child may start bedwetting, become clingy, have separation anxiety or develop thumb sucking or habit disorders when exposed to family or community events that are reminiscent of early abuse experiences.¹⁴

There has been considerable amount of professional skepticism regarding the development of PTSD-type symptoms in previously healthy children who had been subjected to extreme stressors.¹⁵ The general opinion was that normal infants and young children were not seriously harmed in the long term by emotional, mental or physical trauma. The rationalization being that they were too young, or too psychologically and emotionally immature, to recall traumatic events they had undergone or experience their aftermath.¹⁶⁻¹⁷

The definition of what event could be traumatic for a child, and the developmental stage at which experiencing psychological trauma is critical, remains highly clouded and controversial. There are efforts on to enclose the effects of repeated developmental trauma into a diagnosis framework that should be complete by probably 2011-2012. The diagnosis, termed "developmental trauma disorder" (DTD), is an attempt to capture the unique qualities of children's reactions to trauma. This diagnosis better reflects the fact that children are most often traumatized within relationships and that children exposed to trauma are likely to develop unique symptoms that are markedly different from adult PTSD. Interpersonal trauma may have a differential impact depending on the child's stage of development.¹⁸ Security issues and attachment concerns for the child which may influence symptom formation, may also be age and culture specific for various children.

ARE DEVELOPMENTAL PATHWAYS FOR POST TRAUMATIC CHANGE SPECIFIC FOR EACH CHILD OR COULD WE HAVE GENERALIZATIONS?

Researchers have identified seven specific trajectories of functioning that may occur following a child's exposure to any form of psychological

trauma.¹⁹ Resistance (i.e. continued positive functioning), resilience (i.e. initial disturbance followed by rapid full recovery), post-traumatic growth (i.e. initial distress followed by an acceleration in positive development and functioning), and protracted recovery are trajectories that lead to relatively good outcomes. Severe persisting distress, decline (i.e. initial stress-resistance followed by deterioration), and stable maladaptive functioning are unhealthy trajectories.²⁰ These trajectories act as starting points from where clinicians and researchers can develop models to predict the course of change for individual traumatized children to whom they are providing services, or specific groups of children whose change over time they are assessing. This should be done to empirically test and refine the theoretical trajectories of posttraumatic adjustment and functioning.²¹ A number of factors like the child's culture, parenting, religion, social class, presence or absence of psychopathology, type of psychological trauma and duration of exposure of trauma would need to be taken into account while framing these trajectories.

ARE THERE SPECIFIC RISK AND PROTECTIVE FACTORS FOR CHILDHOOD ONSET PTSD?

Children exposed to trauma respond in a unique fashion based on complex combinations of risk and protective factors. These factors may be divided into two groups viz. environmental and contextual factors with a special emphasis on the role of parents and individual determinants which include biological factors and their correlates. It has been proven that mass violence and human made disasters are more influential in causing PTSD than natural or technological disasters.²² Close proximity to the site of traumatic event or presence of the site was another factor that was correlated.²³ PTSD has been reported to be higher in Palestinian, Iranian, Black and Hispanic children. There are few available studies on culture and ethnic differences in COPTSD. Culture but has been shown to be both a protective and a risk factor.²⁴

The presence of social support is a very important protective factors and lack of it is a major risk factor for the development of adult PTSD. Researchers have even suggested that social support is the single-most strongest protective factor in PTSD.

Researchers have found that social support when adequate may be a protective mediator or a moderator of COPTSD as well as in helping children cope with stressors like accidents, violence and maltreatment. Current paucity of literature indicates a need for more work in this area.²⁵⁻²⁶ There have been a number of individual factors that have played a role in the development of COPTSD. These include duration of exposure to trauma, age of the child, gender (with an increased incidence in girls), cognitive capacity, self efficacy and neurobiology. Many of the above factors are either independent or interlinked to other risk factors.²⁷⁻²⁸

A related question is the converse one. Are there factors associated with positive trajectories of children's posttraumatic adjustment and functioning, and, if so, what are they. Why are some children able not only to avoid developing post traumatic disorders, but also to flourish in the wake of psychological trauma, to grow, learn, play, be physically healthy, and get along with people as well as, if not better than, prior to the trauma exposure. Most children who experience psychological trauma do *not* develop PTSD or other persistent psychological or behavioral problems, and many resume or experience positive psychological development (i.e. post traumatic growth). Further debate in this area is warranted.²⁹

WHAT ROLE DOES PARENTING PLAY IN THE DEVELOPMENT OF PTSD IN CHILDREN AND ADOLESCENTS ?

Parenting is vital factor for child and adolescent development in general. The power of parental attachment and bonding may be seen in the role these factors play in strengthening resilience and countering the negative effects of a problematic family and community in children from high risk backgrounds. A warm nurturing relationship with one or both parents definitely protects against the effects of family adversity. Close relationships with parents are also predictive of positive academic and peer relationships in the latency followed by a positive resilient entry into adolescence.³⁰

The presence of mental illness or psychopathology in one or both parents has been correlated with a higher risk of developing PTSD in childhood.³¹ There are a few possible mechanisms by which a transgenerational transfer of trauma can occur. The

first mechanism is called the silent mechanism where the child senses the parent's vulnerability and makes every effort to avoid providing any stimulus that will hurt the parent or remind them of trauma. This silence becomes a barrier between the parent and the child and prevents the child from seeking help or consolation from the parent. A second mechanism occurs when the parents reveal too much to the child describing their experiences in detail to the child so that the children become traumatized by their inability to handle the information. A third mechanism is called identification when the children are repeatedly exposed to their parent's post traumatic behavior and identify with the parental role as the victim and mimic the parent's behavior.³²

We might then ask whether parents play an essential role in influencing the post traumatic paths taken by children of every age. Paralleling the maxim stated by the psychoanalyst Frieda Fromm-Reichman, parental anxiety is the child's anxiety. Strong evidence exists that children are at particular risk for posttraumatic persisting distress or decline if their parents experience unresolved distress, decline, or maladaptive functioning (e.g. untreated psychiatric or substance use disorders).³³ In contrast, when parents are able to respond resiliently, not implacably resistant, but instead experiencing some very understandable distress and transforming these reactions into confident and empathic support for their child's recovery and growth, it acts as a sufficiently potent and facilitative protective factor. It serves to overcome many of the adverse effects of risk factors e.g. the child's emotional distress and family or community conflict across a wide range of potentially severe psychological traumas.³⁴

CAN PTSD BE DIAGNOSED AND TREATED IN EARLY CHILDHOOD?

There are many challenges in identifying PTSD in early childhood and infancy. Some studies have shown that even pre-verbal children may develop post traumatic symptoms, although detecting the presence of these symptoms is more difficult than in older children and adults.³⁵⁻³⁶ Eight of the official PTSD symptoms require *verbal* descriptions of internal affective states and memories, a task which is likely to be difficult for preschool and young children. Very young children rarely present symptoms that are classified as symptoms of PTSD.

Instead, they may present more behavioral and developmental problems, such as fears, separation anxiety, sleep disturbances, nightmares, sleep terrors, social withdrawal, regressive behavior, mutism and post-traumatic play in which they repeat themes of the trauma. Toddlers may fail to develop age-appropriate skills or even lose a previously acquired developmental skill such as toilet training.³⁷ It is essential that clinicians review the clinical and research literatures on the impact of and recovery from psychological trauma in very young children. Infants are remarkably resilient, and therefore may appear to be unaffected by life-threatening or abusive experiences that are profoundly shocking, terrifying, or horrifying to older children and adults.³⁸ However, infants also are largely dependent upon their caregivers not only for their physical survival but also for learning how to manage bodily and affective reactions to sustain the extremely rapid biological and psychosocial development that is the hallmark of this early phase of life. Infants learn and remember more than they can consciously know, because brain development is still creating the building blocks for conscious verbal and visuospatial thought and memory. Therefore, infants are paradoxically both highly protected against and extremely vulnerable to adverse developmental outcomes as a result of psychological trauma.³⁹ Understanding the risk and protective factors, and potential posttraumatic trajectories, that are specifically relevant to infancy is a continuing critical challenge for trauma and developmental psychology researchers and clinicians alike. This would further enhance their theories and hypotheses regarding developmental trajectories for older children and adolescents who develop PTSD.

HOW DOES GROWING UP IN A COMPLEX TRAUMATIC ENVIRONMENT AFFECT CHILD DEVELOPMENT?

A pivotal issue involves growing up under continuing severe adverse circumstances, i.e. complex traumatic environments. Although some children are more vulnerable than others to experiencing unfavorable developmental and psychosocial trajectories in the wake of psychological trauma, even very hardy, resilient children may develop PTSD or other forms of persistent post traumatic distress or impairment. This may occur if the trauma they have experienced is severe or prolonged enough

to overwhelm the buffering effects of the protective factors in their lives.⁴⁰ How do children survive, and in some cases thrive, when exposed to devastating traumas that tear the very fabric of their own and their family's and community's existence. Refugee child mental health studies describe the multiple stressors experienced by Sudanese youth who immigrated to the United States after spending much of their childhood amidst almost perpetual violence, profound physical, emotional, and educational neglect, and separation from or loss of their families.⁴¹ Studies on street children describe the intergenerational dilemma of living on the streets in massive urban environments including coping with violence, neglect, separation and loss, substance abuse, and a culture infused with the adverse effects of impoverishment and crime.⁴² Both researches highlight the severe and prolonged exposures to multiple psychological traumas experienced by these children, but also their remarkable resilience and the importance of protective factors such as religion, faith, supportive peer relationships, and an adult confidant as well as the sense of connection to people and to community that these provide even when children are separated from or lose their family or their entire community. Many survivors of childhood psychological trauma, especially when prolonged and pervasive, experience lifelong problems with physical illness and show isolation from relationships, even though they may have coped and recovered resiliently from PTSD or other mental health symptoms.⁴³ The remarkable resilience of many chronically traumatized children therefore should not lead us to disregard or discount the psychological and biological cost that these children pay to resist or recover from trauma. How do risk and protective factors interact with each other and with different types and amounts of trauma over time, to create a trajectory of post-traumatic adaptation which parallels and influences the child's psychological development and psychosocial maturation.⁴⁴

HOW CAN RESILIENCE BE PROMOTED IN PREVENTIVE CHILD PSYCHIATRY

It is important that child psychiatry clinicians sharpen the focus on post traumatic resilience by looking at the child's capacity for cognitive processing. We must conceptualize coping with trauma from the information-processing perspective. Healthy or successful coping thus is seen as the ability to

integrate the traumatic experience and its meaning into existing cognitive schemas. The challenge for the individual is to minimize the need for systemic change of schemas, which makes it possible to regain a flexible relationship with one's environment.⁴⁵ Another perspective on resilience is one that addresses traumatized children's need to draw upon inner and outer resources. This includes the domains of physical, inter-personal, informational, technological, and cultural resources that children must acquire and conserve in order not only to survive but also to continue to grow and develop in the wake of psychological trauma.⁴⁶ Researchers have provided a complementary taxonomy of the ecological systems that are necessary to support posttraumatic resilience in traumatized children - from the microsystem of the immediate physical environment and the home and family, to the mesosystem of relationships beyond the family, to the exosystem of environments and networks beyond the child's immediate participation, and on to the macrosystem of politics, culture, and technology that are the largely invisible infrastructure of each person's life.⁴⁷ Most scientific studies of the impact of psychological trauma on children focus on the child and family inner resources. There are a full array of other resources across multiple systems must be considered when investigating or seeking to enhance children's posttraumatic resilience.⁴⁸

WHAT IS THE BEST MODEL TO HELP TRAUMATIZED CHILDREN ACHIEVE RESILIENCE AND RECOVERY

It is easy to describe and indicate where vital resources such as self-confidence, mental agility and acuity, social support, sources of physical energy, and technological tools and equipment can be found. However, having the presence of mind to think of and draw upon these resources when in the midst of terrifying or horrifying experiences is a much greater challenge.⁴⁹ We must develop a bridge across the chasm from the theory and description of resilience to the actual promotion of post traumatic resilience in prevention and treatment, by focusing on the core competence of self-regulation. Self-regulation in children involves

- secure attachment patterns (seeking affection, receptiveness to nurturance, intimacy, partnering, managing the stress of separations, developing

inner values and beliefs that support healthy relationships)

- emotional intelligence (body awareness, detecting threats, seeking rewards, emotion labeling)
- mental regulation (focusing and sustaining attention, developing an inner conversation with one's own thoughts, what to forget, and creating a personal life story - autobiographical memory).

Each self-regulatory capability develops its foundation in early childhood.⁵⁰ Self regulation is a process of thinking first and then thinking while acting. Therefore, prevention and treatment for children who have survived psychological trauma can be understood as enhancing resilience by promoting self-regulation as an alternative to the survival coping characteristic of PTSD.

There are various new and emerging treatment methods for COPTSD with the aim of enhancing emotional regulation and attachment security in traumatized children and their families. Recent reports describe an evidence based Child Parent Psychotherapy (CPP) model, in which the caregiver and the very young traumatized child can repair the emotional injury of psychological trauma by reinstating the core process of co-regulation and together move toward mutually supported self-regulation.⁵¹ There are also reports of approaches to dyadic psychotherapy with traumatized infants and toddlers and their primary caregivers, showing that this can be achieved either through either a relational attachment-based approach or a behavioral parent-management approach.⁵² When children feel safe and calm enough to explore the environment and enjoy activities and relationships, they are able to focus on their immediate needs and interests - and not only to grow but also develop the capacity to self-regulate. As the care-giver and child resume their bonding and exploration of life together, their mutual reinstatement of self-regulation provides a positive cycle of resilience and renewal.⁵³

As children become more autonomous in the elementary school years and early adolescence, post traumatic self-regulation depends upon several conditions. The first step in helping children recover from PTSD is to create an environment that is truly safe for the child, that is, where the child has consistent supportive relationships and is not

threatened with physical, emotional, or mental harm.⁵⁴ The second step goes hand in hand with the first, enabling the child to have experiences that build and strengthen three fundamental self-regulation skills⁵⁵ –

- A balance of excitement and enthusiasm with careful planning and frequent course corrections.
- Thinking in advance about core goals and values, and basing choices on the likelihood of achieving these goals and fulfilling these values.
- Choosing to be with people who respectfully and appreciatively listen to, learn from, and build on the strengths that each brings to the relationship.

In middle childhood and adolescence, the entire family is profoundly affected when a child is traumatized. It is thus essential not only to bring to bear the resources of the family to support and protect the traumatized child, but also to replenish and enhance the family's often fragmented and frayed emotional and psychological resources when the whole family is experiencing traumatic shock.⁵⁶ When the family is able to face and manage the intense distress and challenges to their core beliefs and values that occur when trauma strikes a child, resilience and even growth become achievable.⁵⁷ There is no single model that can explain the mechanisms and promotion of post traumatic resilience. One has to encompass various individual biological and psychosocial factors into therapy before embarking on such therapeutic journeys.

CONCLUSIONS

Psychological trauma in childhood and COPTSD poses many painful, challenging and vexing questions. While clinicians seek to enhance recovery and resilience through psychotherapy, prevention specialists teach skills to enhance safety and resilience, and researchers seek better ways of understanding post-traumatic risk, resilience, and recovery. However their common goal is to transform the child and the human being the child would develop into. We must find innovative ways of answering the questions that must be addressed when psychological trauma strikes the life of a child. By exploring the nature and meaning of risk, resilience, and recovery, clinicians will have new perspectives to inform their vital work on with the millions of children whose lives are profoundly affected by psychological trauma.

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A PSYCHO SOCIAL AND FOLLOW UP STUDY OF DRINKING PATTERN OF ALCOHOL IN PATIENTS HOSPITALIZED FOR ALCOHOL DEADDICTION

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ABSTRACT

Alcohol consumption is known to be one of the most prevalent forms of substance use across the world. It occurs along a continuum, with considerable variability in drinking patterns among individuals. There is no sharp demarcation between “social” or “moderate” drinking and ‘problem’ or ‘harmful’ drinking. Several attempts have been made to classify patterns of alcohol use into distinct categories or subtypes based upon drinking patterns, personality factors and multi dimensional approaches in order to understand the complex interaction of biological and psycho social factors and their role in management of alcohol related disorders.

Current study aims to identify the psychosocial factors associated with alcohol abuse in patients hospitalized for alcohol de-addiction. Individuals with alcohol problem will be identified using admission data over 6 months (Jan 2010 to June 2010). The pattern of alcohol consumption, the personal/social and psychological reasons for beginning and persistence with alcohol use will be explored through the use of a semi structured questionnaire. The observations will be further subjected to appropriate statistical techniques to evaluate relationship between psychosocial factors and pattern of alcohol drinking in hospitalized individuals. The clinical implications will be discussed.

INTRODUCTION

Alcohol consumption is known to be one of the most prevalent forms of substance use across the world. According to WHO statistics, around 2 billion people world-wide consume alcoholic beverages of which more than 76 million people have alcohol use disorders. It amounts to 4.4% of global burden of disease (WHO, 2004).

REVIEW OF LITERATURE

India is showing a phenomenal increase in alcohol consumption with the initiation age an alarming decrease. The National Household Survey of Drug Use in the country is the first systematic effort to document the nation-wide prevalence of drug use. **Alcohol (21.4%) was the primary substance used (apart from tobacco) followed by cannabis (3.0%) and opioids (0.7%).** The changing trends between the NFHS 2 and NFHS 3 reflect an increase in alcohol use among males since the NFHS 2, and an increase in

tobacco use among women. The per-capita consumption in the country is 2 litres per adult per year (calculated from official 2003 sales and population figures). After adjusting for undocumented consumption, which accounts for 45 to 50 % of total consumption, it is likely to be around 4 litres (WHO Global status Report 2004). Patterns of alcohol consumption vary widely through the country.

Drinking Patterns of Alcohol:

Alcohol consumption occurs along a continuum, with considerable variability in drinking patterns among individuals. There is no sharp demarcation between social or moderate drinking and ‘problem’ or ‘harmful drinking’ several attempts have been made to classify patterns of alcohol use into distinct categories or subtypes based up on drinking patterns, personality factors & multidimensional approaches in order to understand the complex interaction of biological & psychosocial factors and their role in management of alcohol related disorders.

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A potentially powerful predictor of progression to alcohol-related harm is age at first use. Evidence suggests that the earlier the age at which young people take their first drink of alcohol, the greater the risk of abusive consumption (Hawkins, 1997) and the development of serious problems, including alcohol disorders (Chou, 1992; Gruber 1996, Davids, 2000). In India drinking age is going down as studies done in Kerala & Karnataka show (Benegal, 2003; Johnson J, 2007).

The other important factor associated with progression of alcohol related disorders is number of relapses. Why relapse occurs is a complex issue which correlates with prognosis. Relapse is a complex and dynamic phenomenon that appears to be determined by both neurobiological & psychosocial processes. Mattoo et al in 2009 published a study on psychosocial variable associated with relapse and found positive correlation with previous relapses, family history, coping, self efficacy & stressful life events (Mattoo et al, 2009 IJMR). Apart from biological factors, psychosocial factors associated with relapse range from craving, self medication for stress relief/insomnia/withdrawal or other psychological problems to increased vulnerability to social cues & peer pressure (Witkiewitz, 2010; Heilig M, 2010; Mattoo SK 2009).

