

## CYBER PSYCHIATRY AND THE MODERN PSYCHOSOCIAL STRESSORS

The role of social factors in the causation or maintenance of emotional disorders has been identified since time immemorial. If one examines the older instruments for assessment of social stressors or life events, one can note that those scales included items which were of significance then. However, there are newer sources of stress for the individuals in the modern world. We need to review if these new age psychosocial stressors need to be taken into cognizance. There is an emerging area of study on cyber psychology and behavior and the impact of internet, multimedia and virtual reality on behavior and society. Psychiatric disorders related to cyber world are yet to be described.

The first of these modern stressors is the internet. Internet has introduced a novel method of communication and with it, also its novel problems of communication disorders. E-mails have become a rapid method of non emotional or impersonal communication, with or without smileys and emoticons. Similarly, chatting on the net has provided an invisible and incognito method of social interaction. Chat rooms have provided a new social circle and community without personally knowing the individuals in the group. In clinical practice one comes across patients with emotional and psychological disturbances related to emails and chat rooms. In clinical practice, there are cases of persecution, reference, depression and virtual stress related to the net. The internet also gives an easy access to sites which can influence the individual's psychological and sexual needs. Parents often come with complaints of their children's dependence on the internet and viewing of prohibited websites. The net has become a way of dealing or coping with isolation and loneliness, even without direct social interaction. Similarly, not getting e-mails, in reply or otherwise, causes distress to those who are rejection sensitive or insecure.

The next source of stress in modern times is related to the use of mobile phones. Like the internet, newer methods of communication with short text messages [SMS], missed calls

and ring tones have become popular. The mobile phone can become a source of persistent stress due to its continuous availability as switching it off betrays a sign of rudeness or rejection. The high cost of mobile phones also puts stress related to their theft and safety. Loss of a mobile phone has become one of the modern sources for grief. The paranoid psychopathology among partners has changed to checking 'tell-tale signs' in the SMSs - sent and received, calls received and made, missed calls, and personalized or symbolic ring tones. Paranoid behaviors and attitudes while using the cell phone would soon need to be included in structured psychiatric interviews and diagnostic systems. Subtle grandiosity has emerged with acquiring expensive handsets and roaming options. Add to these the iPods and MP3 and MP4 players which have revolutionized digital music and added another source for stress. In future, there may be studies on specific personality types of those owning Nokia, Samsung, Motorola or Reliance and their network providers – Airtel, Hutch or Spice. There are enough studies on relationship of mobile phones with brain tumours (Muscat et al, 2006) and oxidative stress, soon there should be randomized controlled studies on psychopathology related to mobile phones.

The size of the wallets has become slimmer due to the use of credit cards which has replaced the usual paper and coin currency. Credit cards lead to a newer financial strain and stress on the individual with access to unlimited money at hand and worries related to repayment of loans and debts. Very much like the mobile phones, individuals face stress due to credit cards frauds and thefts.

Workplace is being replaced by computer laptops and notebooks. People accustomed to these run their office from anywhere and everywhere. There will be a need to redefine 'work place' as 'where ever the laptop is' and identify newer and variable mobile work place related stress disorders. Some studies have been reported on musculoskeletal symptoms and syndromes among laptop users. We need to

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review how many such symptoms are somatoform or somatization.

The above sources of stress were unknown when the life event scales and the social readjustment rating scales and other scales to measure social stress were in vogue. Newer instruments need to be developed to assess these newer stressful areas and life events. These stressful events are bound to have an impact on the occurrence of common mental disorders and other disorders like somatization and substance use disorders. The exact cause and effect relationship of this new age stresses with psychiatric disorders needs to be studied afresh.

Interestingly, there is a potential role of the above stressful objects in therapeutics as well. Already there are phone help lines and web sites to provide support and help to do those who need it. Use of e-mail in psychotherapy (Wolf et al, 2006), internet based treatments for headaches (Devineni & Blanchard, 2005) and stress management using cell phones and chat rooms (Nolan et al, 2006) are being studied (Riva et al, 2006). The role of text messages in providing support and in being therapeutic are still to be explored. Similarly, internet video-conferencing group intervention for family caregivers of older adults with neurodegenerative disease has been reported (Marziali & Donahue, 2006). The internet has changed the way medical practitioners communicate and educate themselves and their patients. The internet has provided enormous opportunity for improving the doctor patient communication, and bringing our understanding with online reality (Taub, 2006). Patients and their families may be drawn to online resources.

The future of psychiatric practice in relation to virtual reality, technology and gadgets is likely to change with advances in technology and their usage. One would have to examine 'touch with virtual reality' and probe stress related to technology to understand the distress of the individuals. Loss of touch with virtual reality would not imply a psychosis, but ignorance about the hi-tech world !

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## NEUROBIOLOGY OF SOCIAL BEHAVIOR : A WINDOW TO UNDERSTAND SOCIAL DYSFUNCTION IN PSYCHIATRIC DISORDERS

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### ABSTRACT

Social behavior is defined as "how people interact with and think about others". The area is related to converging research interest from ethology, anthropology, social psychology, psychiatry, and behavioral ecology. Studying the neurobiology of social behavior is of direct interest to mental health biologists. Apart from the epistemological perspective of understanding proximal and evolutionary distal brain-behavior relationships, the knowledge provides vistas for developing insight into biological bases for abnormal social behavior seen in various psychiatric disorders.

The growth of the biological understanding of social behavior is, however, relatively recent development. Most of the current work is focusing upon Theory of Mind and Face Recognition. Although we have gained some knowledge on maladaptive social interactional pattern in few neuropsychiatric disorders, still we are far away from appreciating fundamental neurobiological mechanisms behind our normative day to day social behavior. With the advent of sophisticated molecular and functional neuroimaging tools it can be hoped that we gain meaningful insight into the crooked conundrum in near future.

**Key Words:** *Theory of mind, face recognition, neurobiological mechanism, social behavior, psychiatric disorders.*

### Introduction

Social behavior is defined as "how people interact with and think about others" (Baron & Byne, 1999). The area is related to converging research interest from ethology, anthropology, social psychology, psychiatry, and behavioral ecology. The growth of the biological understanding of social behavior is, however, relatively recent development. The influential and controversial work of Edward O. Wilson: *Sociobiology – The New Synthesis* in 1975 formed the springboard for subsequent explosion of biological research in this area. However, initial focus of sociobiological thinking was on evolutionary aspects of behavior only. Over last two decades a phenomenal growth has taken place in this field.

Studying the neurobiology of social behavior is of direct interest to mental health biologists. Apart from the epistemological perspective of understanding proximal and evolutionary distal brain-behavior relationships, the knowledge provides vistas for developing insight into biological bases for abnormal social behavior seen in various psychiatric disorders.

The appreciation of this dyadic relationship can be attempted from various biological angles.

### Contribution of Sociobiology: the evolutionary perspective

Wilson defined sociobiology as "the systematic study of the biological basis of all social behavior". The key concept of sociobiology is that the purpose of an individual's life is to pass along genetic material to the next generation of the species. The focus is on evolutionary roots of the human social organization. Wilson speculated about the possible evolutionary (i.e., genetic) bases of many human behaviors (e.g., reproduction, rituals, altruism etc.) which till that time had been explained without such considerations. For example, one of the important theories in sociobiology is the evolutionary selection and survival of altruistic behavior (the theory of kin selection). When an individual engages in altruistic behavior, it tends to save the lives of his kin, who also, in varying degrees, possess the genes for the same behavior. Even though the self-sacrificing altruistic individual may not survive, his behavior saves the lives of many of his kins who share the common set of genes. Thus more genes for altruistic behavior are preserved in the group than the loss of a single individual. Consequently, groups with this set of genes are better adapted for survival than those without them. Thus evolutionary selection of 'altruistic' genes has taken

place and the behavior has become part of the species heritage (McGuire & Troisi, 2000).

### **Theory of mind: the key for understanding social behavior**

As thinking about others forms an essential component of social behavior, the biological underpinnings of the mentalizing ability is crucial for conceptualizing biological roots of social behavior. Mentalizing refers to the cognitive capacity to impute causal mental states in order to explain and predict people's thoughts and behavior. Theory of mind (ToM) is sometimes used interchangeably with *mentalizing capacity*. The term "theory of mind" was coined by David Premack, an American primatologist and psychologist. It has also been, more recently, termed as "mind reading" (Baron-Cohen et al, 1985) or "intentional stance" (Dennett, 1987). ToM is the ability to represent one's own or another's mental states such as intentions, beliefs, wants, desires, and knowledge. It is the key component for socializing with others. Understanding people as intentional agents who act to satisfy desires in accord with a set of held beliefs is a commonplace feature of our everyday social interactions. This ability is acquired by children around 4 years of age and continues to develop until around 11 years of age (Baron-Cohen et al, 1999a).

#### **Levels of mentalizing ability**

There are two levels of mind reading. The first level refers to automatic-preconceptual phenomena that specify a primitive understanding of another person's mind. It is based on early-imitation, action and emotion recognition. The second level of mind reading is conceptual and voluntary. It is based on intentionality, empathy, and higher depths of reasoning (Coricelli, 2005). Most studies evaluating ToM abilities in psychiatric and developmental disorders have adopted a dichotomous approach, wherein failure on ToM tasks indicates an absence of this ability. That is, such research takes as its paradigm the presence or absence of conceptual abilities needed to mentalize about self and others, and the processes required for the successful application of these conceptual abilities. Within this paradigm two main lines of thinking have emerged. The first takes ToM impairment as a deficit in conceptualization and representational abilities. In this view, an individual lacking ToM is thought to be unable to represent mental states of others or of oneself (Bishop, 1993; Frith, 1989; Sodian & Frith, 1992). The second argues that the deficit is one of application and performance. Here the individual

demonstrates awareness of another's mental activity but fails to apply this knowledge (attribute mental states) due to processing constraints (Ozonoff et al, 1991; Raffman, 1999). The conceptual deficit view is generally ascribed to individuals with autism, while the application deficit view is generally ascribed to individuals with Aperger's syndrome and, according to some accounts, to negative symptom schizophrenia (Bowler, 1992). The activities in both levels are generated by internal simulative mechanisms.

#### **Theories of mentalizing**

Theories of mentalizing can be broadly classified into those that hold that mentalizing depends upon some capacity to represent the representational nature of mental states (i.e. that mental states are about reality and yet separate from reality) – *metarepresentation theory* (Gopnik & Wellman, 1992) – and those that hold that mentalizing is an act of role taking (i.e. an act of imaginatively projecting oneself into someone else's situation) – *simulation theory* (Harris, 1992). Davies & Stone (1995) provides a useful way of conceptualizing the distinction between metarepresentation theory and simulation theory. In metarepresentation theory, mentalizing depends upon some capacity to hold in mind higher-order representations of the type "Ramesh thinks 'x' about 'z'" and "Rakesh thinks 'y' about 'z'", where the contents of 'x' and 'y' can be contradictory. This ability has been termed metarepresentational capacity. In contrast, simulation theory holds that we need only imagine ourselves, as a person in Rakesh's situation, thinking 'y' (as opposed to thinking "Rakesh thinks 'y'") in order to predict what Rakesh will do (or think) – and that is, Rakesh will do (or think) what we imagine ourselves, as a person in Rakesh's shoes, doing (or thinking) consequent to having thought 'y'.

#### **The neurochemical hypothesis of mind reading**

Neurochemical dysfunctions in pathologies of belief such as schizophrenia and autism provide an insight to the neurochemical basis of ToM. While both autism and schizophrenia have dysregulated Dopamine Serotonin (DS) systems, schizophrenia is largely linked to dysfunctions in the dopaminergic system and autism is largely linked to a dysfunction in the serotonergic system.

Studies have revealed three important aspects that are highly relevant for the hypothesized role of the DS system in mentalizing. First, both the dopaminergic and the serotonergic

systems innervate regions that are critical for mentalizing. These brain regions which include the prefrontal cortex, the temporoparietal junction and the anterior cingulate cortex have been independently shown in several imaging and lesion studies to be involved during tasks requiring mentalizing abilities (Adolphs, 2001). Second, abnormalities in either the dopaminergic or the serotonergic systems lead to the disruption of cognitive abilities such as language use that are dependent on ToM abilities (Siegel & Peterson, 1994), or cognitive abilities that influence ToM abilities such as executive functioning. Third and perhaps more importantly, is the putative property of the dopaminergic system in signaling predictions about consequences of future events. The dopamine system appears a natural mechanism upon which ToM abilities have evolved.

It is proposed that a disruption to the dopamine system itself or to neurochemical processes that effect/modulate its functioning such as the serotonin system, could lead to the generation of erroneous predictions about the content of the mind of others, as is the case for patients with schizophrenia, or the inability to generate any predictions whatsoever as is the case in patients with autism.

### ***Electrophysiological correlate of mentalizing tasks***

A recent Event Related Potential (ERP) study done by Sabbagh & Taylor (2000) found neural activity elicited by tasks that required thinking about mental as compared with nonmental representations (i.e., beliefs vs. photographs) was characterized by a focally enhanced positivity over left frontal areas, which was diminished over left parietal areas. This finding provided external validity for frontal cortical involvement in social cognition tasks.

### **Facial and Emotional Processing**

Information conveyed by human faces is crucial for social interaction, adaptation, and functioning. Several reviews have established that specific regions of the brain are associated with facial and emotional perception. Among these are the lateral fusiform gyrus, the superior temporal sulcus, and the amygdala (Adolphs, 2001; Adolphs, 2002). The lateral fusiform gyrus subserves selective activation to faces (Chao et al, 1999; Puce et al, 1996), and because of this area's specificity and the consistency with which it has been linked to facial recognition, it has been dubbed the "fusiform face area." In some ways, facial perception is a basic building block of social

cognition since it is a likely first step in the social communication process.

In humans, Allman & Brothers (1994) showed that the amygdala also is sensitive to direction of gaze and the expression of emotion in others' faces. Amygdala dysfunction in patients with autism (Howard et al, 2000) and schizophrenia (Reynolds, 1992) has been tied to their inability to represent their own emotion states or those of others (Broks, 1997). Moreover, recent neuroimaging and lesion studies provide direct evidence for its involvement in the representation of mental states (Baron-Cohen et al, 1999b; Fine et al, 2001). Baron-Cohen et al (1999b) reported that compared to normals, patients with autism or Asperger's syndrome show no activation to the amygdala when making mentalistic inferences from the eyes, and Fine et al (2001) reported that an early damage of the left amygdala (particularly the basal nuclei) severely impairs the ability to represent mental states.

The Orbito Frontal Cortex (OFC) and the ventral Medial Prefrontal Cortex (MPFC), though anatomically dissociable at some level, function as a unitary complex since they sustain similar functions that pertain to the regulation and representation of socio-emotional states (Bechara et al, 1994). The specific involvement of these two structures in mentalizing has been reported in several studies. In a single photon emission computerized tomography (SPECT) study, Baron-Cohen & Ring (1994) reported activation of the right OFC during recognition of mental state terms. In a later study, Stone et al (1998) reported that patients with a bilateral OFC lesion performed poorly on a story telling task requiring an understanding of both pragmatically appropriate social behavior (faux pas) and the effect of that behavior on the mental states of others. With respect to the ventral MPFC, Stuss et al (2001) investigated the role of the frontal lobes in theory of mind in 32 patients with limited focal frontal and nonfrontal lesions and reported that lesions to either the left or the right (though more to the right) ventral MPFC impair ToM abilities, especially the ability to detect deception performed by others. The involvement of ventral MPFC in mentalizing is corroborated by Ohnishi et al (2000) who observed metabolic abnormalities in the ventral MPFC of children with autism. The role of these structures in the attribution of mental states to self is less clear. However, evidence for the involvement of the OFC and/or the ventral MPFC in processing one's self-mental states can be inferred from the socially inappropriate behaviors of patients with damage to these structures. These

patients' deficient sense of self can be inferred from the fact that they exhibit deficits in decision making including those with direct consequences to themselves, a lack of consideration for their personal habits, apathy towards criticism, and a lack of anxiety or concern for self (Anderson et al, 1999). Moreover, Gusnard et al (2001) showed that the ventral MPFC is active during the performance of a self-referential judgment task of affectively normed pictures. The involvement of these structures in emotional processing also suggests their involvement during the attribution of affective mental states to self. Still within the limbic-paralimbic system, the anterior cingulate gyrus (ACG) plays a major role in attention and emotional processing (Posner & Raichle, 1994) and is involved during tasks requiring representation of mental states or related capacities (Vogeley et al, 2001). Several neuroimaging studies have demonstrated activation of ACG during tasks requiring the attribution of mental states to others (Kleinke, 1986; Gallagher et al, 2000). Commensurate with these studies is that patients with autism spectrum disorders have abnormal metabolic rates in the anterior cingulate gyrus (Ohnishi et al, 2000). Recently, however, Vogeley et al (2001) extended this finding and showed that the ACG is not only involved in the attribution of mental states to others but also to oneself. The involvement of ACG in the attribution of mental states to self can also be inferred from the findings of several other studies. Shima et al (1991) reported that activity in the posterior cingulate gyrus (but anterior to the motor cingulate gyrus) was detected before the production of self initiated movements. Moreover, based on Positron Emission Tomography (PET) evidence from schizophrenia patients with passivity phenomena (delusions of alien control) performing voluntary movements (Spence et al, 1997), and data from an fMRI study involving healthy participants performing self-referential mental activity tasks (Grossberg, 2000), the ACG appears to be involved in the representation of value attribution to internally / self-generated acts or thoughts. Taken together these studies strongly speak in favor of the dual involvement of the ACG in representing self and other mental states. Interestingly, a study of a single-unit response in neurosurgical patients revealed that neurons in ACG respond both when the subject is experiencing pain and simply observing another in pain. Collectively, the above reviewed studies addressing these limbic and paralimbic regions, i.e. the amygdala, the ACG and the OFC and the ventral MPFC, strongly suggest that they have a dual role in regulating the social /emotional mental representations of

both self and others. The role of this system in regulating social and emotional mental representations is most apparent in patients with schizophrenia and autism. Both autism (Brothers, 1990; Bauman & Kemper, 1994) and schizophrenia present severe abnormalities to the limbic system, which in turn significantly disrupt their ability to express and understand emotional and social cues adequately.