In India, there are numerous publications in the field of substance abuse, but most of the studies are regional and only few are follow up studies. (Murthy et al, unpublished). Follow up in alcoholism in India is fraught with several practical difficulties. There have been many short term outcome studies of clinical populations. Significant loss to routine follow up has been a consistent finding with major attrition in follow up between 3 and 6 months.(Prasad et al,2000).

The current study aims to identify drinking patterns of alcohol with regard to clinical and psychosocial factors in patients hospitalized for alcohol de addiction and observe follow up data on periods of abstinence after discharge, incidence of relapse and factors perceived as relevant by the patient in bringing on relapse. The following data presented is a 3 month observation but the study is ongoing for a period of one year.

AIM

To study the psychosocial factors and drinking patterns associated with alcohol abuse in patients hospitalized for alcohol de addiction and on follow-up.

Objectives:

- To identify psycho social factors associated with initiation, regular use and pathological use of alcohol.
- To identify socio demographic characteristics of patients hospitalized for de addiction.
- To identify patterns for relapse and associated reasons for relapse.

METHODS AND MATERIALS

Asha Hospital, Hyderabad is a 100 bed inpatient facility for management of psychiatric disorders with another 20 beds as a de-addiction centre. The patients admitted at Asha hospital for alcohol related problems, undergo a 5 day detoxification programme, followed by a choice to continue at the de-addiction centre for further inpatient rehabilitation or out patient management. Detailed inpatient records are maintained for follow up and contact. The sample for the current population was derived from the records of the inpatients treated for alcohol related problems.

SAMPLE

All patients admitted to Asha Hospital, Hyderabad inpatient facility between January to June 2010 for alcohol detoxification were identified. Charts of patients were reviewed and 146 patients were contacted by telephone to participate in the study. 89 patients made it to the scheduled interview. 78 patients agreed to participate.

TOOLS

- Socio demographic Proforma: This proforma was used to collect the socio-demographic details of each case (age, sex, marital status, educational qualifications, occupation, family history, etc.)
- Semi Structured Interview schedule for the evaluation of initiation and progression of alcohol use: developed by the investigators which dealt with patterns of initial and regular use, treatment and hospitalization patterns and follow-up since last hospital admission.
- MINI International Neuropsychiatric Interview, English Version 5: The Mini-International Neuropsychiatric Interview (M.I.N.I.) is a short structured diagnostic interview, developed jointly by psychiatrists and clinicians in the United States and Europe, for DSM-IV and ICD-10 psychiatric

disorders designed to meet the need for a short but accurate structured psychiatric interview.

- The Alcohol Use Disorders Identification Test (AUDIT): It is a 10-item screening instrument covers the domains of alcohol consumption, symptoms of alcohol dependence and alcohol-related consequences. It has been shown to be sensitive and specific in discriminating alcoholics from non-alcoholics. The AUDIT covers three domains on alcohol consumption. These are as follows: (i) hazardous use (i.e. frequency and quantity of intake); (ii) harmful use (i.e. guilt after drinking, blackouts, alcohol-related injuries, and others concerned about their drinking), and (iii) dependence (i.e. impaired control over drinking, increased salience, and morning drinking). The recommended threshold scores are 8 for a diagnosis of harmful drinking and 20 for a diagnosis of dependent drinking according to the 10th Edition of the International Classification of Diseases (WHO, 1992). This cut-off was based on data from several validation studies (Allen *et al.*, 1997; Cherpitel *et al.*, 1995; Conigrave *et al.*, 1995) include one done in India (Carey *et al.*, 2003).

STUDY PROCEDURE

After signing the informed consent form, 78 patients were assessed using a socio-demographic Performa and semi structured interview schedule developed by the investigators which dealt with patterns of initial and regular use, treatment and hospitalization patterns and follow-up since last hospital admission. MINI version 5.00 for DSM IV was used to confirm psychiatric diagnoses and AUDIT used to determine patterns of alcohol use. Patients were further assessed at 3 months (and 6 months) to follow up on current status of alcohol use.

Psycho social factors for use of alcohol were identified under personal factors namely pleasure seeking, stress coping and craving; and social factors namely peer pressure and social occasions.

Relapse was defined as alcohol consumption in any amount following discharge.

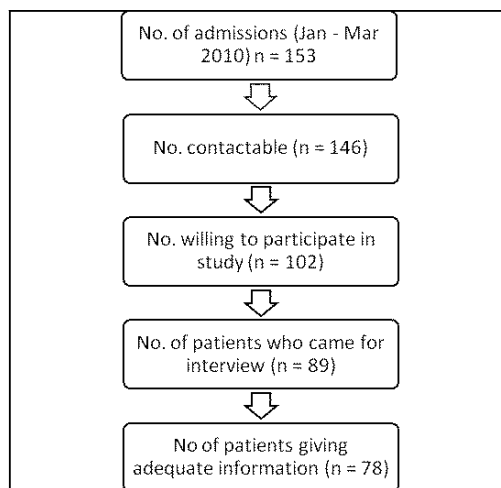
Complete relapse was defined as return to similar drinking pattern and amount of alcohol following discharge, as was before the admission.

Unit of alcohol was defined as equal to 1pint (650ml) beer= 60ml spirit.

RESULTS

A total of 153 patients were admitted during this period of which 7 could not be contacted. Of these 106 were willing to come for interview but only 89 actually presented for interview. 6 persons were not co-operative for certain sections of interview and were excluded from the study, leaving a total of n=78. (Figure 1)

Figure 1- Sample characteristics



Socio demographic profile:

87.2% of the study population was greater than 31 years of age. There were only 3 women in our study population. Most of the patients were educated, employed and married. (Table 1)

Table 1: Socio demographic characteristics of study population.

SOCIODEMOGRAPHIC VARIABLES	
Age (in years)	n (%)
<18	0 (0)
18-22	0 (0)
23-27	3 (3.8)
27-31	7 (9.0)
>31	68 (87.2)
Sex	
Male	75 (96.1)
Female	3 (3.9)
Religion	
Hindu	49 (62.8)
Muslim	9 (11.5)
Christian	20 (25.7)
Education	
Illiterate	6 (7.6)
Primary school	14 (18)
Intermediate	27 (34.7)
Graduate or Higher	31 (39.7)

Occupational status	
Employed	59 (75.6)
Unemployed	19 (24.4)
Marital status	
Married	58(74.4)
Unmarried	11 (14.1)
Widowed	4 (5.1)
Divorced/separated	5 (6.4)

CLINICAL HISTORY

13 out of 78 patients were diagnosed with a psychiatric disorder. (Table 2)

Table 2. Psychiatric Comorbidity

Comorbid Psychiatric disorders (n=13)	
Bipolar disorder	4
Schizophrenia	3
Anxiety	2
Depression	2
ASPD	2

Excluding Nicotine as a co-morbid substance of use, we found 17 patients to have co-morbid substance abuse along with the alcohol abuse, with a majority of these abusing benzodiazepines. (Figure 2).

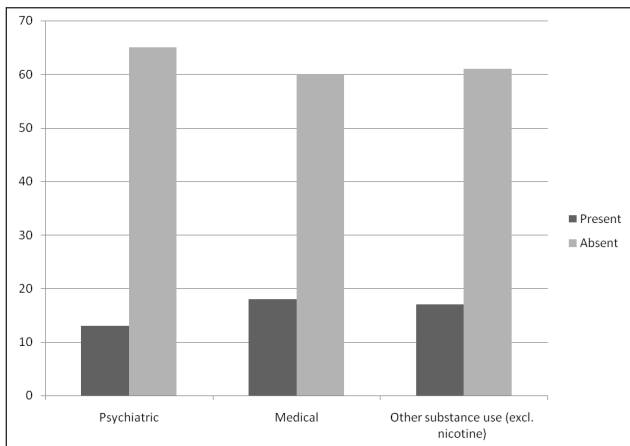


Fig 2. Pattern of Comorbidity in the study population

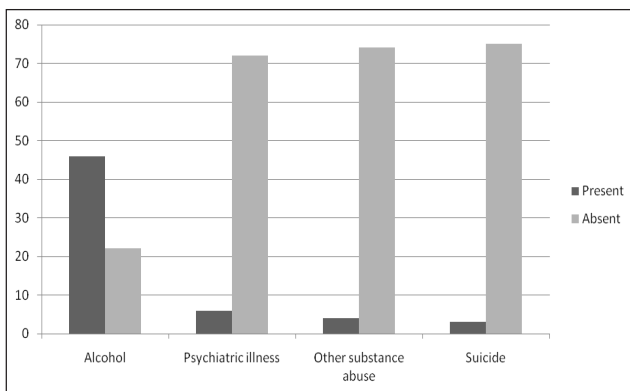


Fig 3 Family History in study population

A majority of the patients (n=46) had a positive family history of alcohol dependence (58.9%), with 90% of them reporting dependence in a first degree relative. Family history of other psychiatric illness or drug abuse was found in 16.7% of the patients (n=13). (Figure 3)

Chronology and Drinking patters

Our data showed that nearly 2/3rd of the patients first used alcohol before their 23rd birthday, with 1/3rd of them having their first drink before the age of 18 years. The majority of our study population listed peer pressure (56.4%) as the reason for their first drink and beer (57.7%) as the type of alcohol used. For our study we defined 1 unit of alcohol as equal to 1 pint of beer or 60 ml of spirits (rum, vodka, whisky etc.). Most of our participants started with 2 or less than 2 units of alcohol on first use, but most had a drink at least once a week or more since initial use. (Table 3)

Table 3: Variables in Progression of alcohol consumption from initial use to regular use.

	Initial Use n (%)	Regular Use n (%)
Age (in years)		
<18	27 (34.6)	1 (1.3)
18-22	24 (30.8)	4 (5.1)
23-27	17 (21.8)	17 (21.8)
27-31	8 (10.2)	17 (21.8)
>31	2 (2.6)	39 (50)
Reasons		
Social occasions	14 (18)	0 (0)
Peer pressure	44(56.4)	5 (6.4)
Pleasure	10 (12.8)	37 (47.4)
Stress relief	9 (11.5)	20 (25.7)
Tolerance/Withdrawal	NA	16 (20.5)
Others	1 (1.3)	0 (0)
Type of alcohol		
Beer	45 (57.7)	13 (16.7)
Spirits (rum, whisky etc)	23 (29.5)	49 (62.8)
Country liquor	10 (12.8)	16 (20.5)
Amount (units*)		
<1	10 (12.8)	0
1-2	51 (65.4)	3 (3.9)
2-3	14 (17.9)	10 (12.8)
3-6	3 (3.9)	44 (56.4)
>6	0 (0)	21 (26.9)

* 1 unit is defined as 1 bottle of beer or country liquor or 60 ml of spirits

In majority of patients it took between 3-12 years after initial use to progress to regular drinking. (Table 4) We found in our study sample that pleasure and stress relief were the most common reasons for progression to regular use and that spirits were the most commonly

used type of alcohol with a majority using more than 3 units of alcohol at 1 time.(Table 3)

Most participants progressed to problem drinking within 3 years of regular use and contacted a psychiatrist/ de-addiction unit within 3 years of the drinking being noticed as a problem (Table4) generally due to persuasion of the family.

Table 4. Chronology of progression of alcohol use from time of initial use to pathological use

Time lag (years) between	
I. Initial use to regular use	
	n (%)
<1	2 (2.6)
1-3	9 (11.5)
3-6	22 (28.2)
6-12	32 (41)
>12	13 (16.7)
II. Regular use to first noticed as problem	
<1	9 (11.5)
1-3	51 (65.4)
3-6	15 (19.2)
6-12	3 (3.9)
>12	0 (0)
III. First noticed as problem to first psychiatric contact	
<1	6 (7.7)
1-3	40 (51.3)
3-6	28 (35.9)
6-12	4 (5.1)
>12	0 (0)
IV. Initial use to first noticed as problem	
<1	0 (0)
1-3	7 (8.9)
3-6	25 (32.1)
6-12	33 (42.3)
>12	13 (16.7)

FOLLOW UP CHARACTERISTICS

Patterns of Relapse

Follow up data showed that 56% of the study population remained completely abstinent at 3 months and 48% at 6 months since last admission (Table 5). Of the 7 patients who relapsed beyond 3 months of abstinence, 4 patients had only one single episode of drinking while 3 had a complete relapse. 2 patients progressed from single episode of drinking at 3 months to regular use at 6 months.

Table 5. Patterns of relapse

Type of Relapse	3 months follow-up n (%)	6 months follow-up n (%)
Complete Abstinence	44 (56%)	37 (48%)
Single Episode	17 (22%)	19 (24%)
Regular use but Dec. Intake	7 (9%)	7 (9%)
Relapse	10 (13%)	15 (19%)

Thus, 24% had only a single episode of drinking in the 6 months since admission while 19% showed a complete relapse to pre-hospitalization levels of alcohol use while 9% used alcohol regularly but at lesser quantities than before hospital intervention. The majority of patients who went back to drinking regularly relapsed within 1 month of hospitalization. (Figure 4).

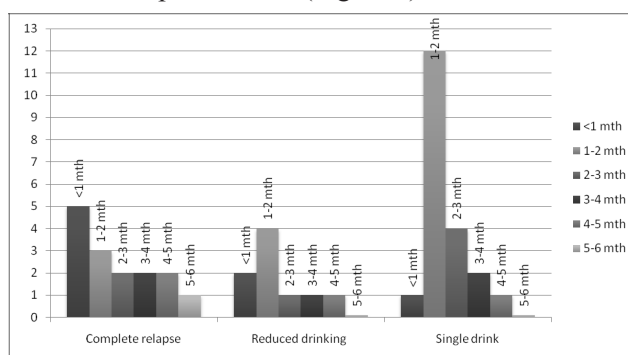
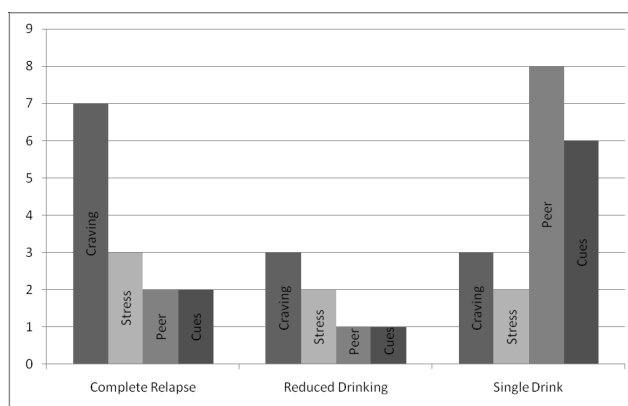


Fig 4. Time to Relapse

50% of the patients who went back to earlier patterns of drinking reported craving as the major reason for relapse while 74% of those who had just a single drink cited peer pressure or cues like smell or sight of alcohol or previous drinking places as a reason. (Figure 5)

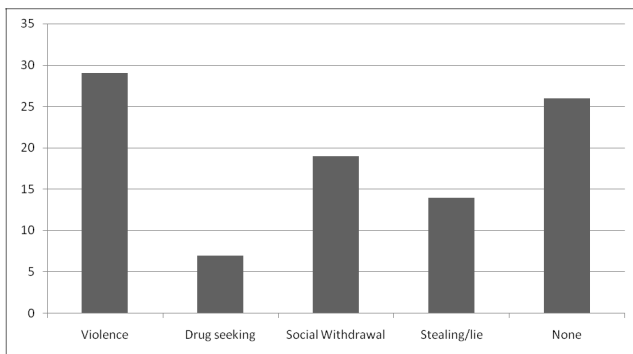


Ijture 81 Reasons for relapse

Impact of alcohol consumption -

Only 18 % of the participants reported that their drinking did not have much impact on their social or personal relationships while more than half of them had social and marital problems. Of the participants 37 % reported

Figure 6. Observed Behavioural Problems since time of regular use of alcohol in the study population



resorting to violence when drunk; a quarter of the participants reported social withdrawal during regular alcohol use. (Figures 6 – 7)

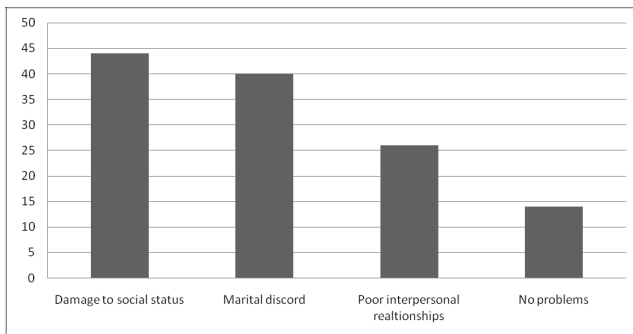


Figure 7. Perceived Psychosocial Impact since time of regular use of alcohol in study population

DISCUSSION

Use of alcoholic beverages as a means of entertainment and hospitality has been part of human socio cultural practices since time immemorial. The progression of a social practice into harmful condition has been an area of concern due to its multifaceted implications. Several attempts have been made to classify patterns of alcohol use into distinct categories or subtypes based upon drinking patterns, personality factors and multi dimensional approaches in order to understand the complex interaction of biological and psycho social factors and their role in management of alcohol related disorders.

Socio demographic Variables

Sociodemographic profile of the study population shows mean age of admitted patients as 43yrs. Majority of patients are literate, employed and married. All admitted patients except 3 are males.

Clinical Variables

Certain clinical correlates like family history have a high

predictive value (Kendler et al,1997; Kendler, 2001), however majority of alcohol dependent individuals do not have a first degree relative who is alcohol dependent. This highlights the role of environment in the etiology of alcoholism as a disorder. In the current study, 59.4% had a family history of alcohol dependence. Psychiatric comorbidity was found in 16.7% of the study population.

Drinking Patterns

Studies in India and abroad have observed a gradual decrease in the age of initiation of substance use. Benegal has reported a fall in age at initial use of alcohol from 25 years in 1988 to 23 years in 1998. The current study also found the mean age at initial use was 20.9 (SD=5.03). What is noticeable is that almost 35% had their first drink at < 18 years of age which marks a further decline in age at initial use.

Reasons cited for initial use are often social and peer pressure. The younger the individual, the higher are the chances of giving in to peer pressure. Although peer influence, alcohol accessibility, and pressure to be accepted all affect students' alcohol use (Hanson, 1974), early research with reasons for drinking, or drinking motives, found two main reasons why college students drink: social purposes and emotional escape or relief (Brennan et al., 1986). In a college student sample, social camaraderie motives predicted drinking rates but, as in the Cooper studies, did not predict alcohol-related problems (Cronin, 1997). This emphasizes that progress of early exploration of alcohol drinking to regular pattern of drinking has more personal motives than social reasons. Personal motivations, such as the enhancement of internal affective states, have typically been found to predict drinking rates and alcohol-related problems (Billingham et al., 1993; Cronin, 1997; McCarty and Kaye, 1984; Wood et al., 1992). For example, mood enhancement, an internal motive based on positive reinforcement seeking to increase positive internal states, is associated with patterns of frequent and heavy drinking (Colder and O'Conner, 2002; Stewart and Chambers, 2000). This was also observed in the current study. 56.4% reported peer pressure as the reason for initial use of alcohol, only 6.4 % reported it as a reason for regular use; while pleasure and stress relief were major reasons cited for regular alcohol consumption (47.4% and 25.7 % respectively).

The beverage more commonly used initially was beer which shifted to spirits when alcohol consumption

became more regular which again reflects social trends in younger students to alcohol use in older adults.