### **Psychobiology of Social Approach/Avoidance**

Another fundamental aspect of understanding social behavior is to appreciate the biological underpinnings of approach/avoidance. The neurobiology of predisposition to social approach / avoidance in humans is to some extent dependent upon inherited temperament. Cloninger's famous novelty seeking (behavioral activation), harm avoidance (behavioral inhibition), and reward dependence (social attachment) temperaments are independently inheritable traits with distinct neuroanatomical, neurochemical and neurogenetic correlates (Cloninger et al, 1993). PET studies have found that decreased activity in the medial prefrontal and dorsolateral prefrontal cortices and increased activity in the cingulate and caudate areas were associated with behavioral activation, i.e., exploratory pursuit to socially novel stimuli in humans. Higher density and greater uptake of dopamine transporters in the basal ganglia were also correlated with novelty seeking. However, for harm avoidant people, increased metabolic activity was observed in the medial prefrontal and anterior paralimbic structures. Lower plasma GABA concentration with greater uptake of 5HT transporter promoter was found to be significantly associated with such predisposition to behavioral inhibition to novel stimuli (Cloninger & Svrakic, 2000).

### **Neurobiology of Social Behavior: A Window to Understand Social Dysfunction in Psychiatric Disorder**

#### ***Evolutionary theory in relation to psychiatric disorders with known disabling social consequences***

Two key concepts for understanding evolutionary theories in relation to socially disabling psychiatric disorders (e.g., schizophrenia, depression) are: *theory of ultimate causation* and *theory of proximate causation*. Ultimate causation is the evolutionary concept that explains why in the past some traits were selected in preference to others. Any given current trait (be it normative or pathological) are assumed in this theory to have been selected because they were adaptive during prior

periods. Ultimate causes differ from proximate causes such as dysregulated physiological states, inadequate learning, trauma, which are the mainstay of explanatory model of existing psychiatric disorders. For example, proximate explanation of major depressive disorder focuses on dysregulation of neurotransmitter system, inadequate coping strategies etc., hypothesized to underlie the characteristic signs and symptoms of the syndrome. Ultimate cause explanation view many of the same sign and symptoms as evolved trait, such as these signal other member of the species that the individual is distressed, need help and unable to carry expected social activity. The social withdrawal may as well be a strategy for conservation of energy reducing the frequency of 'costly' behavior and may allow restorative procedures to take its effect. In this theory even personality disorders such as antisocial personality disorder can be understood as evolved, high-risk traits that often have high payoffs: like mate and resource acquisition.

### ***The caveat***

However, such deterministic stance has several caveats. Though in one way the arguments for and against such theory is similar to the nature-nurture controversy, some outstanding points can be raised. With the advent of the evidence for experience dependent neural plasticity, doubt exists as to what degree evolutionary processes determine long term human social behavior. Substantial evidences have accumulated in literature that confirms that to a significant extent human behavior is moldable due to brain plasticity. In one way the very finding supports psychotherapeutic/pharmacological measures initiated against modifying maladaptive traits. Significant improvement in reciprocal social communication in even a severely autistic child after intensive communication training program can be put forward as tell-tale evidence of it.

### ***Impairment of ToM and psychiatric disorders***

By considering ToM behavior in various developmental and psychiatric populations, ToM impairments can be conceptualized on a continuum where a specific impairment can be characterized as having: (1) no representational / conceptual understanding of mental states (e.g. autism), (2) representational understanding of mental states, but a deficit in the ability to apply / manifest this understanding (e.g., Asperger's syndrome and negative symptom schizophrenia), (3) representational understanding of mental states, but

abnormal attribution / application of these mental states (e.g. delusional and paranoid schizophrenia), and (4) intact representational understanding of the mind of others, but impaired self (e.g. schizophrenia patients with passivity phenomena).

Substantial advancement in biological understanding of core social deficits in these disorders has taken place in recent times.

### ***Neurobiology of ToM: Implications for schizophrenia and autism***

Severe impairments in social functioning are among the hallmark characteristics of schizophrenia and autism. These impairments, although present in other clinical disorders (e.g., bipolar disorder), are most pronounced in persons with these two disorders. Deficits in social functioning are present throughout the course of both the disorder. Though first described in relation to autism, according to a recent neuropsychological model by Frith (1992), schizophrenia also can be understood as disorder of representation of mental states. Frith (1992) suggested that, unlike individuals with autism, ToM skills in people with psychosis develop normally but are impaired following the first psychotic episode. In other words, autistic patients will fail to acquire the ability to make inferences about the mental state of others, while schizophrenia patients may lose an ability they once had. However, the deficit may improve on remission of the acute psychotic episode (Frith & Corcoran, 1996).

Frith & Frith (1999) have proposed that the perception of emotional states of other individuals is represented in a dedicated brain system different from (though overlapping with) a second one subserving ToM. The former involves a ventral stream including the amygdala and the orbitofrontal cortex; the latter, a dorsal pathway comprising the superior temporal sulcus, the inferior frontal regions, and the medial prefrontal cortex including parts of the anterior cingulate cortex (Frith & Frith, 1999; Frith & Frith, 2001). With respect to schizophrenic disorders, there is a host of studies providing evidence that schizophrenia patients are profoundly compromised in recognizing other people's emotions from facial expressions, gestures, or voices (Mandal et al, 1998), and in inferring the mental states of others. Moreover, many studies suggest that the deficits in these domains are specific rather than secondary to a general cognitive decline in schizophrenia (e.g., Bryson et al, 1997).

There is a plethora of studies that have investigated the involvement of brain areas during simple and complex forms of mentalization tasks.

### ***Representing mental states of self and other***

The question of whether representing self or others' mental states employs the same or different brain regions only been recently explored (Vogeley et al, 2001). Studies concerned with the underlying neurophysiology of representing mental states provide data on the involvement of various brain regions that can be classified into three main groups: brain areas solely involved in the representation of self, mental brain areas solely involved in the representation of mental states of others, and brain areas that are common to both.

#### *Brain regions specific for the representation of self-mental states*

Several studies suggest that areas in the right posterior parietal system, specifically the inferior parietal lobule (IPL), are responsible for representing one's own mental states. Evidence for this is provided in studies investigating the underlying neurophysiology during the attribution of mental states to self and the execution of self-generated acts. Vogeley et al (2001) provided the first direct evidence for the involvement of the posterior parietal region in the representation of self-mental states. Significant activations were also observed in medial aspects of the superior parietal region. These regions were not active when subjects were required to infer the mental states of others. This suggests that representing self-mental states invokes a neural mechanism that is independent from that involved in representing others' mental states. The specific involvement of the right posterior parietal region in representing self-mental states can also be inferred from studies investigating the underlying neurophysiology of self-generated acts. In a PET study, Spence et al (1997) observed abnormal hyperactivation in the right IPL region during the execution of voluntary movements in schizophrenic patients experiencing passivity phenomena (i.e. experiencing beliefs that their thoughts and actions are under alien control). Furthermore, Lacaboni et al (1999) reported that the right parietal operculum was active during the execution of the act (i.e. the imitation of specific finger movements), but not when observing the same movement being executed by another individual.

It should be noted that brain regions involved in representing self-agency or distinguishing self-produced actions from those generated by others can be considered part of the circuitry for representing self-mental states. These capacities are considered protoforms upon which ToM capacities may have evolved.

#### *Brain regions specific for the representation of others' mental states*

Evidence from several studies in both primates and humans suggests that the superior temporal sulcus (STS) is specialized in the representation of the mental states of others. This assumption is motivated by evidence showing that cells in this region respond to what is generated by another and not by one's self. In primates, it has been shown that the STS responds selectively to sounds, hand and face movements generated by others, but not to similar movements neither of inanimate objects, nor to such sounds or movements generated by one's self (Hietanen & Perrett, 1993). Similar results have been obtained for humans. Emotions signaled by the face constitute a critical channel of social information processing. Humans are endowed with a prodigious ability in perceiving the dispositions and intentions of others, ability often referred to as social cognition (Brothers, 1990). In this respect, gaze behavior and eye contact are a conspicuous aspect of human interaction and the eye region is often used as a cue to predict emotional/mental states of others (Kleinke, 1986). For example, Puce et al (1998) reported that the posterior part of STS is involved in the perception of eye gaze and mouth movement. This region, they noted, may be functionally related to adjacent superior temporal regions, which appear to be involved in the perception of others' hand and body movements. Moreover, the STS responds selectively to observation of goal directed actions, such as movements that take objects as their intention (e.g. reaching, grasping, holding, tearing), but not to movements lacking such intentions (Perrett et al, 1989). Collectively, these abilities are especially important for inferring mental states in others and more generally for social interaction. For example, the representation of actions, their goals, as well as eye-gaze, which is used to control turn-taking in dialogues (Goodwin, 1979), and is involved in the deployment of mutual orientation and joint attention (Baron-Cohen & Ring, 1994) are prerequisite for the development of mentalizing abilities both phylogenetically and ontogenetically.