The time interval between initial use of alcohol to regular use is 3 to 12 years, whereas time interval over which regular use is observed as a problem behavior is only 3 years. This is significant as it conveys that problem drinking begins much sooner once regular use begins.

Relapse patterns

The major issues in management of alcohol related disorders are the high incidence of relapse.

In a study examining the association between demographic variables, clinical parameters and certain psychosocial factors and relapse among patients with either alcohol or opioid dependence, Mattoo et al observed that patients who had relapsed were significantly more likely to have a positive family history ($P < 0.05$) for substance use and higher number of previous relapses ($P < 0.001$). The patients relapsed after about 4 months of treatment and remained in a relapsed state for about 45-80 days. (Mattoo et al, 2009). The follow up data in this study also reiterates the findings with 59% of the study population having a first degree relative with alcohol related problems. In the current study, complete relapse was seen in 19% individuals. Significantly, 87% individuals who went back to their previous pattern of drinking had a positive family history of alcohol abuse. The complete relapse occurred generally early after discharge.

Impact

Alcoholism has always been associated with high degree of violence and assault resulting in damage to social and inter-personal relationships. Higher levels of marital conflict and aggression have been also documented in couples with an alcoholic spouse when compared to marital relationships which were not complicated by alcohol (Stanley, 2006; Stanley & Anitha, 2007). D'Costa et al, in a study on harmful alcohol use in Goa observed that 36% of violence perpetrated by men in the study population over a preceding 12 month period involved harmful drinkers. In the current study 37% of study population admitted to perpetrating physical violence while 25% showed social withdrawal. Stealing/lying was seen in 9% of the patients, as was drug seeking. Marital discord was high in the group.

Limitations

Ours is a study exploring alcohol consumption patterns

as well as follow-up, and no controls were used to compare with the general population. The interview schedule used was semi-structured and self-developed and we have not yet been able to co-relate patient variables with characteristics of relapse patterns.

Clinical Implications

Schuckit et al observed that features defining the course of alcoholism, particularly response to treatment, vary as a function of patient related variables including age of onset, severity of alcohol dependence and co morbid psychiatric conditions. In our study population it was seen that most drinkers had initial use at a young age and peer pressure was the main reason for use. Appropriate educational programmes introduced in schools about risks of alcohol use may help reduce this. Also the glamorization of alcohol use by the media may need to be looked into. The time interval between development of regular use to problem drinking was small indicating the need for interventions early after the onset of regular drinking rather than wait for problems to develop. The study population showed that most relapses occurred within 2 months of discharge from hospital, stressing the need for regular and frequent follow-up. After care in alcohol dependence treatment is critical for better long-term outcome and several important issues related to after care need to be addressed (Murthy P, 2003).

CONCLUSION

Biological and psychosocial research need to be integrated to provide solutions to the myriad problems associated with alcohol. There is a need for focused research in the area which can be translated into prevention and clinical practice.

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A COMPARATIVE STUDY TO FIND OUT THE PREVALENCE OF PSYCHIATRIC ILLNESS BETWEEN STUDENTS TAKING COACHING FOR PROFESSIONAL EXAMINATIONS AND SCHOOL GOING STUDENTS OF KOTA

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ABSTRACT

BACKGROUND : The prevalence of psychiatric illness in coaching students is believed to be increasing but little is known about the mental health of coaching students and also no study is available which compares the psychiatric illness in coaching students and school going students.

AIM : To find out the prevalence of psychiatric illness between students taking coaching for professional examinations and school going students of Kota and to study the risk factors associated with the psychiatric illness .

MATERIAL AND METHOD : Randomly selected 200 students were taken as a sample for the study from different coaching institutes who were taking coaching for different competitive examinations and they were compared with a group of 200 students of similar age and sex who were studying in school but not taking coaching for competitive examinations. A self structural Performa filling questionnaire was used which was designed to cover personal and social demographic data .Screening of psychiatric illness

was done by DAVID P. GOLDBERG 60 ITEM GHQ SCALE. Chi Square scale was used for statistical analysis.

RESULT : Prevalence of psychiatric illness is almost double in coaching students in comparison to school going students .

CONCLUSION : Family type, frequency of parents' visit, presence of homesickness, person who decided to send the student to kota are some factor in our study which contributed to the causation of psychiatric illness. This study gives us a very good insight into the mindset of students. The factors mentioned as probable causes of psychiatric illnesses can be taken care of or given special attention to to minimize the illnesses or to identify it before it gets severe. There are several issues that we should give attention to and take care of. This can help us formulate the long term plan in decreasing the illnesses in students and its early detection and treatment.

Keywords : Coaching student, Family Type, Competitive examination, Psychiatric illness, Risk factor.

INTRODUCTION

Adolescence is a very important and delicate stage of life. About 1/5(22-23%) of world population comprises of adolescent,85%of whom live in developing countries. There has always been a keen interest in studying adolescence and related behaviour.

Increasing concern has been expressed about the mental health of students in higher education. The increasing number of students presenting with mental

health problems reflects the rapidly increasing access of young people to higher education and the associated growth in student numbers. It also reflects the growing rates of mental health problems among young people generally.

The cultural and language differences may be felt most keenly by students from other states. The number of mature students is growing too, and they may face

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particular challenges such as combining the demands of higher education with domestic responsibilities, and managing the changing patterns of established relationships that are provoked by exposure to new ideas and expectation

Increasing numbers of students from socio-economically disadvantaged populations, and from ethnic minority groups, have no familiarity with higher education institutions or the demands of advanced study. They may feel isolated from the majority of students and alienated from both the institution's culture, and the families and communities from which they come.

These are potent ingredients for distress and psychiatric disturbance, but the relative lack of structure and supervision often results in these difficulties going unnoticed. Higher education has an important role in enabling people with established psychiatric problems to develop their personal, social and intellectual potential, and thereby to make a productive contribution to society.

The pressures on students have increased in recent years as a result of financial constraints, increasing competitiveness, and heightened aspirations for achievement and material security. Vulnerable students might need higher levels of support in order to achieve their potential. Friends and family are still seen as the main sources of support.

Coaching is an emerging field that seeks to help individuals accomplish their life goals. The coaching relationship is intended to help student achieve better results in their lives; academically, professionally, socially or in any area of life they want to improve. Through individualized assistance and support, teachers help students concentrate on where they are now, where they want to be and how they can get there.

Coaching students form a relatively homogenous subgroup in the society. Being more self-conscious and group-conscious they are sensible and productive. As students represent the society's investment for its future, their mental health is vital not only in its own right but also as a factor contributing to larger society's well-being. There are many positive aspects of a student's life and also many pressures. Students need to look after their mental health so that they are fit to face the challenge presented.

Every year approximately 70-80 thousand students come to Kota from all corners of the country. There are 20-25 reputed coaching institutes in Kota where

coaching for IITJEE, AIPMEE, AIEEEE, PMT is given. Most of these students stay in private hostels, rental rooms or as paying guests.

Entry into coaching institutes presents the students with additional challenges at time when the transition from adolescence into adulthood is in full swing.

In addition to the usual physiological, emotional and cognitive changes associated with this developmental process, students are confronted with a number of major life events, including separation from family, friends and school peers, and having to adapt to a different structure and style of learning requiring more self-reliance, self-motivation and self-teaching and to manage boarding and lodging.

They must master the generic tasks of coping with greater individual autonomy, such as taking responsibility for their budget and finances (in some cases having to take on paid work), managing their own physical and emotional welfare, and coping with unsupervised relationships and other experiences. In addition, they have to adjust to an increasingly complex organisation where what is expected of them might not always be explicit or transparent.

Individual resilience to the pressures of student life is mediated by factors internal and external to the student. Students with higher intellect, higher self-esteem, an internal locus of control and good problem-solving skills, and who have secure attachments to supportive, stable parents and communities, are better equipped to manage student life.

It is presumed that the increased intake of students from less privileged and disrupted families and communities (who are less prepared to meet these pressures) will be associated with an increase in the prevalence of mental disorder.

Little is known about the mental health of coaching students. To identify those who are prone to illness, and those already suffering from illness, it was necessary to carry out a study which aimed at examining the distribution of psychiatric disorder with in coaching students.

AIM OF THE STUDY

- (1) To find out the prevalence of psychiatric illness between students taking coaching for professional examinations and school going students of Kota.

- (2) To study the risk factors associated with the presence of psychiatric illness.

METHODS

Randomly selected 200 students were taken as a sample for the study from different coaching institutes who were taking coaching for different competitive examinations. Another group of 200 students with similar age group and sex who were studying in schools but not taking coaching for competitive examinations were taken as a control group.

The study was conducted with the help of a questionnaire having two parts-

1. Self structural Performa filling questionnaire which was designed to cover personal and social demographic data, factors related to the individually perceived motivation and experiences at the institute.
2. Second part consisted of: DAVID P. GOLDBERG'S 60 item GHQ SCALE

Both groups (coaching and school students) were screened by applying GHQ scale.

Students showing significant psychiatric illness according to GHQ scale were further evaluated to study the risk factor associated with the occurrence of psychiatric illness. Later the obtained data was analyzed by Chi square test.

DISCUSSION

The institutes giving professional coaching to students for the entrance exams were started only in Kota. Kota was the pioneer in starting such classes and similar institutes giving coaching to students for entrance exams are very few in India, or indeed the rest of the world. So there have been very few or no studies comparing coaching students with school going students and hence the references for the same are also not readily available.

Most prevalence studies have been retrospective and have considered only students who have been ill. Some studies have examined certain characteristic of ill students and compared them with the same features in a control group of healthy student but these useful aspects are few.

The prevalence rate of psychiatric illnesses in our study is 18.5% among the students. But the prevalence of illness is almost double in coaching

student group(24%) comparable to school going student group(13%).

In India early surveys of prevalence of disorders in children in –Urban areas by Sethi et al(1967), Varghese et al (1974) and Sethi (1977) revealed a prevalence rate of 9.4% ,8.2% and 17.2% respectively while in rural areas Sethi et al (1967),Nandi et al (1975) revealed a prevalence of 8.09%&8.25% respectively.

An International Multicentric, survey found that China's senior high school students suffer a far greater rate of "high or comparatively high stress" than students in three other countries. Top causes of stress in china were parent's expectation, followed by students themselves (Abraham A, Subramaniam K. Verghere, A (1973) Birth Order and Psychiatric Disturbance, IJP,15,11).

According to Silverman the prevalence is **28.3%** among college students. He suggest that the prevalence is increasing because of increasing diagnosis, assessment, earlier intervention & decreased stigma towards mental illness. The Child and Adolescent Component of National Survey of Mental Health and Well Being (2000) found that 14%of children and adolescent may have mental health problems.

Recent report from the Royal College of Psychiatrist found that 'students had higher level of mental health symptoms' and that are disruptive to their education and emotional development..

Young (2004) indicates that the rate of depression among college students rose almost five per cent in just the past four years, with 38% of these students on antidepressant medication and over 25% in therapy.

Kadison & DeGeronimo (2004) suggest that in addition to the normal developmental concerns of traditional-aged college students (identity development issues, changes in lifestyle and living arrangements, relationship transitions, etc.), today's students are pressured to get good grades, hold down jobs, and become involved in college life. Coping with the financial realities of a college education is also extremely stressful for many.

Like adolescent in East Asia, Indian middle class adolescent face a highly competitive examination system and school demands on the daily time use affects the subjective state of Indian young people (Suman

**Table 1 : Distribution Of Various Variables
In Selected Samples**

Variable	Coaching Students	%	School Students	%
	n=200		n=200	
Sex				
Male	100	50%	100	50%
Female	100	50%	100	50%
Birth Order				
Only Child	6	3%	0	0%
1	90	45%	73	36.5%
2	56	28%	63	31.5%
3	27	13.5%	38	19%
>3	21	10.5%	26	13%
Residential				
Rural	76	38%	39	19.5%
Urban	124	62%	161	80.5%
Family Type				
Student not living with family	192	96%	4	2%
Student living with family	8	4%	196	98%
Socio Economic Status				
Upper	110	55%	39	19.5%
Middle	64	32%	88	44%
Lower	26	13%	73	36.5%
Family History				
Present	17	8.5%	11	5.5%
Absent	183	91.5%	189	94.5%
Person Who selects stream of education				
Self	172	86%	183	91.5%
Parents	18	9%	10	5%
Both	2	1%	3	1.5%
Other	8	17%	4	2%
Contact with Parents				
Daily	156	78%	198	99%
Weekly	34	17%	1	0.5%
Monthly	8	4%	1	0.5%
Quarterly	2	1%	0	0%

**Table 2 : Distribution of various variables
present only in coaching students**

Variable	Coaching Students	%	School Students	%
	n=200		n=200	
Sex				
Male	100	50%	100	50%
Female	100	50%	100	50%
Birth Order				
Only Child	6	3%	0	0%
1	90	45%	73	36.5%
2	56	28%	63	31.5%
3	27	13.5%	38	19%
>3	21	10.5%	26	13%
Residential				
Rural	76	38%	39	19.5%
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Family History				
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Monthly	8	4%	1	0.5%
Quarterly	2	1%	0	0%

Verma, Deepali Sharma, Reed W. Larson, Indian Journal of Behavioural Development-vol26 Issue6, NOV 2006).

According to Yen, Hsu, Liu, Huang, Ko, Yen and Cheng (2006), poor mental health was influenced by demographic characteristics, a high level of family conflict and a low level of family support.

Anees Ahmed et al (2007) found that the prevalence of psychosocial problems was 17.9% among the male adolescent, the most common being educational difficulties (17.4% of study population) followed by substance abuse (13.3%) and conduct disorder (9.2%).

Stress in modern life leads to several **poor** emotional adjustment among the professional students. They have

Table 3 : Prevalence of Psychiatric Illness in Samples

Screening Score	Coaching Students (n=200)	(%)	School Students (n=200)	(%)
GHQ>13	48	24%	26	13%

more stress comparison to non-professional students (A.Singh, S.Singh 2008vol 17, issue-1 page 26-27).

Shastri et al (2008) found that 10%of 5-15 year has a diagnosable mental health disorder.

Preeti arun and B.S.Chavan, (2009) found that school students in India have a high stress level and high rate of deliberate self harm. Students with academic problems and unsupportive environment at home perceived life as a burden. There is a high rates of academic decline among students and this decline is significantly correlated with the feeling of ‘life is a burden’ and suicidal ideation. Relationship with peers and parents is a significant determinant of psychological health.

Table 4 : PREVALENCE OF PSYCHIATRIC ILLNESS ACCORDING TO DIFFERENT VARIABLES

Table- 4.1 : Prevalence of Psychiatric Illness According To Gender

Gender	Coaching Students (n=200)	(%)	School Students (n=200)	(%)
Male	22	11%	12	6%
Female	26	13%	14	7%

Chi sq. =0.00068 df =1 p>0.05 Not significant

Table 4.1 shows that female have more prevalence of psychiatric illness in both groups but it is not statistically significant . Parents tend to be more restricted towards females in general who are believed to receive harsher socialisation than males in many societies (Boling, Boling & Eisenman 1993). Females are more likely to show increased evidence of emotional problems during the course of higher education (Fisher & Hood, 1988; Surtees & Miller, 1990).

Fisher & Hood (1998) found that female students demonstrated increased levels of depression, anxiety and phobias compared with their male counterparts, but homesickness was unrelated to gender.

Table 4.2 shows that the oldest children are seen as more ambitious, given more responsibility & often feel more pressure to succeed (Richardson & Richardson

Table-4.2 : Prevalence of Psychiatric Illness According To Birth Order

Birth Order	Coaching Students (n=200)	(%)	School Students (n=200)	(%)
Only child	4	2%	0	0%
1	22	11%	10	5%
2	8	4%	8	4%
3	12	6%	6	3%
>3	2	1%	2	1%

Chi sq.= 4.34 df =4 p>0.05 Not significant

1990), yet the experience of dethronement is thought to make first born vulnerable to the effects of stress & uncertainty in difficult situation (Ernst & Angst 1983), middle children are often thought to struggle with finding their place in study & gaining recognition (Richardson & Richardson 1990). Youngest children are believed to be accustomed to receiving attention & thought to misbehave if they feel a lack of attention. Both the high parental expectation usually reserved for eldest children & the pampering lavished on the youngest sibling in a family is often experienced by only children (Ernst & Angst 1983). If there is any significant relationship between these characteristic & original position of birth it is thought that it is easily moderated by many factors that are unique to the individual, environment or a combination of both (Ernst & Angst 1983). **Our study also shows that the birth order is not related to prevalence of psychiatric illness.**

Table 4.3 shows that locality is not related to prevalence of psychiatric illness. Rural Urban differences were studied in self reported stress (Life events, daily hassles & conflict), coping & behavioural problem in a community sample of adolescent. Despite challenging socio economic conditions in rural areas, levels of stress & ways of coping were similar in rural & urban adolescents. However urban males reported more conflict & externalising behaviour than females & rural males (Frank J. Elgar, Renee Groves). Mental disorder in general have tended to focus heavily on biological causation which is more important for development of

Table-4.3 : Prevalence of Psychiatric Illness According To Residential Locality

Residential Locality	Coaching Students (n=200)	(%)	School Students (n=200)	(%)
Rural	16	8%	6	3%
Urban	32	16%	20	10%

Chi sq.=0.85 df =1 p>0.05 Not significant

Table-4.4 : Prevalence Of Psychiatric Illness According To The Socioeconomic Status

Socio Economic Status	Coaching Students (n=200)	(%)	School Students (n=200)	(%)
Upper	28	14%	5	2.5%
Middle	18	9%	15	7.5%
Lower	2	1%	6	3%

Chi sq.=8.131 df =2 p>0.05 Not significant

depression in women & for anti-social personality & substance use disorder in men (Dohrenwend, Levav, Shrore).

Table 4.4 shows that *psychiatric illness was more common in upper class students in coaching group. This can be explained by the ability of upper class parents to be able to afford sending children away from home for coaching and competitive exam preparations. Hence the larger number of upper class students amongst coaching students. Middle class students are more common in school going students suffering from psychiatric illness. Here the possible explanation can be the fact that these students are mostly local students with less expenses on studies as they're living with the family and hence middle class being able to afford it.*

Roberts et al (1999) and Stewart-Brown et al (2000) demonstrated that financial problems are associated with poorer mental health in student populations.

Table 4.5 shows that *family type might be the causative factor of psychiatric illness, especially in students who've added stress of performing well in competitive exams. Our study shows that students living alone - away from the family - are more commonly affected by psychiatric illness. This view has been supported by many studies too.*

Mellor, Stokes, Firth, Hayashi and Cummins

Table -4.5 : Prevalence Of Psychiatric Illness According To Family Type

Family Type	Coaching Students (n=200)	(%)	School Students (n=200)	(%)
Students not living with family	46	23%	0	0%
Students living with family	2	1%	26	13%

Chi sq.=65.8511 df =1 p<0.05 significant

(2008) further indicated that living alone -away was associated with mental health.

The increase in psychological symptoms following transition to higher education was found to be unrelated to whether students were residential or living with parents. Those who had previous experience of being away from parents and/or home were less likely to experience homesickness (Fisher & Hood, 1988). Those living alone reported increased rates of suicide attempts (Schweitzer et al, 1995). Increased frequency of participating in activities with others was found to be associated with better mental health (Reifman & Dunkel-Schetter, 1990). Interpersonal problems emerged as the most frequent precipitant of DSH in Oxford (Hawton et al, 1995).