### *Brain regions common to the representation of self and others' mental states*

Most researchers interested in the delineation of the neurobiology of ToM have designed studies that investigate brain activity during the attribution of mental states to others. Research have shown that amygdala, the anterior cingulate gyrus (ACG), the orbitofrontal cortex (OFC), the ventral and dorsal medial prefrontal cortex (ventral / dorsal MPFC), and the infero-lateral frontal cortex (ILFC), reported to be involved during the attribution of mental states to others, are also involved during the attribution of mental states to self. These regions can be classified into two main groups. The first group consists of structures in the limbic–paralimbic system and includes the amygdala, OFC, ventral MPFC, and ACG. The second group consists of structures in the prefrontal cortex (PFC) and includes the dorsal MPFC and ILFC. Within the limbic–paralimbic system, amygdala damage (structural or functional) can impair ToM abilities, or abilities that are necessary for its integrity. For example, Kling & Brothers (1992) showed that bilateral removal of the amygdala results in an extraordinary loss of social and affective behavior in monkeys.

### *Mind reading ability and mood disorder*

A primary clinical feature of depression is a profound impairment in social functioning. Depressed individuals exhibit reduced social competence (Levendosky et al, 1995), have fewer social interactions, and find these encounters less rewarding and less enjoyable than do nondepressed individuals (Nezlek et al, 2000). These negative interpersonal experiences often cause depressed individuals to isolate themselves, thereby perpetuating their depression (Rippere, 1980).

There is, however, a dearth of studies on ToM tasks in depressed individuals. A very recent study done by Lee et al (2005) demonstrated that severely depressed individuals are also significantly impaired in their ability to decode others' mental states. The deficit was also noticed in currently symptomatic bipolar patients (Kerr et al, 2003). This finding may help generate future strategies based on improving basic theory-of-mind reasoning in this population which could be incorporated into current therapeutic interventions.

### *Mind reading ability and psychopathy*

Psychopathy is a disorder characterized in part by callousness, a diminished capacity for remorse, superficial charm, impulsivity, and poor behavioral controls. There have been repeated suggestions that a deficient or a biased understanding of other people's mental states (i.e. impaired ToM) might lead to antisocial and aggressive behavior and psychopathy (Crick & Dodge, 1994; Feshbach, 1987). Thus, Feshbach (1987) has argued that role-taking (which involves the representation of another individual's mental states) is a prerequisite for empathic responding which, in turn, is involved in the inhibition of antisocial behavior. Individuals deficient in role-taking should be less likely to empathize and thus less likely to inhibit antisocial behavior. The data has been inconsistent; however, Hughes et al (1998) did find some indication of ToM impairment in these patients.

### *Mind reading in organic psychiatric disorder with social deficits*

Studying ToM in patients with organic lesions provide vistas for direct understanding of neuronal mechanisms behind social dysfunction. Frontotemporal dementia (FTD) and Huntington's disease (HD) are degenerative disorders, with predominant involvement of frontal neocortex and striatum respectively. Both conditions give rise to altered social conduct and breakdown in interpersonal relationships, although the factors underlying these changes remain poorly defined. One recent study (Snowden et al, 2003) used tests of theory of mind (interpretation of cartoons and stories and judgment of preference based on eye gaze) to explore the ability of patients with FTD and HD to interpret social situations and ascribe mental states to others. Performance in the FTD group was severely impaired on all tasks, regardless of whether the test condition required attribution of a mental state. The HD group showed a milder impairment in cartoon and story interpretation, and normal preference judgments. Qualitative differences in performance were demonstrated between groups. FTD patients made more concrete, literal interpretations, whereas HD patients were more likely to misconstrue situations. The findings are interpreted as demonstrating impaired theory of mind in FTD, as one component of widespread executive deficits. In HD the evidence does not suggest a fundamental loss of theory of mind, but rather a tendency to draw faulty inferences from social situations. It may be concluded that social breakdown in FTD and HD may have a different underlying basis and that

the frontal neocortex and striatum have distinct contributions to social behavior.

Another study done by Bibby & McDonald (2005) on patients with severe traumatic brain injury (TBI) also found a specific impairment on tasks requiring making inferences about others' mental states (theory of mind tasks). This performance was not completely accounted for by the working memory or implicit language demands of the tasks.

### **Understanding Social Anxiety**

High harm avoidance has been proven to be associated with predisposition to social anxiety. Further evidence in support can be drawn from the famous work of Jerome Kagan. He showed that certain children are irritable, fearful and inhibited when confronted with new situation and carry the *Behavioral Inhibition Phenotype*. These traits can be identified early and remains unaltered till latest 7 years when environment starts to shape temperament. Behavioral Inhibition phenotype has strong predictive validity of future anxious traits and anxiety disorder (Kagan & Snidman, 1991).

### **Conclusion**

Our everyday understanding of and relating to others are the most fundamental resources for introducing meaning to our very human existence. The quest for biological insight into our social intermingling has got the necessary impetus only very recently. Most of the current work is, however, focusing upon Theory of Mind and social cognitions. Although we have gained some knowledge on maladaptive social interactional pattern in few neuropsychiatric disorders, still we are far away from appreciating fundamental neurobiological mechanisms behind our normative day to day social behavior. With the advent of sophisticated molecular and functional neuroimaging tools, it can be hoped that we gain meaningful insight into the crooked conundrum in near future.

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## CATEGORICAL AND DIMENSIONAL CLASSIFICATION IN PSYCHIATRY

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### ABSTRACT

Mental disorders are generally typological in nature, though they emphasize more on the central core of each disorder, rather than on distinct boundaries between them. The psychiatric classification system thus often veers between a dimensional system and a categorical model. The former classifies clinical presentations based on quantification of attributes, while the latter assigns categories to clinical presentations, there being both advantages and criticisms of each of them regarding issues of simplicity, tradition, credibility, validity and utility. This article discusses the categorical and dimensional aspects of different conditions like schizophrenia, schizoaffective disorder, mood and anxiety disorders, mental retardation and personality disorders, as well as the relevant research issues and the much-awaited improvements in the forthcoming DSM–V. Studies favour categorical models for melancholia, eating disorders, pathological dissociation, and schizotypal and anti-social personality disorders. Dimensional models tend to be favoured for the broad neurotic spectrum – depression, generalized anxiety, PTSD and borderline personality. Thus, the two approaches are essentially complementary, and one needs to choose which is more appropriate depending on the clinical circumstances and research questions being addressed.

**Key Words:** *Classification in psychiatry, categorical model, dimensional model.*

### Introduction

Classification of illnesses or nosology has been an integral part of the theory and practice of medicine, providing a conceptual frame work within which, one labels observations, communicates efficiently about illness states, decides about treatment, predicts outcome, measures changes and keeps records. However, considering that mental disorders are generally typological in nature, with more emphasis on the central core of each disorder, than on the boundaries between them, the system of classification in psychiatry brings forth numerous controversial issues (Bogenschutz & Nurenberg, 2000).

### Dimensions and Categories

There may be two major ways to conceptualise the classification of psychiatric illnesses. First, by a categorical model that assigns categories to clinical presentation, that is, it labels each subject as either having (D+) or not having (D-) a disorder, depending on the presence or absence of certain symptoms, signs, or other attributes; e.g., the diagnosis of major depressive disorder by the DSM IV criteria. On the other hand, a dimensional system classifies clinical presentations based on quantification of attributes and works

best in describing phenomena that are distributed continuously and which do not have clear boundaries. It results in measuring each subject with an ordinal score (D), with higher scores being a stronger indication of the presence of the disorder; e.g., the Hamilton Depression Rating Scale, where higher scores are associated with a stronger likelihood of being depressed.

However, despite the apparent conceptual divide, categorical and dimensional approaches are fundamentally equivalent (they are not categorical!), at least in theory; any categorical approach can be converted to a dimensional one, and vice versa (Kraemer et al, 2004). For example, a dimensional diagnosis, D can be converted to a categorical one, simply by setting a cut-off point,  $d^*$ . If  $D > d^*$ , the categorical diagnosis is D+, and if  $D < d^*$ , it is D-. Many categorical diagnoses (e.g., DSM diagnoses) are set in exactly this way, counting up the number of signs and symptoms (a dimensional diagnosis), and assigning D+ if certain pre-assigned numbers of signs and symptoms, i.e., a certain threshold level of severity and/or duration are exceeded.

Less obviously, every categorical diagnosis can be converted into a dimensional one. If for each subject, one obtained an independent second opinion on a categorical diagnosis, the

number of positive diagnoses is a dimensional diagnosis (0, 1, and 2). With only two diagnosticians, it converts to a three-point dimensional diagnosis, with M diagnosticians, to a (M+1) point dimensional diagnosis (Kraemer et al, 2004). Also, dimensional variation exists within and between categories – at an observable level, most psychological variation is continuous – and quantitative variation can be simplified into categorical distinctions (Haslam, 2003).

Besides, there are other systems of classification, such as fuzzy set theory, that combines features of both categorical and dimensional systems. Fuzzy set theory allows cases to belong to sets (e.g., diagnostic categories) in varying degrees. Diagnostic groupings are maintained, but membership varies in degree (e.g., from 0 to 1).

### **Categorical and Dimensional Aspects of Different Conditions**

Analysis of present classificatory systems show that they veer between a categorical scheme and a dimensional model, and pertinent aspects of various conditions will be discussed separately.