Loneliness is the unpleasant feeling of the inability to have satisfying relationships. The person desires to be in intimate, long-lasting relationships, but is unable to do so; it is an unfulfilled need for intimacy.

A person who is lonely might get the feeling of being unwanted and rejected by others. Due to this the feeling of worthlessness begins to creep in within the individual, which eventually lowers the self-esteem of that person. The person begins losing the self-confidence and there is a lack of self-belief within the individual. This lack of self-belief and self-esteem has a negative affect on various aspects of the individual's life, including his/her academic performance.

The person starts to feel that there is no use of studying and/or that he/she is not going to gain anything by studies. Gradually the student begins to lose interest in studies itself. The feeling of being unwanted and rejected has a severe affect on his/her academic interests. This ultimately, and obviously, leads to a decline in the student's academic performance.

Loneliness also leads to depression. The inability to have good relationships makes the person dejected, morose, and completely saddened. Due to all this, the depression can be so severe that at times the person may have thoughts of committing suicide.

There is also a feeling of hopelessness that begins to develop within the individual. The individual might feel that he/she is going to fail in everything that he/she indulges into.

In such a situation even if the student wants to study, he/she does not do so. The student feels that he/she

lacks the ability to learn and no matter how much he/she studies, it is not in any way going to affect the scores in the examination.

Loneliness causes problems in sleeping. The person may develop abnormal sleeping patterns. The person may either have too much or too little of sleep. Both are harmful and can have severe effects on an individual's lifestyle. It can make the individual feel lackadaisical and phlegmatic. This leads to an inability to concentrate. The person develops a short attention span and cannot focus on anything for a longer period of time. The student easily gets distracted, which inhibits his/her ability to learn and may also lead to irritability. Thus, the student cannot concentrate on his/her studies and therefore has a decline in academic performance.

It is obvious that a person who is lonely does not have anybody to talk to and share his/her feelings with. This means that a lonely individual lacks social support. Social support plays a major contribution in releasing any kind of stress.

The pressure to perform well in school, comparisons with high achieving students, unrealistic expectations, all can become very stressful for a student. A good social network helps a lot in releasing this stress. A small talk with friends before an examination does a great deal in decreasing examination phobia and fear of failure.

A student who is lonely does not have such privileges. Loneliness in itself is very stressful. All the other stressors added to the stress of loneliness can prove to be fatal for the student. In severe cases, it may also lead to a nervous breakdown. A lack of social support can, thus, have a severe affect on a student's mental health, which has a direct negative effect on his/her academic performance.

It has been found that loneliness is a major cause for absenteeism in schools. A student who is lonely might have the feeling that he/she has nobody to talk to in school. This can be quite a saddening experience. Due to this, the student does not desire to go to school and prefers to stay at home.

In a large study conducted on Malaysian undergraduates loneliness was found to be the most significant predictor in explaining mental health followed by neuroticism and extraversion personality. (Council Report CR112, 2003).

Table-4.6 : Prevalence According To Person Who Selected The Subject

Person selected the subject	Coaching Students (200)	(%)	School Students (200)	(%)
Self	37	18.5%	19	9.5%
Parents	8	4%	3	1.5%
Both	1	0.5%	2	1%
Other	2	1%	1	1.5%

Chi sq.=1.64 df =3 p>0.05 NOT significant

Table-4.7 : Prevalence of Psychiatric Illness In Coaching Students According To Contact With Parents

Contact with parent	Coaching Students Suffering from illness (48)	(%)	Coaching Students not Suffering from illness(152)	(%)
Daily	32	66%	124	81.57%
Weekly	14	29.16%	20	13.15%
Monthly	2	4.16%	6	3.94%
Quarterly	0	0%	2	1.31%

Chi sq.=7.17 df =3 p>0.05 Not significant

According to Yen, Hsu, Liu, Huang, Ko, Yen and Cheng (2006), poor mental health was influenced by demographic characteristics, a high level of family conflict and a low level of family support.

These all point to indicators of how stressful student life is and how important it is to investigate the factors that contribute to students' mental health (Council Report CR112, 2003).

Such kind of behaviour might not be liked by many of his/her peers and might lead to shunning the individual. The person gets into a precarious situation, where he/she is unable to build new relationships and also drives away the current ones. All this happens only during extreme loneliness and not otherwise. This, therefore, results into social isolation.

Thus being alone makes the person vulnerable to psychiatric illness. Whereas a good social & family support makes the person 'immune' to the same. Hence the lower incidence of psychiatric illness amongst the school going students.

Table 4.7 shows psychiatric illness is present less in students who contact parents daily and more in students contacting parents weekly whereas there is no significant difference found in students contacting

Table-4.8 : Prevalence of Psychiatric Illness According To Family History

Family History	Coaching Students (n=200)	(%)	School Students (n=200)	(%)
Present	5	2.5%	13	6.5%
Absent	43	21.5%	139	69.5%

Chi sq.=0.154 df =1 p>0.05 Not significant

Table-4.9 : Prevalence According To The Persons Who Made The Decision To Send The Students To Kota For Coaching

Person Who Made the decision to send student to Kota	Coaching Students Suffering from illness	(%) Out of 48	Coaching Students not Suffering from illness	(%) Out of 152
Self	26	54.16%	48	31.57%
Parents	4	8.33%	1	0.5
Both	18	37.49%	103	68.42%

Chi sq.=23.419 df =2 p<0.05 significant

Table-4.10 : Prevalence of Psychiatric Illness According To Parents' Visit

Parents Visit	Coaching Students Suffering from illness	(%) Out of 48	Coaching Students not Suffering from illness	(%) Out of 152
Not Visited	14	29.16%	36	23.68%
Quarterly	18	37.5%	60	39.47%
Monthly	15	31.25%	48	31.57%
Weekly	1	2%	8	5.26%

Chi sq.=62.22 df =3 p <0.05 significant

Table-4.11 : Prevalence Of Psychiatric Illness According To Homesickness

Home Sickness	Coaching Students Suffering from illness	(%) Out of 48	Coaching Students not Suffering from illness	(%) Out of 152
Present	28	58.33%	72	47.36%
Absent	20	41.66%	80	52.63%

Chi sq.=1.754 df =1 p<0.05 significant

parents monthly or quarterly. This might be due to the fact that because advancement of technology it's become very easy to contact people even on daily basis.

Table 4.8 shows that most of the students having psychiatric illness don't have positive family history of psychiatric illness that is family history is more important in cases of schizophrenia in comparison to depression or anxiety which is present in mazority of students.

Table 4.9 shows that psychiatric illness is more common in students who themselves only decided

to come to Kota. P value is also significant.

This can be due to the fact that in students themselves deciding to come to Kota, there is an added pressure of justifying their decision whereas in students who came with parents' consent have responsibilities shared with parents and also good support from parents is available.

In the group of students who came only due to parents' wishes all suffered with psychiatric illnesses.

Table 4.10 shows that the psychiatric illnesses are more common in students whose parents have never visited them and the least in students whose parents visit them weekly.

The students whose parents don't visit them might be suffering from less psychological support and more of loneliness and homesickness. That might lead to more stress and more illnesses. These students might be suffering from the feeling of rejection as well.

In students having parents visiting them weekly might have the more of support and hence less of homesickness and loneliness and hence the less number of psychiatric illnesses.

Table 4.11 shows that psychiatric illness is more common in coaching students with presence of homesickness compared to those without it.

CONCLUSION

The prevalence of psychiatric illness is almost double in coaching students as compared to similar age & sex group of school going students. Family type, frequency of parents' visit, of presence homesickness, person who decided to send the student to Kota are some of the factor in our study which contributed to the causation of psychiatric illness .Study highlights that relationship with peers & parents is a significant determinant of psychological health. Findings strongly suggests the need of regular assessment of mental health of students in order to identify the psychological & behavioural problems

This study is an effort to identify the various factors that might be causing or precipitating psychiatric illnesses in coaching students. This study gives us a very good insight into the mindset of students. The factors mentioned as probable causes of psychiatric illnesses can be taken care of or given special attention to to minimize the illnesses or to identify it before it

gets severe. As we know prevention is better than cure and prevention can only start with identifying the probable and possible risk groups and factors.

As the study suggests, there are several issues that we should give attention to and take care of. This can help us formulate the long term plan in decreasing the illnesses in students and its early detection and treatment.

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CHILDHOOD AUTISM : ASSESSMENT AND TREATMENT (A Review for the Busy Clinician)

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ABSTRACT

Autism is a complex neuropsychiatric developmental disorder with heterogenous symptoms and varying features. This review aims to provide the busy clinician and private practitioner an insight into various clinical features, assessment methods, investigations and treatment options when confronted with child having autism. The review focuses on pharmacological as well as non pharmacological management concluding that a comprehensive team approach to managing autism is best in the modern day scenario where pharmacotherapy alone is not a solution to complex problems like autism.

Key words – autism, assessment, treatment.

INTRODUCTION

Childhood autism has exploded into public awareness today. It has been determined by stringent epidemiological studies that the rates of childhood autism have shot up from 4 per 10,000 in the 1980s to nearly 30-60 per 10,000 today and in some areas to 1 in 150-200 of the child population¹⁻². The reason for this rise has been increased awareness amongst the general public and practitioners regarding the disorder. This has been supplemented with broadened boundaries of the autistic spectrum, revised and better diagnostic criteria, ascertainment biases and diagnostic substitutions in some cases³. There is now a need for up to date treatment protocols and guidelines in the management of childhood autism. Substantial efforts have been made in the last few years through rigorous studies into various areas of treatment of autism⁴. This involves a combination of medical, behavioral, psychosocial, educational and family based interventions in the

management of the disorder⁵. The present article reviews the assessment and treatment of autism. It is an exhaustive yet concise clinical review providing all the information a busy clinician would need when dealing with autism. The present article primarily focuses on childhood autism (autistic disorder) and not the other autistic spectrum disorders.

THE CLINICAL FEATURES OF AUTISM

- The child has a period of normal development till 1.5-2 years after which there is a regression seen and there is loss of already acquired functions like hand movements and speech as well as other acquired milestones⁶.
- The triad of impairments typical of autism affect social, communicative (including language) and behavioral and imagination functioning.

Severe impairment in reciprocal social interaction –

- This feature is observed in the staring, fixed, wide open gaze which is not used to regulate social interaction, the reduced ability to take the cognitive or emotional perspective of another person, disregards for need of age-peers and adults alike and failure to understand the need of all social overtures.
- Many are perceived to be lacking in empathy though this does not imply 'coldness'.
- The social style may vary from complete aloofness / autistic aloneness through a friendly passive interactive style to an impulsive intruding active but odd pattern of interaction.
- The child with autism usually has no 'real friend' though he occasionally may be a

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member of a group where very little action from him is demanded. The lack of concern about absence of friends is a very striking feature⁷.

Severe impairment in reciprocal communication –

- This can present as complete muteness or a reduction of spoken language down to a few words or sentences but it may equally show as extremely repetitive complex language.
- About one third of children with autism never speak in communicative phrases. Some may acquire single word skills and never progress beyond that for months or years.
- Even those that have good verbal expressive skills have a restricted ability to participate in conversation. They fail to use social overtures and burst into other people without regard for their point of view. They start talking in mid thought taking it for granted that the other person knows what they are talking about.
- They may get fixated on something very concrete and go on about that rather than concentrate on an overall theme.
- They make little use of gestures and facial expressions. Body language may be awkward and clumsy. They may stand off and have great difficulty in mixing with other people. Others come too close and may pat other people's heads, smooth down their hair or feel their cheeks in a naïve way⁸.

Severe restriction in behavioral repertoire –

- This feature is seen to reflect the lack of imaginative skills. Repetitive motor behaviors like finger flickering, hand flapping, body rocking and head banging are seen⁹.
- Fixation on routines, rituals, pedantry and a variety of symptoms described as obsessive compulsive are seen.
- In older children violent outbursts and non intentional aggression may be seen.
- Play is rigid, stilted or lacking. Hard objects are preferred over soft cuddly ones.
- Many have elaborate routines regarding

feeding viz. will eat only one type of food, will eat sitting on the same stool or on the same table everyday.

- Many have rigidity with bathroom activities. They may be very uncomfortable to use bathrooms outside their homes and may not even brush their teeth or wash their face in front of mirrors other than their own.
- Many are extremely interested in details and astute in remembering matters concerned with the observable world.
- Those with superior intelligence may develop very narrow interests like meteorology, train time tables, birthday and anniversary lists, telephone directories or computers to mention some possibilities¹⁰.

Other abnormalities seen in autism –

- Oversensitivity to touch, certain sounds, smell, taste or visual stimuli is a universal phenomenon.
- Decreased pain, hot and cold sensitivity is another feature which may lead to a host of self injurious behaviors¹¹.
- Hyperactivity is a common handicapping problem seen in 60-70% cases¹².
- Hypoactivity with lack of interest or initiative may also be a problem. This may also exist in the form of resistance to change and learning.
- Sleep problems with restlessness in sleep, erratic sleep patterns, fewer sleep hours, oversleeping all have been noted in autism¹³.
- Many of these children enjoy playing with mirrors observing themselves, playing in sand and water. They may also enjoy music while memorizing the words of a song with just one hearing.
- Epilepsy is seen in 30-40% cases. In many cases the epilepsy may need more than one drug to control it and at times may be resistant. Almost all types of seizures have been noted in autism¹⁴.
- Hearing or visual impairments may be noted in some cases (5-10%).

- 65-70% of children with autism have borderline IQs or IQ in the mental retardation range. 20% have normal IQs while 10-15% may have superior or very high IQs.

COMMON CO-MORBID PSYCHIATRIC / DEVELOPMENTAL PROBLEMS

- Mental Retardation.
- Speech-Language problems.
- Attention Deficit Hyperactivity Disorder (ADHD).
- Developmental Coordination Disorder (DCD).
- Tic disorders.
- Obsessive Compulsive Disorder.
- Depression and Bipolar Disorder.
- Eating Disorders.
- Selective mutism.
- Semantic pragmatic disorder.
- Non verbal learning disability. (Performance IQ lower than Verbal IQ by more than 20 points).
- Epilepsy.

COMMON COMORBID PSYCHIATRIC SYMPTOMS

- Perceptual problems.
- Sleep problems
- Violence and self injury.
- Hypoactivity.
- Catatonic features

ASSESSMENT OF A CHILD WITH AUTISM

Detailed clinical interview and observation of the child's behavior –

- A detailed interview with the close caregiver or parent is the most important single measure in any diagnostic process. A good developmental and symptomatic as well as socio-environmental history will go a long way in the planning the long term management of the child. A detailed treatment history of

effective, ineffective, tolerated and non tolerated treatments will also aid the treatment process.

- Observation of the child's behavior is an important step but is often overlooked. Observation in various naturalistic settings (school, playground and home) if possible provides a way of determining if she meets the diagnostic criteria for autism or not.
- A team assessment by a child psychiatrist, child psychologist and pediatric neurologist in mutual consultation is ideal.

Rating scales for the diagnosis and assessment of autism –

- The most widely used scale is the Autistic Behavior Checklist (ABC) which provides a good measure of the level of symptoms and severity. It takes 30 minutes to complete and may be done by the clinician or the caregiver¹⁵.
- The Childhood Autism Rating Scale (CARS) is the next preferred scale and uses a mixture of interview and observation. It has been widely used and studied. It provides a summary score in the range of 15-60 with a cut off of 30 for a preliminary diagnosis of autism. It is also useful in measuring the severity of autism¹⁶.
- The Autism Diagnostic Interview Revised (ADI-R) and the Autism Diagnostic Observation Schedule (ADOS) are excellent clinician based interviews for tapping into autism cases and assessing social interaction and communication behavior in autism but have been developed for research and not for clinical use on a routine basis¹⁷⁻¹⁸.

Psychological testing in autism –

- Usually psychological tests are not required for children with autism.
- One of the Wechsler scales for intelligence may be used for the determination of IQ levels to rule out mental retardation as well as the detection of superior IQ¹⁹.
- Occasionally in some children one has to settle for an estimate of overall functioning

based on the Vineland Social Maturity Scale as IQ may not be possible²⁰.

Clinical medical-neurological examination –

- This includes the head circumference and other antropometric measurements, height, weight and evaluation of minor physical anomalies. Skin abnormalities must be looked for along with hearing and visual problems.
- A brief neurological examination may ensue. This step is critical in determining further laboratory examination and investigations.

Genetic and Chromosomal analysis –

- All girls with autism and lower IQ must be screened for the MECP2 gene associated with Rett syndrome²¹.
- All children with autism and low IQ need karyotyping for abnormalities on chromosome 15 that may be linked to Angelman syndrome²².
- All children with autism, especially those with minor physical anomalies must be screened by the fMR1 test to rule out Fragile X syndrome²³.
- Genetic analyses of the parents may be done if required.

Other investigations –

- An EEG must be done in all children with autism to rule out an underlying silent or active epilepsy as well as neuronal hyperexcitability that may be seen in ADHD²⁴.
- The EEG also provides insight into neurodevelopment and regression and serves as a useful guideline in determining the prognosis.
- All children with autism should be examined using magnetic resonance imaging (MRI) of the brain to rule out structural abnormalities. This is more so in cases with skin lesion to rule out neuro-cutaneous syndromes like tuberous sclerosis or neurofibromatosis²⁵.
- The clinician can determine after physical and neurological examination whether blood, urine or cerebrospinal fluid screens need to be done.

Educational assessment –

- A special educator needs to assess the child with autism to determine the type of schooling best suited for the child (one on one, inclusive or special schooling).
- An individual educational programme for the child has to be planned keeping in mind his developmental ability, personality, interests and intelligence levels.

TREATMENT OF CHILDHOOD AUTISM

- There is no cure for autism. Children with autism may be helped develop skills to partially compensate for their communicative, cognitive and behavioral deficits and parents may be helped to cope with their children more effectively so that both parents and family members can lead a normal life²⁶⁻²⁷.
- The treatment consists of pharmacological as well as non pharmacological methods which almost always involves a multi-pronged comprehensive multifaceted treatment programme.

Non-pharmacological management –

(A) Psychoeducation –

- The first step in treatment is explaining the diagnosis and making the disorder coherent to the parents. Autism as a biological disorder with chronic lifelong neurodevelopmental disability and causative factor if possible must be identified and explained.
- It must be explained that children with autism cannot guess what others are thinking or feeling and hence cannot predict the behavior of others. Sensory integrative issues along with rigidity in behavior and need for sameness in the environment must be emphasized.
- Behavioral problems like aggression, sexual issues and self injury must be explained along with fact that children with autism do not often understand the consequences of their actions.
- A multifaceted treatment approach when followed can teach children with autism good communication skills, make them avoid challenging behaviors and maintain a productive work routine. The degree of

independence they will gain as adults will often be dependent on the structured teaching and treatment they receive as children²⁸.

(B) Educational Placement –

- A central issue in the treatment of children with autism is whether they should be placed in special schools exclusively for autistic children or should be placed in mainstream inclusive schools attended by all children²⁹⁻³⁰.
- No comparative data is available. Ethically it is advisable that children with autism be placed in normal mainstream schools but pragmatically it is difficult to arrange sufficient support from mainstream schools to enable the child to receive adequate education within that context.
- Early intervention in the preschool years, with participation in co-education programmes (both mainstream and special schooling), visiting mainstream classrooms for short periods, brief structured learning on a one to one basis using evidence based teaching methods, adequate staff training to handle such children will enable integration faster.
- Sometimes a curriculum that is developmentally appropriate, covering an appropriate mix of communication, social, play and academic skills, low stimulation environments, low pupil staff ratio (1:1 or 2 :1) and setting appropriate educational goals is helpful to attain meaningful and observable results.

(C) Family based approach to management –

- The emphasis in all effective programmes is on a collaborative working relationship with the parents³¹⁻³².
- Parents must be involved in developing individual educational and therapeutic programme plans for their own child based on his needs and capabilities.
- Best results have been obtained when parents have been involved in structured educational programmes like TEACCH (Treatment and Education of Autistic and related Communication handicapped CHildren) and

programmes developed by Lovaas based on applied behavior analysis³³.

- Parents need to be given reliable information about autism as well as various treatment options available. Parents must also learn how to use the Picture Exchange Communication System to communicate with their children who have speech problems³⁴.

(D) Behavioral Treatment in Autism –

- Behaviorally based treatment programmes have been shown to lead to significant skills gains and reductions in challenging behaviors in various controlled studies³⁵.
- Common treatment goals include reducing ritualistic and aggressive or self injurious behavior and enhancing communication, interaction, play, cognitive skills and self care skills. Parents and school staff are trained to implement these programmes. Details of the programme are available on the website (listed at the end).

(E) Skills Training –

- Children with autism have a variety of difficulties in learning self care and academic skills. In all instances the curriculum materials should be matched to the developmental age of the child. Simplified verbal or pictorial communication may be used where language is a problem.
- Generalization of skills learned in one context to multiple contexts is a major problem in children with autism. Children must be encouraged to exercise newly learned skills in many different environments and reinforced for doing so as this maximizes the chances of generalization occurring.

(F) Speech and Language therapy –

- The speech and language curriculum must be geared to suit the developmental level of the child. If there are some language skills this must be built on but in the presence of absent language sign language must be taught first as this may promote later development of speech.
- Where children have speech and language

skills but do not use them within a social context, modeling and reinforcement of all communicative attempts within the naturalistic setting must be used to increase social speech and communication³⁶.

(G) Occupational therapy and Physiotherapy–

- All children with autism need regular occupational therapy. This is essential in the form of Sensory Integrative (SI) therapy to deal with various sensory issues that may present.
- Therapy also helps to maintain focus, attention, concentration and develop motor skills further. Posture, gait, balance and muscle tone would be enhanced further by regular occupational therapy. In cases of physical deficits physiotherapy if of help is advised³⁷.

Psychopharmacological Treatment in autism–

- There is a distinct role of medication in the management of autism today. Once the biological basis of autism was elucidated, medications of various have been tried in various groups of autistic children with mixed results.

(A) Selective Serotonin Reuptake Inhibitors (SSRIs) and others –

- These drugs have been used to target core symptom domains by reducing repetitive preoccupations, perseverative behaviors, lessening social anxiety and improving communication deficits in autistic children³⁸.
- All the SSRIs are known to cause side effects like increased motor activity, mood swings and disinhibition. Not all SSRIs are equally effective in all populations³⁹.
- Most SSRIs act by a blockade of serotonin reuptake via the serotonin transporter while some may in addition desensitize certain serotonin receptors and also induce neurobiological changes⁴⁰.
- Fluvoxamine has an additional effect on sigma receptors which may be involved in dopamine and glutamate modulation⁴¹ while Fluoxetine acts via 5HT_{2C} blockade which may in turn

modulate the noradrenergic and dopamine systems⁴².

- There is little consensus in the role of serotonin in obsessive compulsive symptoms or the mechanism by which by SSRI drugs may reduce these symptoms. There is also a controversy related to the nature of these symptoms across various psychiatric disorders. However OCD symptoms in autism are of a similar nature to that seen in pure OCD. Hence the use of SSRIs in autism to treat such symptoms is warranted.
- Early studies⁴³ and subsequent literature have both confirmed that children with autism have hyperserotonemia⁴⁴.
- Various neurobiological studies indicate that serotonin plays a role in a number of autism symptoms with the strongest effects on the repetitive behavior domain. Thus it follows that SSRIs may ameliorate repetitive, restricted and ritualistic behaviors in autism⁴⁵⁻⁴⁶.
- Clomipramine has been shown of use in the management of OCD symptoms in autism. Safety and tricyclic drug side effect issues are a primary concern. Studies have shown Clomipramine useful in reduced hair pulling and nail biting in autistic children but in the modern era it is rarely indicated⁴⁷⁻⁴⁹.
- Most studies with Fluoxetine are open label while some are randomized trials. Overall it is well tolerated for improving social behavior and repetitive patterns of behavior in autism⁵⁰⁻⁵². Side effects are more common in non responders than responders⁵³. The usual dosage starts at 10mg per day with 10mg increments per weeks after observation for improvements.
- Studies with Fluvoxamine show mixed results. It appears to reduce repetitive thoughts and behaviors in autistic adults but its effects in children are not promising. Thus its clinical benefits may not outweigh the risk of negative effects⁵⁴⁻⁵⁵.
- Paroxetine has not been well studied in autism with just anecdotal case reports and no major

evidence of its efficacy⁵⁶.

- Citalopram has fewer studies to its credit but the favorable drug interaction profile suggests a potential advantage when it would be used with other psychotropic drugs⁵⁷.
- Few studies have reported positive effects of Escitalopram in autism but further results and studies are warranted to confirm these findings⁵⁸.
- Sertraline in a few open label trials has shown positive effects in children with autism⁵⁹⁻⁶⁰. However proper randomized clinical trials need to further augment these results.
- Venlafaxine and Mirtazapine have been used with little success in autism and no major research has been carried out using these drugs in autistic children⁶¹.
- In conclusion, research shows that SSRIs are efficacious in children with autism particularly in the repetitive behavior domain but they need to be coupled with speech therapy, behavioral and educational interventions for best results.

(B) Anticonvulsants and Mood Stabilizers –

- Side effects caused by SSRIs and antipsychotics have led to mood stabilizers and anti-epileptics drugs being considered candidate drugs for managing irritability, mood swings and aggression in autism. These drugs had already been used in these children where epilepsy was a concern but here we review their utility from a purely psychiatric perspective. Discussing the mechanism of action of these drugs is beyond the scope of this review and readers are forwarded to other excellent articles for the same⁶²⁻⁶³.
- Few trials and case reports have demonstrated the usefulness of sodium valproate in the management of irritability and aggression primarily seen in autism and also as a side effect of SSRIs⁶⁴⁻⁶⁶.
- Small studies and reports have demonstrated the usefulness of Lamotrigine⁶⁷, Levetiracetam⁶⁸⁻⁶⁹ in managing irritability and aggression in autistic children.

- Since studies in epilepsy showed that Topiramate may cause weight loss, it is a useful option to consider topiramate in order to counteract antipsychotic induced weight gain in autistic children⁷⁰.
- There are no studies of carbamazepine and lithium in autistic children. It has been advised that lithium toxicity goes against its use in this group while the tendency of carbamazepine to induce or precipitate seizures warrants being cautious when using this molecule in autistic children⁷¹.

(C) Antipsychotics –

- The antipsychotics like the mood stabilizers have been used to reduce aggression, hyperactivity and irritability in autistic children⁷².
- The typical antipsychotics have been used in various studies with autistic children with haloperidol being found the most efficacious in controlling behavioral symptoms. There is less robust evidence for the other conventional antipsychotics. Acute dystonia, withdrawal dyskinesia and tardive dyskinesia along with extrapyramidal reactions have limited the use of these drugs to treatment resistant cases only⁷³⁻⁷⁴.
- Risperidone is the only FDA approved medication in the management of autism. Several open label, randomized studies and case reports have demonstrated its efficacy⁷⁵. Risperidone is the best drug for the management of irritability in children and adolescents with autism. In addition it may also be useful in managing hyperactivity, repetitive behavior and social withdrawal in autistic children who have baseline irritability⁷⁶.
- There are few studies that speak of the role of Olanzapine⁷⁷⁻⁷⁸, Quetiapine⁷⁹, Ziprasidone⁸⁰, Arpiprazole⁸¹ and Amisulpride⁸² in autistic children. None of these studies parallel the effects shown by Risperidone and in all these studies side effects like weight gain⁷⁸, sedation⁷⁹ and concerns about ECG monitoring and prolonged QTc intervals⁸⁰ outweigh the positive effects.

- Studies with risperidone have reported that despite elevated prolactin levels in some children as a side effect there were noticeable physical side effects like amenorrhea, gynaecomastia and galactorrhea⁸³.

(D) Miscellaneous drugs used in autism –

- Clinical trials with cholinesterase inhibitors in autism have been limited to three drugs donepezil, galantamine and rivastigmine. Of these all are open label trials and most of the trials are with Donepezil⁸⁴. There is less power to these studies because of the open nature of the trial. However most studies show modest improvement in communication with these drugs. Judicial clinical assessment of core symptoms in individual cases is warranted before use of these drugs⁸⁵.
- The use of methylphenidate to manage hyperactivity in autistic children has met with little success⁸⁶. Studies have demonstrated mild effects at a low dose with greater side effects when the dose is increased. Decreased appetite, sleep problems and increased risk of seizures have all limited the use of methylphenidate in this population⁸⁷.
- The research evidence of drugs like clonidine and guanafacine to treat ADHD in autistic children is insufficient to guide clinical use⁸⁸.
- Early studies showing a high level of beta endorphins in autistic children prompted the use of Naltrexone in autistic children⁸⁹. It was thought that naltrexone would reduce self injury, aggression, repetitive motor behavior and improving learning, reward and social interaction⁹⁰. Studies do not support the use of this drug in autistic children.
- Few studies have demonstrated the efficacy of Melatonin in reducing sleep latency in children with neurodevelopmental problems prompting its use in autistic children with sleep problems⁹¹. However mixed results have been demonstrated.

(E) Complementary and alternative therapies–

- Various alternative and complementary therapies have been used with a varying degree of success in autism. These are

therapies aimed at gastrointestinal functioning like the hormone secretin⁹², the gluten-casein free diet⁹³ and probiotics⁹⁴. Safety of these therapies has not been documented and no major efficacy has been documented.

- Trials of IV immunoglobulin⁹⁵, dimethylglycine⁹⁶, chelating agents⁹⁷, omega 3 fatty acids⁹⁸, glutathione⁹⁹, vitamin B6 and magnesium¹⁰⁰ and L-carnosine¹⁰¹ have showed no favorable results in reducing autistic symptoms.
- Auditory integration training¹⁰², sensory integration training¹⁰³, massage therapy¹⁰⁴ and music therapy¹⁰⁵⁻¹⁰⁶ have demonstrated some success when combined with traditional treatments in the management of autism.

CONCLUSIONS

As shown above today we have many options in the management of autistic child. Symptom focused pharmacotherapy along with occupational therapy, speech therapy, communication training, special education and parent psychoeducation is the best approach in management and treatment of childhood autism.

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PSYCHIATRIC DISORDERS IN TRAUMATIC AMPUTATION

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ABSTRACT

Background

Amputation leads to loss of function, sensation and body image. Sudden traumatic amputation is common in youth. What leads to traumatic amputations? Is it 'accidents' from crowded Mumbai local trains? We did not come across any Indian study analyzing pre-morbid psychiatric conditions in amputees. Prevalence rates of PTSD and major depression post-amputation reported as 20% and 63% respectively by Mansoor et al. (2010).

Aims and objectives

1. To assess premorbid psychiatric disorders and their impact on traumatic amputation
2. To assess postmorbid psychiatric disorders
3. To assess impact of psychiatric intervention

Materials and methods:

30 patients of traumatic limb amputation at a tertiary municipal general hospital were recruited between August-September 2010. After noting demographic profile, patients were assessed for premorbid & postmorbid psychiatric disorders by clinical interviews over two months. Impact of escitalopram 10mg/day for moderate depression (measured on HDRS17) was assessed.

Results:

Mean age of sample was 31.5 years. The cause for amputation was railway accident in 86.7% cases. 60% of patients had pre-morbid psychiatric condition; most common being alcohol intoxication with dependence (43.3%). 43.3% of patients had psychiatric condition post-amputation, most common being major depression (40%). No significant

difference in depression was found with respect to demographics. Scores on HDRS 17 declined from 20 to 8.5 over two months ($P=0.06$) with escitalopram.

Conclusions:

Majority of the alcohol dependent patients had not received any past psychiatric treatment; highlights the need to spread psychiatric awareness.

We should be alert to psychological complications in traumatic amputees and importance of psychiatric intervention.

Key words:

Amputation, psychiatry, alcohol dependence

INTRODUCTION

Amputation is a triple threat. It involves loss of function, loss of sensation, and loss of body image. Psychological complications following amputation have been extensively studied all over the world. The disability arising from amputation gives rise to hostility towards others which being unacceptable is repressed and replaced by guilt/depression¹.

A recent study in India has reported major depressive disorder as the most common psychiatric comorbidity followed by anxiety disorders². Randall et al.³ and Shukla et al.⁴ found a 61% and 65% prevalence of psychiatric illness in amputation patients respectively.

So what exactly leads to amputations? An earlier study of amputation revealed that 92% were emergency procedures; of which 48% were secondary to road accidents⁵. The leading causes of trauma-related amputation were injuries involving machinery (40.1%), powered tools and appliances (27.8%), firearms (8.5%),

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and motor vehicle crashes (8%) in Maryland state of USA between 1979 to 1993⁶.

Are these really 'accidents'? Western literature has reported involvement of alcohol and other substances in road traffic accidents leading to complications like amputation and even death, especially in younger age groups^{7,8,9}. We did not come across any Indian study related to the cause of accidents in relation to substance use.

Is there a link between psychiatry, accidents and ultimately, amputation? Due to paucity of literature on premorbid psychiatric disorders in patients of amputation, we undertook this study with the following aims.

Aims and objectives:

1. To assess premorbid psychiatric disorders and their impact on traumatic amputation
2. To assess psychiatric disorders post-amputation
3. To assess impact of psychiatric intervention

MATERIALS AND METHODS

Sample

The study was conducted at a tertiary municipal general hospital in Mumbai. We selected 30 patients of traumatic limb amputation admitted in the Orthopedic ward of our hospital between August to September 2010. Adult patients of both sexes were included after taking written informed consent. Those patients with delirium or other medical comorbidity which impaired his/her comprehension were excluded. (eg. Severe head injury and its sequelae)

Method

Each patient in the study was individually interviewed at three intervals. The first evaluation was done within 10 days of amputation followed by second evaluation at one month and a third evaluation at two months. The demographic profile of the population under study was noted. The patients were assessed for premorbid psychiatric conditions directly contributing to the amputation by clinical interview. Also, patients were assessed for postmorbid psychiatric conditions, if any at every evaluation. Those patients who were found to be suffering from Major Depressive Disorder, according to DSM IV-TR criteria on clinical assessment were started on Tab.Escitalopram 10mg/day for two

months. The impact of this treatment was studied during the study period.

MATERIAL

All the patients were assessed on Hamilton Depression Rating Scale -17 item version (HDRS 17) and Hamilton Anxiety rating Scale (HAM-A) at each evaluation. Those who satisfied the clinical criteria for Major depressive Disorder on DSM IV-TR and had moderate depression on HDRS 17 were given Tab.Escitalopram as mentioned earlier.

STATISTICAL ANALYSIS

Data obtained was analysed using Chi square and t tests, wherever appropriate.

RESULTS AND DISCUSSION:

1. Demographic Profile of the study population:

Tables 1 to 6 illustrate the demographic profile of the study population with respect to the following parameters:

Table 1: Age

Mean Age	31.5 years
Standard deviation	12.3
Range	17 – 70 years

The mean age of the population was 31.5 years (SD = 12.3) which is consistent with studies of al-Turaiki et al.¹⁰ and Rotter et al.¹¹

Table 2: Gender

Gender	N	%
Males	29	96.7
Females	1	3.3

All, except one patient, were males (96.7%). This finding is also replicated in studies by other authors^{5,11}.

Table 3: Level of education

Mean years of schooling	5.2 years
Standard deviation	4.3
Range	0 – 14 years

The mean years of schooling were 5.2 years which reflects the socioeconomic status of the population under study.

Table 4: Religion

Religion	N	%
Hindu	24	80
Muslim	6	20

Table 5: Marital status

Marital status	N	%
Married	16	53.4
Single	13	43.3
Divorced	1	3.3

Table 6: Employment status

Employment status	N	%
Employed	24	80
Unemployed	6	20

2. Mode of amputation:

Table 7:

Mode of amputation	N	%
Railway accident	26	86.7
Machinery accident	2	6.7
Road accident	1	3.3
Tree fall	1	3.3

26 out of 30 patients (86.7%) had suffered amputation following a railway accident. Among the railway accidents, two were suicide attempts.

This is in contrast to various studies which have reported higher incidents of road traffic accidents as a cause of amputation, with prevalence ranging from 8%⁶ to 74.29%¹².

The high incidence of railway accident has not been replicated in previous studies. Possible reason could be the unique problem of crowded Mumbai local trains, which is the major means of public transport.

Symonds¹³ had reported a rise in the number of railway suicides in England in 1985. Around 52% of the subway train related fatalities during 2003 to 2007 were suicides in New York as reported by Lin et al¹⁴.

3. Number of limbs amputated:

Table 8:

Number of limbs amputated	N	%
1. One limb only	23	76.7
a. Upper limb	6	20
b. Lower limb	17	56.7
2. Two limbs (bilateral lower limb)	6	20
3. Three limbs (bilateral lower plus an upper limb)	1	3.3

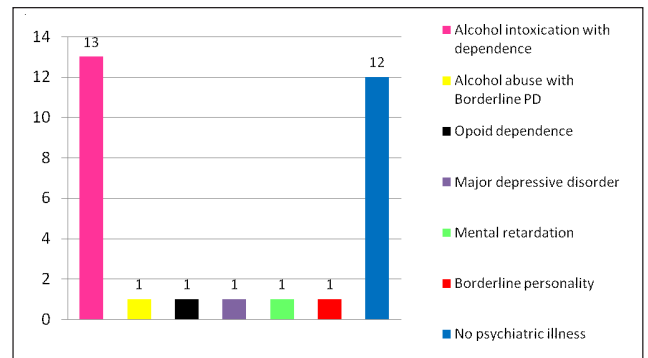
Majority of the patients had suffered single limb amputation, though one patient had three limb amputations. Lower limb amputation was found in 80% patients.

Abbas et al.¹⁵ reported lower limb amputations in 71.4% of their study population. Kim et al.¹⁶ found multiple limb amputations in 9.9% patients with higher incidence in victims of train accidents.

4. Premorbid psychiatric conditions:

Table 9:

Premorbid psychiatric conditions	N	%
Alcohol intoxication with dependence	13	43.3
Alcohol abuse with Borderline personality disorder	01	3.3
Opioid dependence	01	3.3
Major depressive disorder	01	3.3
Mild mental retardation	01	3.4
Borderline personality disorder	01	3.4
No psychiatric illness	12	12
Total	30	100



18 out of 30 patients (60%) had a premorbid psychiatric condition directly contributing to the amputation. The most common premorbid psychiatric disorder was alcohol intoxication with alcohol dependence in 13 out of 30 patients (43.3%). These patients met with the accident under intoxication which, eventually led to the amputation.