#### ***Psychosis***

DSM-IV (APA, 1994) and ICD-10 (WHO, 1992) nomenclature distinguishes between primary and secondary psychoses, emphasising a basic categorical approach. The primary psychotic disorders include the schizophrenia spectrum disorders, the specific types being differentiated by severity, duration, course, recovery of function, presence of stressors, and nature of psychotic symptoms. In brief psychotic reaction, the duration is less than one month with full recovery of functioning, whereas in schizophreniform disorder, the duration of the episode lasts between one and six months, without any significant decline in premorbid abilities. Thus, the time course points to the use of the dimensional aspects of psychosis in DSM-IV. Similarly, in ICD-10, the acute and transient psychotic disorders with symptoms of schizophrenia lie on a continuum with schizophrenia; while the predominantly delusional ones merge with the delusional disorders after three months.

Secondary psychotic disorders are aetiologically related to a medical condition, including neurological diseases (e.g., Alzheimer's disease, Huntington's disease, epilepsy, vascular dementia and traumatic brain injury) or substance use.

Psychiatric syndromes other than psychosis may also be seen in substance related disorders; however, in DSM-IV, the specific phenomena (e.g., depressive disorders, anxiety disorders, psychotic disorders) are listed within the relevant sections (e.g., the mood disorder section) of the clinically important diagnostic entities.

Studies comparing phenomenology of secondary psychosis with that of idiopathic psychosis have not demonstrated any unique feature or distinctive frequency or severity. Schneiderian first-rank symptoms appear commonly in non-schizophrenic psychotic conditions (Peralta & Cuesta, 1998); olfactory and auditory hallucinations, although claimed anecdotally to suggest a secondary or symptomatic aetiology, have also proved unreliable. Suggestions that exclusively positive psychotic symptoms, in the absence of negative symptoms and personality change, reflect a secondary cause have also not been tested prospectively.

Thus, research and clinical experience shows psychosis to be a non-specific indicator of severe mental illness, highlighting an inherent dimensionality. This continuum of psychosis across diagnostic boundaries has also led to suggestions of natural variation along various dimensions producing the prototypical disorders; and that individual disease entities like schizophrenia, schizoaffective disorder and affective illness do not actually exist (Crow, 1998; Crow, 1991; Crow, 1990). One may also argue that separate categories for primary and secondary psychoses is unnecessary, because schizophrenia itself could be considered secondary to intrauterine, viral, or genetic factors, or that 'the schizophrenias' may be a group of psychoses with different presentations related to different aetiologies (Trimble, 1991).

#### ***Schizophrenia***

ICD-10 (WHO, 1992) and DSM-IV (APA, 1994) both consider schizophrenia to be a distinct category, which, in turn has been classified into subtypes like paranoid, hebephrenic (disorganised), catatonic and undifferentiated. According to DSM-IV, the diagnosis of schizophrenia requires an active phase of symptoms from at least two out of five groups: delusions, hallucinations, disorganized speech, grossly disorganized or catatonic behaviour, and negative symptoms. The five groups are given equal weightage and may therefore have theoretically no less than 26 different combinations, leading to the possibility of numerous subtypes each

considerably different from each other; while in current practice the option of four subtypes, necessitates heterogeneous groups of patients with varying dimensions of symptoms.

Some of the symptom-groups themselves are dimensional, without instructions for thresholds of severity, and have been hypothesised to segregate into three semi-independent dimensions, namely, the positive (hallucinations and delusions), disorganized (bizarre behaviour, inappropriate affect and formal thought disorder) and negative-deficit (restricted affective experience and expression, diminished drive and poverty of thought) aspects. These specific symptom complexes differ from one another in neuro-anatomy, pathophysiology, course and onset, treatment requirement and possibly in aetiology. Hence, this dimensional approach may also be germane to treatment and rehabilitation studies, thus highlighting the significance of a dimensional approach within a specified category.

There is evidence of a genetic link between personality disorders (PD) of Cluster-A (paranoid and schizoid) and schizophrenia, although the data tends to be inconclusive (Cadenhead, 2002). Also, a subset of schizotypal PD subjects is genetically identical or closely linked to schizophrenia, thus supporting its inclusion under the schizophrenia rubric in ICD-10. Moreover, affective symptoms are seen in some patients with schizophrenia; indeed, negative symptoms like amotivation, anhedonia, asociality, flat affect and anergia overlap with symptoms of depression, and schizoaffective disorder may be discussed as the prototypic boundary condition.

### **Schizoaffective disorder**

Schizoaffective disorder was initially described as a separate group named '*vesania typica circularis*' (Kahlbaum, 1863), and as 'cases in between' unclassifiable into the Kraepelinian dichotomy of dementia praecox and manic-depressive-illness. Later, schizoaffective psychosis (Kasanin, 1933) was conceptualised to include 'both' schizophrenic as well as affective symptoms. A similar view is followed in present classificatory systems where a 'concurrent' syndrome with the above symptoms blending into each other is present, perhaps because of an overlap in their aetiology and pathology (Taylor, 1992). Thus, schizophrenia, schizo-affective, and mood disorders are thought to lie on different points on the dimension of psychosis.

There is however, evidence suggesting a dichotomy based on the symptoms of mood disorder and schizophrenia, and there is a bimodal distribution of outcomes in these two disorders (Cloninger et al, 1985). On the other hand, controversy exists in that other studies have reported unimodal distribution of symptoms in them (Bhrolchain et al, 1979) or have shown ambiguous findings (Brockington et al, 1979). Hence, combining schizophrenia, schizoaffective, and mood disorders may yield a graded distribution of outcome based on the dimensions of severity and chronicity, consistent with the spectrum model of illness (Tsuang et al, 1979).

Moreover, the current diagnostic approach to schizoaffective disorders is often criticised for lack of argument for the chronological distinction about co-existence of schizophrenic and affective symptoms, and that longitudinal aspects are not considered in the definitions. Thus a new sub-typing has also been proposed: the concurrent type reflecting the conventional view, and the sequential type having a change of symptoms in different episodes (schizophrenic, schizomanic, schizodepressive, manic, depressive, etc.). An unipolar and bipolar distinction among schizo-affective has also been suggested, parallel to that in pure affective disorders; with the bipolar schizo-affective disorders having premorbid symptoms, demographic features, course and treatment aspects similar to the pure bipolar disorders (Marneros, 2003).

Thus, schizoaffective disorder may pragmatically be considered a heterogenous entity with hitherto undecided opinions as to whether it lies on a psychotic continuum or is an independent nosological entity (Marneros, 2003).

### **Affective disorder**

The unipolar-bipolar distinction of manic-depressive illness, originally conceptualized by Edda Neele (1949) and Leonhard (1979) and subsequently developed by other researchers (Winokur et al, 1969; Perris, 1966) has proved to be of great heuristic value for clinical and therapeutic research. However, this dichotomous approach left undefined many affective conditions that lay in the interface between unipolar and bipolar disorders.

Originally, Fieve & Dunner (1975) identified bipolar II patients on the basis of the presence of severe depressive episodes requiring hospitalization, alternating with hypomanic periods not requiring hospitalization. Although hospitalization might

be considered an artificial criterion for defining the diagnostic threshold for mania, this concept recognized the large number of bipolar patients whose excited periods remained at the submanic level. A spectrum of bipolar disorders was thus being theorized, based on the severity of the elevated mood states. Instability of course and suicidality (Dunner et al, 1976) were also identified later as important features of bipolar II, justifying the categories of bipolar I and II in DSM IV.

A broader conceptualization of the "soft bipolar spectrum" (Akiskal, 1983) modified definitions of bipolar II by incorporating depressions with hypomanic episodes, both protracted and brief in duration, cyclothymic and hyperthymic traits, and those with familial bipolarity. Recently, in a more formal proposal of this spectrum, bipolarity was categorized into seven different clinical subtypes: type ½ (schizo-bipolar), type 1 (mania with or without depression), type 1½ (protracted hypomania with depression), type 2 (depression with hypomania), type 2½ (depression with cyclothymia), type 3 (depression with hypomania associated with stimulants) and type 4 (depression with hyperthymic temperament) (Akiskal & Pinto, 1999). With the exception of types ½ and 1, the other proposed subtypes of this scheme can be grouped conveniently around "bipolar II spectrum disorder", in which the severity of the elated phases never reaches the level of manic or manic-mixed states, but remains at clinical or sub-threshold hypomanic level.

The dimensional versus categorical controversy also persists when one considers depression per se. The specifiers used in DSM-IV (APA, 1994) and ICD-10 (WHO, 1992) place depression on a continuum, ranging from a mild episode without somatic symptoms, through moderate depression without and with somatic symptoms, severe episode and finally severe psychotic depression. However, the sub-threshold and non-criterion symptoms are not considered to broaden the manifestations of the core disorder, but are treated as independent categories. This has led to a lack of clarity regarding possible neurobiologic underpinnings (Parker, 2003).

Taxometric analyses of proposed subtypes of major depression have also failed to support categorical models (Haslam & Beck, 1994; Whisman & Pinto, 1997). However, studies show evidence of a latent category in melancholic or 'nuclear' subtypes, distinguished by high severity and classical endogenous features (Haslam & Beck, 1994;

Ambrosini et al, 2002), although these findings have been somewhat controversial.

Hence, taxometric research on the subject indicates that the dimensional and categorical views of depression each have merit, the former for general distress, where Freudian 'neurotic misery' shades smoothly into 'everyday unhappiness, and the latter for melancholic depression (Schotte et al, 1997).