In a study conducted by Moore et al.¹⁷ on 15 patients meeting with a railway accident, 10 of them (20%) underwent an amputation and alcohol ingestion was involved in 13 out of the 15 patients (86.6%). None of the patients in the study received psychiatric rehabilitation post amputation.

Elevated alcohol levels and prior psychiatric diagnoses were present in 39 per cent and 17 per cent of the patients who underwent subway train accidents, respectively in another study by Maclean et al.¹⁸ A study by Spaite et al.¹⁹ in 1988 revealed that 27% patients were intoxicated with alcohol leading to railroad accidents in Tucson, USA. Shapiro et al.²⁰ concluded that although alcohol use occurred in 70% of patients meeting with train injuries, there was no significance between alcohol use and amputation.

Studies from Czech Republic^{7,8}, Brazil⁹, and Canada²¹ have documented the increased prevalence of alcohol

use in traffic violations, road traffic accidents and mortality.

In spite of extensive search, we could not find any Indian literature related to alcohol consumption and railway accidents.

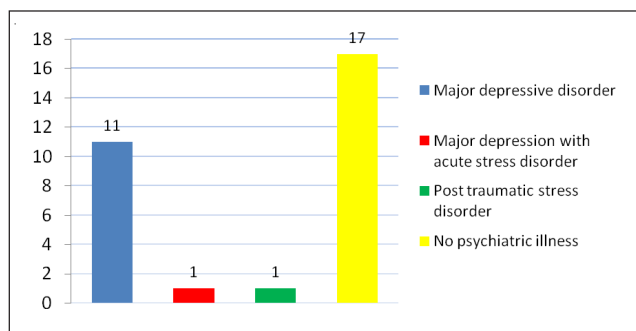
To our surprise, majority of our patients had not sought psychiatric treatment in the past for the premorbid disorders. Although alcohol dependence is widely treated by psychiatrists in India, its utilization has not been optimum till date. A drastic complication like amputation could be prevented, had the patients received psychiatric help.

We wish to highlight the need to spread psychiatric awareness and its scope to the public through this study.

5. Postmorbid psychiatric conditions:

Table 10:

Postmorbid psychiatric conditions	N	%
Major depressive disorder	11	36.7
Major depressive disorder with acute stress disorder	01	3.3
Post traumatic stress disorder	01	3.3
No psychiatric illness	17	56.7
Total	30	100



13 out of 30 patients (43.3%) had postmorbid psychiatric disorders. Of these 12 (40%) met the DSM IV-TR criteria for Major depressive disorder.

Post traumatic stress disorder was found to be the most common (30.8%) psychological complication post amputation followed by major depressive disorder in 19.2% in a extensive Indian study by Mall et al.⁵ A higher incidence of depression in our study could be due to the application of latest DSM IV-TR criteria for diagnosis.

In a recent article, Schulz²² concluded that about two thirds (67%) of all amputees don't cope with their amputation and become depressive while 15% develop

symptoms of anxiety. He also suggested the formulation of self help groups for amputee patients in order to help them cope better. Platisa et al.²³ found 55% of lower limb amputees presented with maladaptive responses to their disability, including adjustment disorder and dysthymia. In a study by Desmond²⁴, on patients of upper limb traumatic amputations, prevalence of significant depressive symptoms was 28.3% and of significant anxiety symptoms was 35.5%.

6. Demographic correlates of Major depressive disorder:

Table 11: Age

Age (years)	<=30	>30
Depressive disorder +	10	2
Depressive disorder -	10	8

Chi-square = 2.5, degrees of freedom = 1, P = 0.11 (not significant)

Table 12: Gender

Sex	Male	Female
Depressive disorder +	12	0
Depressive disorder -	17	1

Chi-square = 0.69, degrees of freedom = 1, P = 0.41 (not significant)

Table 13: Level of education

Mean years of schooling	<=5	>5
Depressive disorder +	6	6
Depressive disorder -	11	7

Chi-square = 0.36, degrees of freedom = 1, P = 0.55 (not significant)

Table 14: Religion

Religion	Hindu	Muslim
Depressive disorder +	7 (29.2%)	5 (83.3%)
Depressive disorder -	17	1

Chi-square = 5.87, degrees of freedom = 1, P = 0.02 (significant)

Table 15: Marital status

Marital status	Single	Married	Divorced
Depressive disorder +	7	5	0
Depressive disorder -	6	11	1

Chi-square = 2.22, degrees of freedom = 2, P = 0.33 (not significant)

Table 16: Employment status

Employment status	Employed	Unemployed
Depressive disorder +	10	2
Depressive disorder -	14	4

Chi-square = 0.14, degrees of freedom = 1, P = 0.71 (not significant)

As seen in tables 11 to 16, there was no significant difference in major depressive disorder post amputation with respect to age, gender, level of education, marital and employment status.

The significantly higher prevalence of depression in Muslim patients (83.3%) compared to Hindus (29.2%) could be due to the small sample size of our study.

Cansaver et al.²⁵ echoed our findings with no significant relation between depression and age, education level, marital status and economic status. He also reported a significant relation of depression with time since amputation. In a study of lower limb amputations in Jordan, Hawamdeh et al.²⁶ reported higher prevalence of psychological symptoms (depression and anxiety) with female gender, unemployment and shorter time since amputation. Racy²⁷ reported increased psychological difficulty with age in patients of traumatic amputation.

These findings emphasize the need for psychiatric rehabilitation of amputees irrespective of their socio-demographic profile. Psychiatrists should form a part of routine management plan of patients undergoing amputation.

7. Scores on HDRS17 and severity of depression:

Table 17: HDRS 17 score

HDRS 17 score	Baseline	1 month	2 months
Mean	20	13	8.5
Std. Dev.	1.8	5.2	3.7
Range	18 – 24	5 – 20	4 – 15

t= 3.74, degrees of freedom = 2, P = 0.06 (significant)

Table 18: Severity of depression

Severity of depression (score)	Baseline (n, %)	1 month (n, %)	2 months (n, %)
Moderate (18 – 24)	12 (40)	03 (10)	0 (0)
Severe (>24)	0	0	0

t= 3.02, degrees of freedom = 2, P = 0.09 (not significant)

The depressed patients showed a significant decline (P=0.06) in their HDRS 17 scores with Tab.escitalopram (10mg/day) from baseline evaluation to 2months post amputation.

Although none of the patients showed moderate depression after 2 months as compared to 12 (40%) at baseline, this was not found to be statistically significant (P=0.09).

Kashif et al.²⁸ reported that number of depressed patients reduced from 72.5% to 50% after therapy (significant). Also, in his study, psychiatric treatment resulted in a statistically significant reduction in level of depression as measured by Carroll Rating scale for Depression.

8. Scores on HAM-A and severity of anxiety:

Table 19: HAM-A score

	Baseline	1 month	2 month
Mean	17.8	14	8.4
Std. Dev.	4.9	4.0	4.3
Range	10 – 25	8 – 20	0 – 18

t= 3.80, degrees of freedom = 2, P = 0.06 (significant)

Table 20: Severity of anxiety

Severity of anxiety (score)	Baseline (n, %)	1 month (n, %)	2 months (n, %)
Mild to moderate (18-24)	08 (26.7)	05 (16.6)	01 (3.3)
Moderate to severe (25-30)	01 (3.3)	0 (0)	0 (0)

t= 3.88, degrees of freedom = 2, P= 0.06 (significant)

There was a significant decline in the scores on HAM-A and the severity of anxiety over 2 months with Tab. Escitalopram 10mg/day.(P= 0.06)

There are no set guidelines for the management of psychiatric comorbidities of amputation and data pertaining to this subject is scant. Hence, treatment plan should be based on individual patients to include psychotherapy and pharmacotherapy, as required.

9. Phantom limb phenomenon was present in 73.3% of patients.

This is comparable to other studies by Shukla et al.⁴ who found phantom limb in 86.1 % of the cases.

CONCLUSIONS

1. Majority of the patients undergoing traumatic amputation were young (mean age 31.5 years) males (96.7%), Hindus, married, employed with average of 5.2 years of schooling.
2. 26 out of 30 patients (86.7%) had suffered amputation following a railway accident. Possible reason could be the unique problem of crowded Mumbai local trains, which is the major means of public transport.
3. 76.7% of the patients had suffered single limb amputation, though one patient had three limb amputations. 80% had lower limb amputation.
4. 18 out of 30 patients (60%) had a premorbid psychiatric disorders directly contributing to the amputation. The most common premorbid psychiatric disorder was alcohol intoxication with alcohol dependence in 13 out of 30 patients (43.3%). These patients met with the accident under intoxication which, eventually led to the amputation.
5. Other premorbid conditions included alcohol abuse with borderline personality disorder, opioid dependence, major depressive disorder, borderline personality disorder and mental retardation.
6. Majority of the patients had not sought psychiatric treatment in the past for the premorbid disorders.

7. The study highlights the need to spread psychiatric awareness and its scope to the public through this study to avoid a severe complication like amputation.
8. 13 out of 30 patients (43.3%) had postmorbidity psychiatric disorders. Of these 12 (40%) met the DSM IV-TR criteria for Major depressive disorder.
9. Other postmorbidity conditions included one patient each of acute stress disorder and post traumatic stress disorder.
10. There was no significant difference in major depressive disorder post amputation with respect to age, gender, level of education, marital and employment status.
11. The significantly higher prevalence of depression in Muslim patients (83.3%) compared to Hindus (29.2%) could be due to the small sample size of our study.
12. Findings emphasize the need for psychiatric rehabilitation of amputees irrespective of their socio-demographic profile. Psychiatrists should form a part of routine management plan of patients undergoing amputation.
13. The depressed patients showed a significant decline ($P=0.06$) in their HDRS 17 scores with Tab.escitalopram (10mg/day) from baseline evaluation to 2months post amputation.
14. Although none of the patients showed moderate depression after 2 months as compared to 12 (40%) at baseline, this was not found to be statistically significant ($P=0.09$).
15. There was a significant decline in the scores on HAM-A and the severity of anxiety over 2 months with Tab. Escitalopram 10mg/day. ($P=0.06$)
16. Phantom limb phenomenon was present in 73.3% of patients.

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VIDEO GAME USAGE AND ATTENTION DEFICIT HYPERACTIVITY DISORDER (ADHD) SYMPTOMS IN ADOLESCENTS

Dr. Avinash De Sousa

ABSTRACT

Objective – Excessive video game usage has been associated with ADHD symptoms in adolescents but the relationship between them is unknown.

Method – A survey on adolescents and parents (n = 348) was performed across boy's schools. Students were administered a modified Young's Internet Addiction Scale (YIAS) and parents were asked to complete the Conner's Parents Rating Scale – Revised (CPRS-R). They were also given a semistructured questionnaire to collect relevant and pertinent data about the home environment and their attitudes towards video game usage.

Results – A number of faulty parental attitudes towards video game usage were revealed in the study. There was a significant association between video game usage for more than 1 hour a day and YAIS scores ($p = 0.0001$) and the hyperactivity, inattention and total ADHD scores on the CPRS-R ($p = 0.0001$). Oppositional symptoms on the CPRS-R was also increased ($p = 0.0242$).

Conclusion – Adolescents with excess video game usage may have increased ADHD symptoms and may even be prone towards getting addicted to video games. Parental change and adolescent intervention at the earliest with family focused treatment strategies are a must in order to curb the emergence of full blown ADHD in this group.

INTRODUCTION

Modern children and adolescents are the first to grow up with video games as a part of their daily lives. Children and adolescents use video games more than any age group with 65% children between the age

of 9-13 and 76% of young adolescents between the ages of 14-17 doing so (Papert, 1996). Across the world there is a passionate love affair between children and video games alike. They seem to know in a deep way that video games and technology belongs to them. They know that they can master it more easily and naturally than their parents, and they know that they are the techno generation (Healy, 1998).

Video games have been reported to have important social and mental health effects on adolescents. The association between television video game use and obesity, attention deficit disorders, scholastic backwardness, social isolation and aggressive behaviors are reported (Hancox & Poulton, 2005; Marshall, Biddle, Gorely, Cameron & Murdley, 2004; Christakis, Zimmerman, DiGiuseppe & McCarty, 2004; Browne & Hamilton-Giachritsis, 2005).

Significant relations have been demonstrated between video games use and attention deficit hyperactivity disorder (ADHD) in school children (Black, Belsare & Schlosser, 1999; Nalwa & Anand, 2003; Yoo et al., 2004). Many studies on mental health and media however have often included video games as a subset of internet and television use and rarely studied it separately (Griffiths & Hunt, 1998). Many studies however report the relationship between video games and aggressive behavior in children (Gentile, Lynch, Linder & Walsh, 2004; Anderson, 2004; Haninger & Thompson, 2004).

Some authors believe that the make believe world of video games including breaking worldly rules in a fantasy setting serves the important function of helping children understanding reality and the laws that make it up. They can compare varied possibilities of the natural world and also clarify reality while

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they are experimenting with altering it (Leslie, 1987). The term 'video game' used in this study does not differentiate between console and computer video games but instead suggests a common group. Console games may be single player games that are played alone while internet video games are multiple player games.

ADHD is on the rise and is of concern to parents and teachers alike (Swensen et al., 2003; McGough & McCracken, 2000). There is a paucity of data with regard to the potentially harmful versus potential beneficial video games and the effect of video games on family dynamics, parent child relationships and ADHD symptoms. Among children, family attitudes and environment are critical sources of influence on behavior. Using the social cognitive theory (Bandura, 1986) and behavioral choice theory (Rachlin, Logue, Gibbon & Frankel, 1986) it may be said that a child's behavior pattern develops within an ecological niche and parents play a pivotal role in the developmental process (Stokols, 1996). Few studies have looked at family environment, attitudes and electronic media use in children but most of these studies have not been conclusive in any regard (Certain & Kahn, 2002; Weicha, Sobol, Peterson & Gortmaker, 2001).

AIMS OF THE STUDY

1. To find out parental attitudes towards video game usage in adolescents.
2. To study the effect of excess video game usage on ADHD symptoms.
3. To study the effect of excess video game usage on video game addiction symptoms.

MATERIAL & METHODS

The study cohort comprised of 9th and 10th standard students studying in SSC schools in the city of Mumbai. All the participants were boys as the schools in the study were boy's schools. Surveys were distributed to the students and parents after obtaining permission from the school officials. The contact was made with the help of school teachers. The survey form had a student and parent section which had to be filled by both parties independently. The parents section had to be filled by both parents together after reaching a mutual consensus. A consent form had to be signed independently by parent and student for participation in the study. All survey data was anonymous.

A semi structured questionnaire was answered by both parents with regards to their attitudes towards video game usage by their child. This questionnaire had questions with respect to behavior of the child, demographic data, academic performance, psychiatric diagnosis and treatment received, use of video games by the child, the electronic media environment at home, parental use of video games and rules and restrictions with respect to video game use. This questionnaire was in keeping with a survey done in a study on family environment and physical activity in children (Salmon, Timperio, Telford, Carver & Crawford, 2005).

Time spent using video games was used to divide the participants into 2 groups for the analysis of the effect of video game usage on ADHD symptoms –
Group 1 – children with video game usage < or equal to 1 hour a day.

Group 2 – children with video game usage > 1 hour a day.

Parents were also surveyed using the Conner's Parent Rating Scale - Revised (CPRS-R). It divides behavior into 4 categories viz. oppositional, hyperactivity, inattention and ADHD (internal consistency $r = 0.57$) (Conners, Sitarenios, Parker & Epstein, 1998).

The student survey included the Young's Internet Addiction Scale modified for video game use (YIAS-VG; internal consistency, $\alpha = 0.82$). This scale has been validated in previous studies for internet addictive qualities (Johansson & Gotestam, 2004; Widyanto & McMurrin, 2004). The scale reflects on the negative impact of video games on social functioning and relationships including excessive video game use, neglecting work and social life, anticipation and lack of control.

The dependent variables were analyzed using the student t test and the parental attitude questionnaire was presented using frequency distribution and percentages. The entire statistical computation was done by a qualified bio-statistician.

RESULTS & DISCUSSION

A total of 370 survey forms were collected from the schools. 22 surveys were omitted due to incomplete responses. The final pool consisted of 348 forms each from parents and students. The response percentage was 94.05%.

TABLE 1 - SOCIO-DEMOGRAPHIC DATA

VARIABLE	N (%) (N=348)
Mean age	14.3 years
Both parents staying together	306 (87.93%)
Nuclear Family	313 (89.94%)
Joint family	35 (10.05%)
Both parents working	211 (60.63%)
Diagnosed as ADD / ADHD	26 (7.47%)
Diagnosed as any other psychiatric condition	7 (2.01%)

The socio-demographic data of the study group revealed that the mean age of the boys were 14.3 years [table 1]. Most of them had both parents staying together (87.93%). In keeping with sociological trends and urbanization, majority of them lived in nuclear families (89.94%). Both parents were working in case of a large number of adolescents (60.63%). 7.47% (26 out of 348) of the total study group were diagnosed as suffering from ADHD. 7 of the subjects were diagnosed as other psychiatric conditions viz. 3 as depression and 4 as conduct disorder with oppositional defiant disorder. All these subjects were undergoing psychiatric help at the time of the study. They were excluded from the final analysis.

315 adolescents and their parents were included in the final analysis. Of these 174 used video games for less than one hour a day (VG1) and 141 used video games for more than one hour a day (VG2). Significantly greater number of parents in the VG1

group restricted and supervised video game usage in their children ($p = 0.0001$). This is in keeping with the notion that discipline, rules and restrictions along with strict parenting plays a key role in restricting video game usage (Van den Bulck & Van den Bergh, 2000) (table 2).

27.08% fathers and 31.94% mothers in the VG2 group used to play video games. This indicates that parental behavior is often imitated by children leading to greater video game usage in them (Songul-Yalcin, Tugrul, Nacar, Tuncer & Yurdakok, 2002). In keeping with the familial aggregation of video game use, 51.39% of adolescents in the VG2 group used to play video games as a family more than three times a week. Nearly all subjects in this group had an internet access in their house. In the group with excess video game usage, majority of parents were known to use video games as rewards and reinforcers for good behavior.

An equal number of adolescents in both groups were given video games as a gift. Very often parents were the ones who introduced their children to video games in the first place. More than 70% adolescents in the group with excess video game usage had friends coming over to play video games and also had a separate TV in their rooms. Separate access to entertainment media may contribute to increased participation in screen based behaviors and video game usage (Dietz, 1996). Over 60% of children in

TABLE 2 – PARENTAL ATTITUDES TOWARDS VIDEO GAMES

Parental Report	Video games < 1 hour (VG1) (n=174)	Video games > 1 hour (VG2) (n = 141)	p value
Restriction on video game usage	117 (66.1%)	54 (37.5%)	0.0001*
Video game usage is supervised	34 (19.21%)	2 (1.39%)	0.0001*
Use of video games by father	9 (5.08%)	39 (27.08%)	0.0001*
Use of video games by mother	8 (4.52%)	46 (31.94%)	0.0001*
Internet access at home	142 (80.23%)	140 (97.22%)	0.0005*
Play video games as a family > 3 times a week	12 (6.78%)	74 (51.39%)	0.0001*
Video games are used as a reward	45 (25.42%)	86 (59.72%)	0.0001*
Parents know the names of 3 video games	23 (12.99%)	67 (46.53%)	0.0001*
Video game was given as a birthday gift	66 (37.29%)	51 (35.42%)	NS
Friends come over and play video games	21 (11.86%)	106 (73.61%)	0.0001*
Play of video games as a relaxation between study time	76 (42.94%)	98 (68.06%)	0.003*
Child has a separate TV in his room	41 (23.16%)	101 (70.14%)	0.0001*
Child has a separate computer in his room	24 (13.56%)	96 (66.67%)	0.0001*
Behavior problems after video game use started	12 (6.78%)	61 (42.36%)	0.0001*
Academic decline noted in the child	38 (21.47%)	79 (54.86%)	0.0001*
Child uses a separate mobile phone	22 (12.43%)	76 (52.78%)	0.0001*

Chi Square test used in the statistical analysis. * significant ($p < 0.05$).