Taxometric research on temperamental vulnerabilities for mood disorders is also still in its infancy, but a large study (Meyer & Keller, 2003) has found that hypomanic temperament, the proposed diathesis for bipolar disorder, is dimensional. There are no published studies of vulnerability to unipolar depression. Thus the current evidence supports a continuum view of mood disorders, with an important exception of melancholia.

### **Anxiety disorders**

In general, ICD 10 (WHO, 1992) follows a categorical view towards the neurotic disorders, in classifying them into phobic and other anxiety, obsessive & compulsive (OCD), stress-induced, dissociative (conversion) and somatoform disorders. DSM IV (APA, 1994) also follows the same tradition (as exemplified in DSM III & ICD) of codifying panic disorder, specific phobia, social phobia, OCD, posttraumatic stress disorder (PTSD), acute stress disorder and generalised anxiety disorder (GAD); somatoform disorders form a separate section altogether.

However, it has become apparent to researchers and clinicians that the symptomatology of anxiety is rarely discrete and circumscribed. This is amply demonstrated in the paradoxical dimensional underpinning of current classificatory systems in certain aspects. Thus, agoraphobia and panic lie on a spectrum, though ICD 10 and DSM IV differ on the conceptualisation as to which is the fundamental psychopathology.

Regarding stress-induced psychiatric symptoms, ICD 10 distinguishes between mild, moderate and severe forms of acute stress reaction on the basis of additional symptoms (Criteria C) such as social withdrawal, hopelessness or expressive grief. A mild severity is stipulated when none of these symptoms is present, moderate when two are reported and severe when four are reported or when there is dissociative stupor, thereby employing a dimensional

approach to the diagnosis. An interesting dimensional outlook is also observed across the two systems, i.e., acute stress reaction (ICD 10) describes symptoms for upto two days; acute stress disorder of DSM IV (formerly called sub-threshold PTSD) mentions that the disturbance must last for two days to four weeks following the trauma; while after four weeks of course, it would be called PTSD (DSM-IV). Hence, these lie on a continuum varying on the duration of symptoms necessary for diagnosis.

When first included in DSM III, social phobia was considered a distinct, circumscribed condition; but a generalized subtype where “the phobic situation includes most social situations” was included in DSM III R (APA, 1987), as the condition was rarely found to be clearly discrete in patients. However, generalized social phobia merges into avoidant personality disorder and efforts to differentiate them have indicated only that the latter is more often than not, relatively more dysfunctional (Widiger, 1992).

Overlap of symptoms is also seen between syndromes. Hypochondriasis is classified as a somatoform disorder in DSM IV, but it may also be considered an anxiety disorder, like it is indeed grouped in ICD 10. It shares “the presence of physical symptoms suggesting a general medical condition” with the other somatoform disorders; while people with hypochondriasis also share the rumination, doubt, and worry central to OCD, the continuous and daily anxiety seen in people with GAD, and the avoidant behaviours seen in people with specific phobias. It has also been found that GAD is probably more closely related to major depression (Kendler et al, 1995) than the anxiety disorders.

Incidentally, current taxometric evidence also tends to favour dimensional models for anxiety disorders. A study of symptoms of PTSD in combat veterans supported a dimensional view. Research on pathological worry in a student sample also found no evidence of a latent category, and implied a continuity with GAD (Ruscio et al, 2001). The only intimation of a discrete category in the anxiety disorder spectrum relates to social phobia, with one study (Oakman et al, 1998) finding ambiguous evidence for a taxon of socially anxious individuals marked by extreme fears of public scrutiny.

Thus, the anxiety disorders do not apparently constitute a cohesive nosological category; though some of them, like panic and agoraphobia, do share important aetiological factors.

### ***Eating disorders***

Eating disorders in DSM IV (APA, 1994) include anorexia nervosa (AN) with restricting and binge-eating/purging subtypes, and bulimia nervosa (BN) with purging and no-purging subtypes. Though taxometric research is limited in this area, a categorical view of BN has been supported by investigations in undergraduate and clinical samples (Gleaves et al, 2000; Williamson et al, 2002), while it has been challenged by a more recent study (Tylka & Subich, 2003). There is also evidence that the restricting subtype of AN of DSM-IV is discrete, but the binge-eating/purging subtype belongs to the category of bulimia (Gleaves et al, 2000). This suggests that DSM-IV prematurely draws a diagnostic boundary among anorexia and bulimia, while, the presence versus absence of bingeing and purging might form a more appropriate distinction among eating disorders.

### ***Personality disorders***

Seven personality disorders (PD) are shared between DSM-IV (APA, 1994) and ICD-10 (WHO, 1992), or are near equivalents of one another; narcissistic PD is present only in the former, while schizotypal disorder is not classified as a PD in ICD-10. Although derived from clinical typologies, the PD have been provided with polythetic diagnostic criteria of the same format as the Axis I disorders, i.e. they have de facto acquired the status of clinical syndromes or ‘true morbid entities’.

However, this approach to diagnosis of PD has been problematic on the issues of the categories being heterogeneous with regard to symptoms and traits, having a high degree of co-morbidity, with lack of longitudinal stability of the Axis II diagnoses. Besides, poor diagnostic agreement among Axis II assessment instruments is the rule, not the exception (Widiger & Frances, 1985).

In contrast to psychiatric classification, dimensional models have been generally accepted as more realistic and reliable in the field of psychology, more so in the case of personality pathology. Thus, a suggestion of a dimensional approach has been taken by ICD-10, in codifying the ‘accentuated personality traits’ in the Z-chapter, and by DSM in including PD with a common basic premise in each of the three clusters. However, dimensional systems have not yet achieved a strong root in the formal diagnosis of personality pathology, and dimensional theorists do not agree about the number and

content of traits necessary to describe personality (Cloninger, 1987).

In general, theories of personality as well as PD, have included categorical models like Gunderson's Research on Axis II, Kernberg's Model, and Hare's Conceptualization of Psychopathy. On the other hand, there are numerous dimensional models like Oldham and Skodol's Prototype Matching Approach, Shedler and Westen's Assessment Procedure Model, Livesley's 18-Dimension Model, Clark's Schedule for Nonadaptive and Adaptive Personality Model, Siever and Davis's Psychobiological Model, and Personality Trait Models. Among the latter, an influential theory has been Cloninger's psychobiological model of temperament and character, which measures both normal and abnormal personality traits. It measures four dimensions of temperament and three dimensions of character, which are normally distributed quantitative traits present in varying degrees in everyone. The temperament dimensions, which are automatic emotional response-biases that are moderately stable throughout life, are Novelty Seeking, Harm Avoidance, Reward Dependence, and Persistence. The character dimensions, which involve individual differences in goals and values that mature in a stepwise fashion, are Self-directedness, Cooperativeness, and Self-Transcendence (Cloninger et al, 1993). In addition, numerous studies have also reported the relationship of different temperament dimensions, especially Novelty Seeking and Harm Avoidance, with several clinical syndromes (depression, anxiety, eating disorders, alcoholism). However, little is known about the role played by the character dimensions in these clinical syndromes.

There has been an attempt to amalgamate the dimensional approach to psychopathology with the categorical view of personality in Millon's theory, where he has proposed three underlying dimensions of personality; activity-passivity, self-other orientation, and pleasure-pain motivation. Using this three-fold framework as a foundation, he has derived personality 'coping patterns' that correspond in close detail to each of the official personality disorders in DSM (Millon, 1981).

Only three PDs have undergone taxometric analysis so far, but the results are quite consistent (Haslam, 2003). Majority of studies (Blanchard et al, 2000; Meyer & Keller, 2001) have addressed schizotypal PD and its childhood precursors, and

they overwhelmingly support categorical models of schizotypal, consistent with Meehl's influential theory of schizophrenia (Meehl, 1965). These studies, conducted in normal and clinical samples, using a wide variety of questionnaire, interview and cognitive measures, identify a schizotypal taxon, whose prevalence is about 5% among normal adults, which is detectable among at-risk children (Erlenmeyer-Kimling et al, 1989) and is stable from adolescence into middle age (Tyrka et al, 1995).

Studies of antisocial PD or their childhood antecedents also support a categorical model. The taxon was defined by indicators of psychopathy, specifically chronic antisocial behaviour beginning in childhood and was replicated among adult-offenders and middle-school-age antisocial boys in community samples (Harris et al, 1994). However, criminality per se and the interpersonal and affective components of psychopathy were not categorical. Thus, antisocial PD is a latent category, identified by antisocial conduct, and is not equivalent to adult criminality.

On the other hand, the published taxometric studies of borderline PD have yielded dimensional conclusions (Trull et al, 1990).

Thus, these findings suggest that PD represent a mixture of latent categories and continua, and any uniform preference for either the categorical or dimensional classification of axis II misrepresents PD in general. Further taxometric analyses of the other PD that have yet to be investigated are thus warranted.