TABLE 3 – BEHAVIORAL SYMPTOMS AND VIDEO GAME USAGE

SCORES	Video Games < 1 hour(n=174)	Video Games > 1 hour(n=141)	t value	p value
	Mean (SD)			
Conner's Oppositional Scale	2.46(1.75)	2.02(1.67)	2.2646	0.0242*
Conner's Inattention Scale	1.26 (1.01)	3.78(2.2)	13.4633	0.0001*
Conner's Hyperactivity Scale	1.44(1.1)	4.04(2.33)	13.0385	0.0001*
Conner's Total ADHD Score	3.56(2.3)	7.34(4.67)	9.3688	0.0001*
Young's Addiction Scale	10.2(6.4)	28.3(12.3)	16.8090	0.0001*

Statistical analysis done using the student t test. * significant ($p < 0.05$).

the excess video game usage group also had a separate computer in their rooms ($p = 0.0001$).

42.36% parents reported behavioral problems and school complaints in their child after the start of excess video game usage. 54.86% in this group noted an academic decline in their child. More than 50% of children along with TV and computers also had access to separate mobile phones ($p = 0.0001$). In today's modern electronic gizmo world, children probably have brains better suited to handle these gadgets and often demand these gadgets due to peer pressure or out of the desire to own them (American Academy of Pediatrics, 2001).

Students who played video games for more than one hour had significant increases in the scores on the YIAS-VG ($p = 0.0001$). The scale assessed the negative impact of video games on different social factors. The increase in scores suggests that excess video game usage did have a negative impact on relationships, social activity, thoughts and sleep. The scores in our cohort were however not high enough to be considered as evidence of 'internet – video game addiction'. We did not define a cutoff to identify excess video game usage (Johansson & Gotestam, 2004; Widyanto & McMurran, 2004).

There was a significant increase in the inattentive ($p = 0.0001$), oppositional ($p = 0.0242$), hyperactivity and total ADHD ($p = 0.0001$) scores of the CPRS-R in those adolescents with video game usage > 1 hour. Previous research has shown a correlation between excess video game usage and oppositional as well as aggressive behavior (Anderson, 2004; Anderson & Bushman, 2001). Further study would be needed to understand the association between video games and ADHD. Though proven that video game users have increased ADHD symptoms, it is unclear whether excess video game usage leads to increased ADHD symptoms or if adolescents with

ADHD symptoms spend more time on video games (Chan & Rabinowitz, 2006).

CONCLUSIONS

A few limitations of the study exist. The cross sectional nature of the study does not allow for cause effect nature to be established. Prospective studies that would examine the relationship between video game usage and ADHD symptoms are certainly justified. The subjects were not a representative of all groups. None of the subjects were on drugs or alcohol and most of the subjects did well in school unlike adolescents abroad. The association between video game usage and ADHD in other cohorts thus cannot be inferred.

This is one of the few studies that have found an association between video game usage and ADHD symptoms in Indian adolescents. Assessment of any risk factor often involves a detailed scrutiny of the home environment, early childhood factors, parental factors and academic environment. This study would probably add to the already known risk factors in ADHD and would contribute to prevention and early treatment strategies involving not only the adolescent but parents too.

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A COMPARATIVE STUDY OF PHENOMENOLOGY OF DRINKING AND QUALITY OF LIFE IN MEN AND WOMEN WITH ALCOHOL DEPENDENCE

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ABSTRACT

Introduction and objectives: Though minimal quantitative data is available, the gender differences in the pattern of drinking and the relationship of level of drinking and drink problems do exist. This in turn, has differential impact on quality of life in men and women. This study aims at comparing the drinking pattern, psychiatric co morbidity and quality of life in men and women alcoholics and finding the correlations among them.

Materials and method: Subjects were assessed through a semi-structured proforma including alcohol related details, Diagnostic and Statistical Manual for diagnosing mental disorders, 4th edition revised version (DSM IV TR) and WHO-Quality of life-BREF scale. Data was analyzed using chi-square and unpaired t test.

Results: Total duration of alcohol consumption after which medical help was sought was less in women (9.2 years) than men (19.66 years). Mean quantity of alcohol consumed was lower in women than men though prevalence of physical complication was equal in both. Among women with alcohol dependence, 68% were living alone and 58% had poor social support. Relief drinking was present in 80% of women whereas binge and blackouts were present in 84% and 98% of men respectively. Sexual disorders were common in women. 64% of women had good motivation for treatment compared to 46% of men. Depression was present in 52% of women. Social quality of life is affected much more in women than men.

Key words: men, women, alcohol, depression, quality of life

INTRODUCTION

Though studies on male alcoholism are predominant in literature, research on women with alcohol dependence is increasing. Gender is the strong predictor of drinking behavior in all cultures. Studies on comparison of drinking patterns between men and women are fewer but because of changing concepts of alcohol use, modernization of culture and de-stigmatization in female alcohol use, the pattern of drinking alcohol in males and females differs considerably in various aspects. In literature from India, studies^(1,2,3,4) have looked at the prevalence of alcohol use in males (19%-82.5%) but there is no mention about female use. Studies in the

general population indicate that fewer women than men drink but the consequences of women's alcohol use may be much grave when compared to the quantity of alcohol consumed^(5,6). Several reasons have been suggested for these differential drinking patterns^(7,8,9). Alcohol dependence occurs later in females than males, but both seek treatment almost at the same age⁽¹⁰⁾. Women prefer solitary drinking and consume significantly less quantity of alcohol than men⁽¹¹⁾. Also women alcoholics often experience greater physiological impairment and intoxication earlier in their drinking careers, despite having consumed less alcohol^(5,12,13). Alcohol dependent women have death rates 50 to 100 percent higher than those of male alcoholics due

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to medical problems as well as suicide. Studies demonstrate higher levels of anxiety and depressive symptoms^(14, 15) as well as higher levels of shame and guilt⁽¹⁶⁾ in women; whilst men have more antisocial trends and pathological gambling. Quality of life is affected in both the sexes though studies show poorer quality of life in females than male alcoholics⁽¹⁷⁾.

Today, a new generation of drinkers has cropped up wherein socially acceptable drinking in women is on the rise. Younger women are drinking, and drinking with more frequency and higher quantities. Perhaps a decade from now, we will thus have a different dimension to add to female alcoholism.

It was these issues and the lack of much available data that intrigued us to study this relatively neglected area.

MATERIALS AND METHOD

The study was conducted in the psychiatry department of a tertiary care medical hospital during January 2008 – August 2009 after obtaining the approval for the study from the Institutional Review Board.

This was a cross-sectional single interview study. Subjects were selected from Psychiatric and Medicine out-patient and inpatient departments of a tertiary care hospital; and those referred from a NGO involved in care of such subjects, after their informed consent.

Aims and objectives: The aims were to study and compare the drinking pattern, psychiatric co morbidity and quality of life in men and women alcoholics and to find gender related correlations among them.

Sample: 100 men and women alcoholics (50 men and 50 women) in the age group of 18 to 60 years with the diagnosis of alcohol dependence according to Diagnostic and Statistical Manual for diagnosing mental disorders (DSMIV TR) were selected consecutively and **included** in the study after their consent. Subjects **excluded** were those having already diagnosed Axis I psychiatric disorder, those with severe physical and mental abnormality and those under the influence of alcohol or in withdrawal i.e. any drink in last 72 hrs of alcohol. The subjects were administered the following tools:

1) **Semi structured clinical proforma** – including socio-demographic data, alcohol related details like age of onset, reason for starting alcohol consumption (psychosocial precipitating factor, peer pressure, etc.), occupational exposure to alcohol, pattern of

drinking (binging, relief drinking), drinking style (solitary, with others, both), duration of increased drinking and reason for it, drinking related complications, associated physical and psychiatric co-morbidity, past history of abstinence and treatment, etc.

2) Diagnostic and Statistical Manual for diagnosing mental disorders, 4th edition revised version (**DSM IV TR**) criteria for diagnosis of alcohol dependence and co morbid psychiatric conditions.⁽¹⁸⁾

3) **WHO Quality of life- BREF Scale**⁽¹⁹⁾– To assess the quality of life, health and other areas of life. It is an abbreviated version of WHO- QOL 100 scale, containing 26 items each rated on a 5 point Likert scale. It measures quality of life in 4 domains – physical, psychological, social and environmental along with two items from the Overall quality of Life and General Health facet. Domain scores are scaled in a positive direction (i.e. higher scores denote higher quality of life). The mean score of items within each domain is used to calculate the domain score. Mean scores are then multiplied by 4 in order to make domain scores comparable with the scores used in the WHOQOL-100.

The raw scores are then converted into transformed scores to obtain the domain scores in the range of 0-100. The scale has high internal consistency (Cronbach alpha = 0.94).

Data analysis: Data was pooled and analyzed using SPSS V17 Software package. Correlations were analyzed using chi-square test and unpaired t test. Interpretations were formulated in statistical terms to reach the conclusion.

RESULTS

1.1 Socio-demographic profile

In this study, there were 50 men and 50 women. Majority of the subjects were in the age group of 30 to 40 years. Majority were Hindu. Among women, 48% didn't have formal education whereas among men majority (54%) had achieved secondary education and the difference was statistically significant (p-0.001).

While only 18% of the men were single, 68% of the women were living alone i.e. they were single, divorced, separated or widows and the difference was of statistical significance (p-0.001).

1.2 Alcohol related details

In our study majority of men (72%) were brought for treatment by their relatives whereas 72% of the female subjects sought medical help either themselves (38%) or brought by non- government organizations (NGOs) involved in the care of such women (34%). This finding was statistically significant with the p value of 0.001.

Majority of men (82%) consumed their first drink with friends whereas only 32% of the women had first exposure with their friends. 62% of the female subjects started alcohol either alone or were offered (allegedly) forcefully without their consent.

The mean age at which alcohol consumption started was 24.54 years in men and 27.5 years in women. The mean duration of alcohol dependence for seeking medical help was 19.66 years in men compared to only 9.2 years in women. This finding was statistically significant with p value of <0.01.

The mean initial quantity of alcohol consumed in men was 39.9 grams compared to 29.2 grams in women which increased over a period of time to current quantity of 143.5 grams in men and 88.3 grams in women respectively; and the difference was statistically significant (table 1).

Table 1 : Quantity of alcohol consumption

Dose of alcohol in grams	Men		Women		Unpaired t-test		
	Mean	S.D.	Mean	S.D.	t	p-value	Sig
Starting dose	39.964	29.9735	29.232	19.0918	2.135	0.036	Sig
Current dose	143.544	86.276	88.355	52.6572	3.861	3.861	Sig

52% of the women had psycho-social precipitating factors present (divorce, physical abuse, etc) when they started alcohol consumption compared to only 10% of men with similar history.

There was no difference in type of beverage preferred in the initial period of the illness between men and women groups and most of them were consuming beer, country liquor or whisky. Majority (64%) of men after many years, shifted to only country liquor compared to only 46% of women. The finding was statistically significant (p-0.004).

In our sample, history of tolerance was present almost equally in men as well as women. Relief drinking was found in 80% of the women compared to the same in only 56% of men and the difference was statistically significant (p- 0.01). On the contrary, binge drinking was present in 84% of men compared to only 42% of women (p-0.001) (table 2).

Table 1 : History of relief drinking and binge drinking (Genderwise)

SEX	History					
	Relief drinking			Binge drinking		
	Present	Absent	Total	Present	Absent	Total
Men	56%	44%	100%	84%	16%	100%
Women	80%	20%	100%	42%	58%	100%

There was no difference in the drinking style between men and women and both preferred solitary type of drinking. In our study around 70% of both men and women had history of some or the other medical complications.

Blackouts were seen significantly common in men (98%) than women (p- 0.001). History of antisocial activities like gambling, stealing, risk taking was present equally in men as well as women.

Past history of abstinence was present equally in men and women. Main reason for restarting alcohol consumption in women was 'stress' related to marital disharmony, lack of support, etc. whereas periodicity of consumption was the major cause in men. Good motivation was found in 64% of women compared to 46% of the men.

On psychiatric history 52% of women showed co morbid depression according to DSM IV TR compared to only 6% of men who showed similar history and this finding was statistically significant (p-0.001).

1.3 Marital and Family history

80% of men in our study population were found to have family history of alcohol consumption in first degree relatives compared to 62% of women. The difference was statistically significant (p-0.04).

History of marital disharmony was present in 50% of the women and 42% of men. When asked about sexual history we found 36% of women had sexual problems like decreased desire, orgasmic disorders and reduced satisfaction level compared to 18% of men who had erectile dysfunction as a major problem. This difference was statistically significant (p-0.043).

Social support was found to be poor in 58% of the women as compared to 36% of men and the finding was statistically significant (p-0.028).

1.4 Quality of life

Mean overall quality of life in both men and women was less than 200 with social quality of life being

Table 3 : Quality of life in men and women

Quality of life (QoL)	Men		Women		Unpaired t-test		
	Mean	S.D.	Mean	S.D.	t	p-value	Sig
Physical	50.42	9.208	50.12	13.301	0.131	0.896	
Psychological	48.78	9.69	47.62	14.016	0.481	0.631	
Social	48.84	15.22	41.14	15.789	2.483	0.015	Sig
Environmental	49.66	10.607	45.12	17.302	1.582	0.117	

significantly lower in women than in men ($p < 0.05$) (table 3).

DISCUSSION

It is widely reported that women drink less and have a lower prevalence of drinking problems than men, but the gender differences in the relationship between level of drinking and drinking problems have rarely been investigated quantitatively⁽²⁰⁾. This study reports important differences in drinking phenomenology between men and women.

Majority of the women were about 30-40 years of age and living alone i.e. they were single, divorced, separated or widows. Studies show that women who have multiple roles (e.g., married women who work outside the home) may have lower rates of alcohol problems than women who do not have multiple roles⁽²¹⁾. In fact, role deprivation (e.g. loss of role as wife, mother, or worker) may increase a woman's risk for abusing alcohol⁽²²⁾. Women who have never married or who are divorced or separated are more likely to drink heavily and experience alcohol-related problems than women who are married. Unmarried women living with a partner are more likely still to engage in heavy drinking and to develop drinking problems.

Positive family history of alcohol consumption (in first degree relatives) in majority of sample can be due to the effect of genes as well as sharing of similar environment. According to a study done by Schuckit in 1999, a significant proportion of the alcoholism risk in both men and women reflects genetic influences. For women as for men, alcohol dependence runs in families⁽²³⁾. History of marital disharmony can be the cause or the effect of alcohol consumption.

The unacceptability of alcohol consumption in Indian women and subsequent poor support from the families resulted in NGOs taking care of them, and hence their subsequent delay in being brought for treatment to our facility. Also, this impacted their social domain of quality of life. This finding was similar to that of the study by Peter et al in 2003⁽²⁴⁾.

Eileen Corrigan⁽²⁵⁾ reported that majority of the female subjects started alcohol either alone or were offered forcefully without their consent, a finding that we too observed. The social expectation; about how women should behave, seems to determine the mode of drinking and hence many women in our sample preferred solitary drinking at least in the beginning.

Women often experience greater physiological impairment earlier in their drinking careers, despite having consumed less alcohol than men^(5,12). These findings suggest that the development of consequences associated with heavy drinking may be accelerated or "telescoped" in women. Hence the mean duration (in number of years) for seeking treatment vastly differs between men and women^(26,27), with women being compelled to enter the medical system earlier due to earlier complications of drinking. Margaret Ely and group found that the distribution of alcohol consumption was highly positively skewed for men and women, with most subjects reporting no or very low levels of drinking and a few very high quantities. Along with this the average consumption for men was three times that of women (13.9 and 4.5 U, respectively)⁽²⁰⁾. Men have higher levels alcohol dehydrogenase, with larger livers, and hence physiologically can tolerate more quantities of alcohol⁽²⁸⁻³¹⁾.

Women more than men, had a history of severe psychosocial stress when they started alcohol consumption⁽³²⁾. Beckman also found that women usually begin drinking heavily in response to a specific environmental stress such as divorce or death in the family⁽³³⁾. Gender roles and increased sensitivity in women to environmental stimuli, probably account for the same. The same reflected in increased relief drinking seen more in women.

Straus and Bacon (1953) found in their study that beer remained the most popular among men and spirits among women⁽³⁴⁾. We did not find any Indian literature to support our findings, but assume that women did not drink country liquor due to social limitations and shorter alcohol careers.

Bingeing, being largely a male phenomenon, again was probably a cultural and/or social phenomenon, as a woman bingeing is largely looked down upon in our society. Alcohol related problems were seen more in men as they had higher overall consumption than women. Rapaport in his study revealed in their study that more males than women experience black-outs⁽³⁵⁾, again probably related to a higher consumption.

Presence of underlying psychopathology, either as a primary disorder or personality (antisocial activities like gambling, stealing, risk taking, police complaints), was seen in both men and women. More women than men had severe dependence on other substances and antecedent mental health problems, especially mood and anxiety disorders⁽³²⁾. Beckman in his study found that many women have more severely disturbed personalities and female alcoholism has also been linked to low self-esteem and sex role confusion⁽³³⁾. We did not find any study showing increased prevalence of sexual disorders in women alcoholics to support our findings but indirect evidence in the form of association of menstrual disorders (e.g. painful menstruation, heavy flow, premenstrual discomfort, and irregular or absent cycles) with chronic heavy drinking^(36,37) and its adverse effects on fertility⁽³⁸⁾ might be the cause. Hormonal changes due to alcohol can also have the similar effect.

The main reason for restarting alcohol consumption in women was stress related to marital disharmony, lack of support, etc. whereas periodicity of consumption was the major cause in men. Sokolow and colleagues⁽³⁹⁾ attempted to compare treatment outcome between men and women and reported that, among those who completed treatment, abstinence was slightly higher among women than among men. Higher numbers of women were motivated to quit alcohol than men.

LIMITATIONS

This was a cross sectional study and longitudinal studies are required to see the changing pattern and difference in the response of body to the alcohol in men and women. Individual's personality traits may affect the drinking pattern which were not studied.

IMPLICATIONS

Male biased sampling and misleading reporting of findings continue to be evident in addictions research and there is a need for gender-sensitive research in this field. This study helps in the awareness and acceptance i.e. de stigmatization of women consuming alcohol. Difference in the drinking pattern may guide us to plan different treatment and rehabilitation approaches for men and women.

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BOUFFEE DELIRANTE IN MULTIPLE FAMILY MEMBERS - A CASE REPORT

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INTRODUCTION

Acute and transient psychotic disorder occurring simultaneously in multiple members of the family is a rare phenomena. Literature search revealed a similar case reported in 1990 in two Jamaican siblings who immigrated to Canada.^[1] This is an interesting case report of acute abnormal behaviour in three of the family members concurrently.

CASE HISTORY

Case A

This is a 22 years old female patient, elder of the two siblings, brought to the hospital in an aggressive state. She was chanting some verses continuously and was found listless and agitated. Initially she refused to talk. Accused the therapist and other hospital staff as one among the gang of persecutors seeking her end. After forcibly administering haloperidol 5mg and lorazepam 4 mg parenterally, patient allowed examination. Extreme persecutory ideas amounting to delusions were expressed. Ideas of blackmagic were also present. On day 2 and 3 of admission patient continued to be suspicious but co-operated for interview. She took risperidone 2mg orally with slight coaxing. No aggressiveness was seen. On day 7 her mental condition returned to premorbid state. Complete insight was regained. She was discharged on oral risperidone 2mg at bed time and was asked to review at the end of one week.

Case B

She is a 20 years old younger sibling, more agitated than A. She assaulted the hospital staff and her sister and also a few friends who came to visit her. She had to be administered parenteral antipsychotics for two consecutive days before being shifted to oral antipsychotics. Till day 4, patient was harbouring delusion of misidentification. She refused to talk to her father and brother saying they were imposters in their

disguise. Even friends who came to visit her were not her friends but were accused as imposters. She felt that a huge gang was operating to harm her family. She wanted to be let off as her mother was in danger at the hands of the persecutors. On day 7 she talked to the therapist spontaneously. There was a marked reduction in the psychotic symptoms. But she was complaining of racing of thoughts and confusion. By day 8, patient came back to near premorbid state. A mild degree of anxiety was evident. She was discharged with 3mg of oral risperidone and 25mg of sertraline along with clonazepam 0.25 mg bid.

In both the cases, there is no history of similar complaints in the past. No significant mental illness or habitual possession attacks in family except for ideas of blackmagic shared by the whole family that includes the parents and three unaffected siblings.

Case A had schooling upto class X. Case B was pursuing her college education.

Psychometric evaluation on day 3 of admission revealed no evidence of any psychosis but there were indicators of conversion and dissociation in both cases with significant depressive element in case A.

Mother (case C) was brought for evaluation after discharge of A and B.

Case C was a 42 years old female who was a known diabetic(type 2), hypertensive and hypothyroid. She was on regular treatment for all the three conditions since the last seven years with a fairly good control. She was habituated to alcohol in the form of toddy since seven years (approximately two drinks per day). An episode of withdrawal delirium was reported about one year ago which improved with reintake of toddy. Presently before the onset of symptoms she had abstained from alcohol for about four days. Initial symptoms were tremulousness and persecutory ideas. She was agitated and talking irrelevantly. She was also

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sleepless and was hearing voices and seeing images. She was taken for magico-religious treatment where her agitation increased. She was suspecting everyone to be a part of the persecutors. She was offered toddy in a small quantity twice in the one week period. She had partial sleep but continued to talk abnormally. She was brought for examination after one week with mild force. She was very reluctant to talk. Suspected the therapist to be a part of the gang. She insisted that the same gang had abducted her daughters. No hallucinations were present at the time of examination but persecutory delusions persisted. Overvalued ideas of blackmagic were seen. Yet she co-operated for examination and was not aggressive. She was fully oriented to time, place and person. She was treated as an outpatient with high potency antipsychotics along with detoxifying and deaddicting agents.

There is no past history of mental illness.

At follow-up after one week, case B was completely normal but had developed akathisia. Case A was having ideas of blackmagic. Suspected her mother to be possessed by evil spirits and was refusing to come back to their house. Case C also had returned to premorbid state except for attribution of the whole events to black magic. Oral antipsychotics were continued in A and C but withdrawn in case B and was kept under close follow-up.

DISCUSSION

The simultaneous onset of psychosis with predominant delusions of persecution and misidentification in two of the family members following exposure to the psychosis in mother, with a striking similarity in the content of delusions led us to first think of folie a deux- case C being the inducer and A and B the secondary partners. Quick resolution of the symptoms as soon as the pair was separated from the primary partner further supported this diagnosis. However, the short duration of illness without any established delusions in case C did not fulfil the criteria for the inducer. The inducer's illness is often quoted to be a chronic psychosis such as schizophrenia or delusional disorder and the onset of delusions in the secondary partner is usually gradual after a period of association.^[2]

Therefore, cases A and B appear to fall into the group of acute and transient psychotic disorders according to ICD-10 criteria and brief psychotic disorder as per DSM IV^[3] with an abrupt onset and polymorphic clinical

presentation. Problem of case C can be discussed as alcohol induced psychosis as the psychotic symptoms persisted beyond the period of delirium.^[2]

This case was reported because of the simultaneous presentation of psychosis in two of the family members following exposure to a perceived stressor probably the paranoid illness in mother without any significant genetic vulnerability. The clinical features are close to what Magnan first described as bouffe 'e de 'lirante in 1886.^[4] They are described to be sudden attacks of brief duration with paranoid delusions and hallucinations along with a highly emotional state with confusion precipitated by a distinctive fear of magical persecution through sorcery or witchcraft. This is described under different names such as folie hysterique in Paris^[5] and amentia transitoria in Vienna.^[6] Hysterical psychosis^[7] and emotional psychosis are other terminologies. These reactions are found to be strongly interlinked with cultural beliefs in blackmagic and witchcraft with the trigger being any tormenting stress in this background. Socio-cultural factors are thus believed to play a major role in their psychopathology. For the same reason, this is also termed as reactive/psychogenic psychosis in certain other parts of the world.^[8] Some of the cross cultural studies reiterate that the psychological mechanisms underlying trance and dissociative disorders play a fundamental role in the causation of psychotic symptoms in this type of psychosis.

Many researchers have concluded that delusions and hallucinations including many other first rank symptoms can be a part of dissociation under extreme stress.^[9-12] They describe the acute psychotic episode as rather a dissociative defense reaction to an emotionally traumatizing experience signalling a state of crisis.^[13] Psychometry in our cases supports this finding. This perhaps explains the onset of illness in multiple individuals from the same culture. Hence one should exercise caution before labelling a diagnosis of schizophrenia or any other major psychosis in such cases as studies have found that 24-49% of cases of dissociative identity disorder have been previously diagnosed and treated as schizophrenia.^[14]

That cultural beliefs play an essential role in the psychopathology of bouffee delirante is further highlighted by its increased reporting from the so-called premodern cultures. A 10-nation study of psychoses by the WHO reports that the incidence of non-affective psychosis of acute onset and full recovery is ten times

higher in pre-modern cultures than the modern cultures irrespective of their socio-economic development. Beliefs in magico-religious practices not only influence the symptomatology but also remain an important vehicle of cure in these cultures. The traditional treatment includes rest, counselling by the religious healers, sympathy and support of the family along with social destigmatization. This results in rapid and complete recovery of the patient.^[15] Whereas in the modern cultures, the rapid social change and urbanization has left the believers bereft of the sense of protection extended by the magical supernatural powers and the support thereof. Consequently, the course of acute psychoses in the western world is more protracted.^[16]

To sum up, understanding the psychopathology from the cultural point of view throws more light on reactions like these that have good outcome and are peculiar to the developing nations. Permissive treatment methods accommodating the cultural beliefs of the land may be more appropriate in these conditions. Most importantly, one should not attempt to compartmentalize the symptoms so as to make a convenient diagnosis, for psychotic symptoms can be a part of non-psychotic disorders as well. Long term follow-up is the only way out to resolve the lingering qualms about the future of any acute psychotic illness.

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CATATONIA : A CASE REPORT

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Dr. M. S. Reddy**
Dr. S. Swetha*

The syndrome of catatonia first described in 1874 by Kahlbaum. Over the years the incidence of the illness has been declining with its virtual disappearance in the modern psychiatric facility. Also the traditional association of catatonia with schizophrenia has been challenged with studies showing it to be associated more with affective disorders. Here we report an interesting drug-naïve case with a 2 year duration of catatonic symptoms following a 3-4 year period of disturbed behavior.

INTRODUCTION

One of the most fascinating descriptions in psychiatry is that of the catatonic state. The phenomena like automatic obedience or the psychological pillow seem to border on the realms of fantasy for the first-time reader. Catatonia was first described in 1874 by Kahlbaum in his monograph, "Die Katatonie oder das Spannungsirresein," as being a cyclic disease mixing motor features and mood variations. Because most cases ended in dementia, Kraepelin recognized catatonia as a form of dementia praecox and Bleuler included it within his wide group of schizophrenias. This view influenced the psychiatric practice for more than 70 years. But catatonia was recently reconsidered and this is because of the definition of more precise diagnosis criteria and the discovery of a striking association with mood disorders. Catatonic symptoms include waxy flexibility or catalepsy, posturing, mutism, negativism, automatic obedience, echolalia, echopraxia, stereotypy, and stupor.

From about the 1930s, however, it was noted that the incidence and prevalence of the condition was on the decline (Morrison, 1974) and it has virtually disappeared from the modern psychiatric unit. The decline has been attributed to varying causes. Early detection and management of the condition and a liberal and humane hospital atmosphere were some of the reasons attributed. The fact that the fall in incidence preceded modern pharmacological treatment by a generation was taken to mean that social management had effectively dealt with large numbers of patients with serious medical condition. Yet, studies in the 1970s reported catatonia to be prominent among patients outside

schizophrenia. About 10% of the 2500 hospitalized patients at the University of Iowa in 1975 met criteria for catatonia at their index admissions. Among those re-examined at a later date, 40% had, at some point, recovered completely. These patients were not schizophrenic as was considered at the time.

Here we report a case of catatonia.

CASE REPORT

Mr. N, a 30 years old male from a middle class, rural background was brought to the hospital with a 2 years history of not talking/interacting with anyone and sitting in one place almost all day long. Prior to this 2 year period patient had been showing odd behavior for 3-4 years. He left his educational course (B. Com.) abruptly and returned home without giving any reason. He demanded money from his parents and spent large amounts on food and cigarettes. Refusal to give him money resulted in him getting angry and physically abusive towards the parents. He spoke of going to America and earning crores of Rupees. He began spending most of his time confined at home except times when he wandered out and spent his time smoking or eating out alone. He refused to meet or greet anyone who came home and refused to go to social gatherings. He was angry and irritable all the time without any reason and often beat up his parents with trivial or even in absence of any provocation. His self-care also suffered and he did not sleep much at night. Parents lived in constant fear of his anger outbursts and there was hardly any interaction between them. He was taken to many faith healers, temples as well as doctors but he refused any medications. Vexed by his constant aggressive behavior, 2 yrs ago he was beaten up by

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family members. There was no blow delivered to his head, no history of fall (patient was tied to a tree), no bleeding from nose or ear, no injuries to head or scalp, no loss of consciousness, seizures or vomiting. The patient did not require hospitalization or medical care. Since then the patient stopped talking or interacting with anyone and does not respond to anything (even physical stimulus) and resists being moved. He sits in one place without moving from morning to evening. He can be coaxed, after much persuasion, to bathe and he eats whatever is placed before him, eating very messily. He is able to care for his bowel bladder habits by himself. Occasionally he makes gestures, as if pouncing on something or makes odd facial grimacing like gestures. Family members tried various temples, faith healers and doctors with little success over the last 2 years, with patient gritting his teeth and refusing to take any medicines. He was finally brought to a psychiatrist and admitted to a psychiatric facility after 2 years of being in this condition with neither improvement nor worsening during this period. There was no history of talking to self, laughing to self, suspiciousness, hearing voices, crying spells, seizures, vomittings, hematemesis, fever or repetitive actions during these 7 years. No history of any substance abuse in the last 7 years. There was no anger, aggression or sudden spurts of activity in the last 2 years. There was no family history of any psychiatric or neurological illness. The patient had a well adjusted pre-morbid personality. On admission his vitals were stable, temperature was 98° F and muscle tone was increased. Examination revealed a patient sitting cross-legged on the bed with hunched shoulders looking downwards in a fixed gaze. He did not look up when spoken to and eye contact was not established at any point during the interview. Psychomotor activity was minimal and the patient was mute. Rigidity and negativism and 'gegenhalten' was seen with posturing and staring present. There was no ambitendency or automatic obedience but the classic description of 'mitgehen' or the 'anglepoise lamp' was elicited. Waxy flexibility was present, lasting for 2 minutes and the psychological pillow could be elicited for around 2-3 minutes. A complete neurological testing was not possible as the patient resisted most efforts to examine him. The Bush-Francis Catatonia Rating Scale was administered and a score of 25 was obtained.

The patient was thoroughly investigated and all laboratory investigations including complete blood count, thyroid functions, renal and hepatic functions, blood

sugar level, ECG and electrolytes were normal. Brain imaging and EEG studies showed no abnormalities. The patient was started on parenteral lorazepam and ECT was planned. Patient showed improvement with ECTs with increased interaction and better self care and Bush-Francis Catatonia Rating Scale scores improved to 2 with 4 ECTs, each given on alternate days with shifting to oral administration of lorazepam.

Although the diagnosis of catatonia was easy in this case, the underlying psychiatric illness presented a more atypical condition. The likelihood of a prolonged state of manic irritability followed by a period of depression associated with catatonia was considered. No psychotic symptoms were seen at any point in the history of the illness and a definite diagnosis would likely be possible only after a longitudinal follow-up of the case.

DISCUSSION

Catatonia is one of the most dramatic psychiatric presentations, but is becoming increasingly rare. However, it has been suggested that catatonia is under-recognised and under-diagnosed (Van der Heijden et al, 2005). Although the introduction of antipsychotics has reduced the incidence of catatonia, it is still not uncommon (Stompe et al, 2002) and its detection rate can be significantly improved by using a standardised rating scale (Van der Heijden et al, 2005).

Although traditionally linked to schizophrenia, catatonia is more commonly associated with mood disorders (Pommepuy & Januel, 2002). For example, Abrams & Taylor (1976) recorded that, in a sample of 55 people with catatonia, only four had schizophrenia and more than two-thirds had affective disorders. Similarly, Barnes et al (1986) reported only one person with schizophrenia in their sample of 25, but nine with affective disorders (all nine depression), five with organic causes and in the remaining 10 no psychiatric or organic cause could be found despite thorough investigation.

A retarded form of catatonia, sometimes referred to as the Kahlbaum syndrome, is the most commonly recognized. Movement is inhibited with posturing, rigidity, mutism, and repetitive actions. Failure to respond to painful stimuli is a feature. Stupor is the more severe form of inhibition and is often an expression of catatonia. Such patients require parenteral feeding and extended nursing care during these life-threatening states. Another description in catatonia is that of the periodic

catatonia first described by Kraepelin in 1908 within his classification of schizophrenia. The clinical features of periodic catatonia show an onset usually between 14 and 20 years, characterized by a period of erratic conduct followed by an interval of stupor, confusion or excitement, which thereafter undergoes periodic remissions and relapses. The periodicity is remarkable in the rapidity with which all changes occur.

Surveys using standardized rating scales find 7% to 15% of acutely hospitalized psychiatric patients and psychiatric emergency department patients to exhibit the catatonic syndrome (Rosebush 1990, Chalasani 2005). Sadly, these patients go largely unrecognized. In a large Dutch study, for example, while the clinicians identified catatonia in 2% of 139 inpatients, the research team found catatonia in 18%. Using a rating scale helps to identify people who have catatonia that might otherwise not have been diagnosed (Van der Heijden et al, 2005).

The Bush–Francis Catatonia Rating Scale (BFCRS) appears to be the most widely used instrument for catatonia. The BFCRS has 23 items, and there is also a shorter, 14-item screening version. The reliability and validity of the BFCRS has been established (Bush et al, 1996) Another catatonia rating scale, the Modified Rogers Scale (MRS), has also been validated (Starkstein et al, 1996). The MRS rates abnormalities in movement, volition, speech and overall behaviour, and also aids in the distinction of catatonic signs from seemingly similar extrapyramidal side-effects (Lund et al, 1991). Peralta & Cuesta (2001) have postulated that the presence of three or more of the following 11 signs constitutes a diagnosis of catatonic syndrome: immobility/stupor, mutism, negativism, oppositionism, posturing, catalepsy, automatic obedience, echophenomena, rigidity, verbigeration and withdrawal.

The catatonia syndrome has not disappeared. It is well-defined in both adult and pediatric acute medical, neurology, and emergency department services. It is eminently treatable. It warrants greater attention as a distinct syndrome akin to delirium; its recognition outside the construct of schizophrenia is encouraged. Varying prognoses are mentioned in literature for catatonic schizophrenia and are understandable if there were a heterogeneous collection of disorders masquerading under the label of ‘catatonic schizophrenia’; the oft-reported good response of the catatonic type to electroconvulsive therapy would then begin to make

sense. Perhaps many of these catatonic patients belonged, like many schizo-affectives, to the affective camp (Tsuang, 1979).

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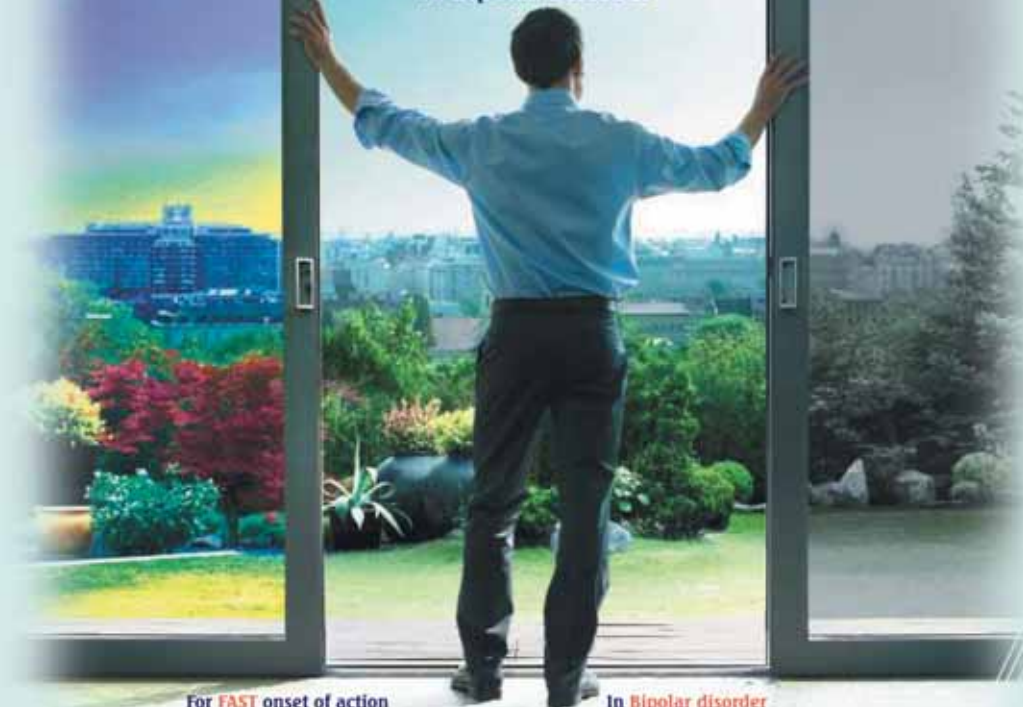
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