### ***Mental Retardation***

Mental retardation is currently defined as having a level of intelligence below an intelligence quotient (IQ) of approximately 70 (APA, 2000), which is an arbitrary point of demarcation along a continuous distribution. However, the arbitrariness of this point of demarcation does not suggest that the disorder of mental retardation is invalid or trivial (Szymanski & Wilska, 1997). There are people with an IQ below 70 for whom it is not only mental retardation, but a qualitatively distinct physical disorder (e.g., Down's syndrome) that can be traced to a specific biological event that is also evident. At the same time, those with an IQ of approximately 79 (i.e., borderline intellectual functioning) experience significant impairment to success in school, career, and relationships, which may not be as severe as those with an

IQ of 69, but the distinction between the two is quantitative and not qualitative. The approach to the IQ per se also differs in ICD-10 and DSM-IV, in that the former defines the severity levels in a discrete manner (<20, 20-34, 35-49 & 50-69); the latter takes a more dimensional approach in that specific cut-offs are not mentioned (below 20 or 25, 20-25 to 35-40, 35-40 to 50-55, 50-55 to approximately 70).

### Critical Evaluation of Categories and Dimensions

There are both advantages and criticisms of each of these approaches.

It is human nature to categorize and typologies are created to render information into simpler, more succinct formats. Thus, the categorical approach is easier to communicate and conceptualize, as much information is conveyed by a single diagnostic label about the features and possible treatment options. However, it may lead to an over-simplification, with the tendency to exaggerate the similarity among non-identical stimuli by overlooking within-group variability, neglecting disconfirming evidence, and focusing on stereotypic examples (Trull & Durett, 2005).

Traditionally, diagnosis of mental disorders has been in the domain of medicine, which has used a categorical model of classification since the days of Hippocrates, with psychiatrists treating behavioural pathologies that are qualitatively distinct from normal functioning. It would be a major departure from the medical tradition to convert to a dimensional form of describing psychopathology, that is, a re-conceptualization of mental disorders as shading imperceptibly into normal psychological functioning. Also, if the distinction between mental disorders and normal psychological functioning is arbitrary, there would be no justification for differentiating people as having, versus not having a mental disorder. Dimensional models thus might trivialize the concept of mental disorder altogether (Regier et al, 1998).

Validity is another major reason for retaining a categorical model; a wide variety of statistical and methodological approaches have been used for testing the two models of classification, and researchers have often obtained results that are more consistent with a categorical model than with a dimensional one. Researchers remain concerned that dimensional models may mask underlying latent class taxons (Meehl, 1995).

Clinical decisions, e.g., whether to provide medication,

hospitalization, or insurance coverage are categorical choices. It is thus useful to initially have a categorical diagnostic system that maps neatly onto the decision of whether to provide treatment or not. Specific points of demarcation along dimensions are essential to guide clinical decisions, though the cut-off points that will be optimal for one clinical decision (e.g., hospitalization) will not be optimal for another (e.g., medication). Also, the threshold for the diagnosis of schizophrenia that is associated with only a family history, for example, will be different from the threshold that is associated with an enduring course of symptoms (Kendler, 1990). On the other hand, psychosocial and pharmacological interventions usually target and affect the broad domains of symptoms rather than specific individual diagnostic categories.

However, the categorical approach has the limitation of imposing diagnostic labels on underlying dimensions often inaccurately leading to a loss of information relevant to a holistic understanding of the condition. Existing diagnostic categories may require assessment of numerous criteria in a frustrating effort to make categorical distinctions, and may actually be more cumbersome than dimensions offering more precise and accurate descriptions. For example, semi-structured interviews for the DSM-IV personality disorders must evaluate 80 diagnostic criteria, other than the 14 additional ones for the two disorders in the appendix, the NOS diagnosis, and those for conduct disorder needed for the diagnosis of antisocial personality disorder. In contrast, a semi-structured interview for the five-factor model of personality that provides a comprehensive dimensional description of normal and maladaptive personality functioning requires the assessment of only 30 facets of personality functioning.

Finally, human biology is so complex and heterogeneous that a dimensional model offers substantial benefits not afforded by a categorical approach, in that it describes clinical presentations based on quantification of attributes and emphasizes commonalities between conditions. It is more reliable at describing phenomena that are distributed continuously and do not have clear boundaries (Kraemer et al, 2004). Thus, symptoms common to different disorders may provide clinical dimensions, which transcend categorical diagnoses, e.g., psychotic, impulsive or anxiety symptoms may be seen in a variety of disorders, and considering these in a dimensional fashion across disorders may provide worthwhile insights into psychopathology and management (Trull & Durett, 2005).

## Research Issues

Researchers prefer dimensional approaches for hypothesis generation and testing. When faced with a choice between an ordinal measure (a dimensional diagnosis) and a dichotomization of that measure (the corresponding categorical diagnosis), the power of hypothesis testing is virtually always sacrificed in using the latter. How much power is sacrificed varies according to the chosen cut-point. Even worse, conflicting research conclusions may be drawn from the same data depending on where the cut-point is set (Kraemer et al, 2004).

However, a categorical approach is necessary whenever a diagnosis is to be used to make a clinical decision about an individual. The problem is not whether, but rather which categorical approach to use, i.e., which information or combination of information, or associated cut-points are the most appropriate. Similarly, while monitoring patient responses in longitudinal studies, dimensional diagnoses might well be the basis of selection of optimal cut-points to define optimal categorical diagnosis, but then it alone cannot perform the decision making tasks that need categorical diagnoses (Kraemer et al, 2004).

Different analytical methods have been adopted to decide which of the alternative models accounts best for the behavioural, neurobiological, genetic and epidemiological data, and shows the best clinical utility and predictive validity. Some of the commoner procedures include:

**Bimodality** (Haslam, 2003): Latent categories may be inferred when scores on symptom measures are bimodally distributed with a “point of rarity” between the two modes. However, this is an unreliable criterion for assessing latent discontinuity; the combined distribution may be unimodal when the observable manifestations of the two latent categories overlap.

**Cluster Analysis:** This is a popular method for psychiatric classification employing “aggregative” procedures to form coherent groups of cases or clinical features. However, it has a limited capacity to distinguish between the two models, with the basic limitation of invariably yielding categories, irrespective of whether the underlying categories exist. Cluster analysis may group individuals in pragmatically useful ways, but these groups should not be mistaken for latent categories.

**Taxometric procedures** (Meehl, 1995): These examine the

co-variation among indicators (e.g., symptoms or test scores) of a latent variable such as a hypothesized mental disorder, seeking patterns that are diagnostic of latent categories (taxa) or dimensions. A taxon is a non-arbitrary latent (genotypic) category whose members differ qualitatively from non-members. The members of a taxon may however, vary in their observable characteristics (phenotypically).

Taxometric procedures make no strong assumptions about the form of distribution of the underlying distribution taxon members, and have no inherent bias towards categorical or dimensional findings. They are capable of discriminating between latent categories and dimensions with high accuracy given adequate sample size (> 300) and indicator validity. Commonly used taxometric approaches include Maximum co-variation analysis (MAXCOV), Mean above minus below a sliding cut (MAMBAC), Maximum eigenvalue analysis (MAXEIG), Latent mode factor analysis (L-MODE), etc.

These complex statistical procedures have been applied to a variety of diagnostic constructs; however, they have limitations in being used inappropriately, and having ambiguities in interpretation. Also, evidence for taxonicity may be a function of cognitive biases of raters, of pre-selecting indicators that are most likely to produce a taxon, or of sample selection. Further, even if a taxon is identified, there remains the important question, of what it means. Taxonicity does not imply a specific aetiology or treatment, the typical goal of diagnostic classification, and the meaning or interpretation of taxa can only be determined through the traditional process of construct validation (Haslam, 2003).

**Mixture Modelling** (Gibbons et al, 1984): This is a widely used taxonomic procedure which “disaggregates” observed distributions into multiple components. It compares within the same data set, the statistical fit of models containing one (i.e., dimensional), two (i.e., categorical), or more components to these distributions. Though it is not subject to the same categorical bias as cluster analysis, this method is also problematic in that it must make assumptions about the appropriate form of the latent distributions (e.g., normal). If these assumptions are incorrect then the results may be invalid. In general, the investigator examines a variety of plots (e.g., average covariance curves), and from this visual inspection, pronounces the best model for the data. These analyses can accommodate a variety of indicators and not just phenotypic symptoms or diagnoses (e.g., they may be conducted using endo-phenotypes or other biological or

genetic markers of the disorder or syndrome of interest) and can be applied to a wide variety of data.

**Multivariate Genetic Analyses:** Most attempts to address the dimensional versus categorical status of personality disorders have focused on manifest indicators of the personality disorders, at the phenotypic level of analysis. However, it has been shown that the phenotypic structure underlying indicators of a construct does not always correspond with the genotypic structure of the items (Heath et al, 1994). Thus, a stronger case could be made for the appropriateness of a dimensional model of personality disorders, if the genetic structure of a dimensional model overlapped to a larger degree with the genetic structure underlying the symptoms.

Using multivariate genetic analysis, the extent to which DSM personality disorder constructs and dimensional models of personality are assessing the same dimensions of genetic or environmental variation can be addressed. Further, these analyses allow us to determine the extent to which genetic influences are shared by several constructs and the extent to which genetic influences are construct-specific. This approach has not been used previously for several reasons. First, genetically informative twin samples are needed to be able to tease apart the genetic and environmental influences on personality disorder symptom data. Furthermore, these analyses require a large number of participants (i.e., thousands), and relevant data from such large samples of twins typically are not available. Finally, although familiar to those who are expert in behaviour genetics, these analyses are quite complex and require specialized expertise. Despite these hurdles, it is hoped that such a study will be conducted in the future (Trull & Durett, 2005).

**Receiver-operator characteristic analysis (ROC):** ROC represents an attractive alternative to the arbitrary approach of using clinical thresholds or cut points based on expert consensus, because it suggests symptom thresholds with optimum points of balance between diagnostic sensitivity and specificity. In ROC, at each possible cut point—one of seven possible symptoms (e.g.), two of seven, three of seven, and so on—ROC plots diagnostic sensitivity against specificity in a simple bivariate space, and studies the effect of setting the cut point at different levels on diagnostic positivity. A refinement, quality ROC compares different ROC curves for different symptom combinations, identifying threshold levels of particular symptom combinations that are more efficient

than others. Thus, ROC based methods have substantial promise for selecting symptom thresholds and profiles that are most sensitive to cases of true illness (Hsiao et al, 1989).

## Future Directions

Diagnostic dilemmas in current classificatory systems have led experts to consider some of the following advances in the forthcoming DSM-V and ICD-11 (Phillips et al, 2003). Disorder in DSM-V should be considered a “harmful dysfunction”, i.e., include both the value (harm) and the scientific or factual components (Wakefield & First, 2003). There might be inclusion of a group of obsessive-compulsive-spectrum-disorder and combination of delusional and non-delusional variants of some disorders (e.g., body dysmorphic disorder, obsessive compulsive disorder & hypochondriasis). A multi-axial evaluation other than those in DSM-IV-TR, that would include - temperament and dimensions of personality in Axis II, relevant imaging markers in Axis III, and early traumatic experiences in Axis –IV. Eventually, additional axes may be employed like neuro-developmental (cognitive or learning disability in youth), genetic (markers of vulnerability or family history), pharmacological (metabolic markers & unique drug-response patterns), and cultural (patterns of experience & behaviour representing culture- bound phenomena) (Gruenberg & Goldstein, 2003). Another development would be the classification of personality disorders in Axis I, with a second axis to represent dimensions of individual differences in personality that are clinically important to understand and manage patients; the latter might include higher-order-factors (viz., emotional dysregulation, dissocial behaviour, inhibitedness) and lower-order basic dispositional traits (e.g., affective lability, anxiousness, callousness, social avoidance, suspiciousness, etc) (Livesley et al, 2003)

## Conclusion

The current diagnostic system has its origins in Kraepelinian assumptions about mental illnesses being discrete medical conditions with clear boundaries from normality (Trull & Durett, 2005). Thus, a mental disorder is conceptualized as a clinically significant behavioural or psychological syndrome or pattern, associated with present distress, disability (i.e., impairment in one or more important areas of functioning), a significantly increased risk of suffering, pain, or death, and loss of freedom (APA, 2000). There is however, no qualitative distinction from normal functioning, if one considers the fundamental

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components of most concepts of mental disorder, namely, with respect to dyscontrol, impairment, and pathology (Widiger & Coker, 2003), and the boundary with normality is not itself categorical.

Thus, categorical and dimensional models each have received well-replicated support for certain groups of mental disorders. Studies favour categorical models for melancholia, eating disorders, pathological dissociation, and schizotypal and anti-social personality disorders. Dimensional models tend to be favoured for the broad neurotic spectrum – depression, generalized anxiety, PTSD and borderline PD (Haslam, 2003). Thus, they are essentially complementary, and one or the other approach is more appropriate depending on the clinical circumstances and research questions being addressed.

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**FAMILY DISTRESS AND EXPRESSED EMOTIONS IN CAREGIVERS OF MENTALLY ILL****S.K. Chaturvedi<sup>1</sup>, Sanjeev Ranjan<sup>2</sup>****ABSTRACT**

Psychiatric disorders as well as their symptoms cause distress to the family members or caregivers. There is emotional adjustment in coping with the disintegration in personality of a family member and the behavioural problems can prove extremely distressing. The relatives of patients with mental illnesses suffer from considerable amount of distress and burden. There are some cross cultural differences in distressing symptoms, and in the Indian setting symptoms which were found most distressing by the family members were not doing any work, poor personal hygiene and negative symptoms. Relatives with distress have been found to have greater degree of expressed emotion towards their mentally ill family member. The family distress and the differential perception of distress for symptoms may be related to expressed emotions. Poor Quality of life in patients was found to be related to high family distress. Recent studies on psychoeducation of family members and family interventions have documented its beneficial effect on outcome of psychiatric disorders by reducing family distress.

**Key Words:** *Family distress, expressed emotions, schizophrenia, mental illness, quality of life.*

**Introduction**

Family distress is the subjective experience of discomfort in the family members as a reaction to patients' behaviour (Gopinath & Chaturvedi, 1986; 1992). It can be conceptualized as an expression of psychological dysfunction in family members independent of the caregiving role. The term caregiver burden refers to the effects of mental illness of one family member on the emotional well-being of the caregiver, as well as on the caregivers' use of time, finances and general living conditions (Platt et al, 1978). Two types of burden, namely, objective and subjective burden have been differentiated (Hoenig & Hamilton, 1966). Both types of burden have been described by Schene (1990) in a comprehensive conceptual framework. Objective burden refers to patients' symptoms and behaviours within the social environment and their consequences. Elements of objective burden include disruption of household routines, disruption of relatives' leisure time and career, strain on family relationships and reduction of social support. Subjective burden relates to the psychological consequences for the family and includes relatives' mental health, subjective distress and burnout.

Expressed emotion (EE) refers to the affective attitudes and behaviors, i.e., criticism, hostility and emotional overinvolvement, of relatives toward a family member with a psychiatric illness (Kazarian & Vanderheyden, 1992). In other words, the term EE represents the total emotional environment of the patient in which he or she lives. The EE therefore can be seen as an indicator of 'emotional temperature' in the home.

This review attempts to discuss the distress due to symptoms and illness in the caregivers of persons with severe mental disorders like schizophrenia and bipolar disorders, expressed emotions exhibited by the caregivers and the possible inter relationship between family distress and expressed emotions. The influence of family distress and expressed emotions on clinical outcome and intervention issues to deal with both these important variables have been briefly highlighted.

**Family Distress and Symptoms**

Caring for patients with mental illness within the family setting is an important aspect of community care of mentally ill. The

current understanding of mental illnesses focuses on the impact of illness on the stress borne by the care-givers as an important aspect of improved service delivery. The changes in behaviour and personality of the patient can be very distressing for the close family members or the primary caregiver. On one hand, there is the difficult emotional adjustment in coming to terms with the disintegration in personality of a family member; on the other hand, the behavioural problems can prove extremely taxing to cope with. As time passes by it may lead to significant interpersonal problems with ambivalence and/or rejection within the caregiver.

The distress is a function of various factors such as perception, knowledge and attitude towards the mental illnesses. It is also related to the coping skills of the family members.

Studies since the 1960s have looked at the relationship between symptomatology of the patient and the distress/burden experienced by the caregivers. Freeman & Simmons (1963) observed that severe mental symptoms were most upsetting for the family members because the emergence of symptoms predicted re-hospitalization. A significant degree of symptom tolerance was noted by Creer & Wing (1975) albeit at a great deal of internal distress and family burden: physical, emotional and financial. The commonest distressing behaviours noted were those related to social withdrawal and other negative symptoms. Research has tried to delineate the symptoms which are most distressing to the caregivers. A survey on families of patients with schizophrenia reported that offensive behaviour, rudeness and violence were most distressing (Gibbons et al, 1984). Thus, the symptoms resulting from psychosis caused the greatest degree of distress whereas the negative symptoms evoked a sense of resignation. However, this finding has not been corroborated in a subsequent study from India. Gopinath & Chaturvedi (1986) while developing a scale to assess the distressing symptoms in psychiatric patients reported that in patients with schizophrenia, poor personal hygiene (58%) and wandering behaviour were among the commonest distressing symptoms whereas in depressed patients, not working (55%) and suicidal behaviour (36%) were among the commonest distressing symptoms for the family members. Later, Gopinath & Chaturvedi (1992) studied the distress of family members of patients with schizophrenia. The key relatives of sixty-two patients with schizophrenia were interviewed. The relatives were requested to report as many behavioural disturbances

as possible irrespective of amount of distress. Possible ways of handling such behaviours were discussed. The severity of distress caused by each symptom was rated on a five point Likert scale. The distressing symptoms were grouped into four groups: activity related, self care related, aggression related and depression related. The distressful symptoms were also grouped into positive and negative symptoms. The commonest behavioural disturbances found were: not doing any work (64%), not doing household tasks (56%), poor personal hygiene (53%), and slowness (53%). The symptoms considered most distressing were: not doing any work (42%), few leisure interests (34%), talking less (29%), slowness (29%) and poor personal hygiene (29%). The lack of self care was perceived as distressful more often in older patients and women. Lack of sleep was perceived distressful more often in older patients and was found to be significantly more distressing for younger relatives. Slowness was more often perceived as distressful in women. In educated people, self care related behavioural disturbances were regarded as distressful. Relatives with more education were significantly more distressed by all behaviours except aggressive behaviour and positive symptoms. Nuclear families were more distressed by the depression.

Caregivers were reported by Tennakoon et al (2000) to experience a high degree of worrying when the participants displayed difficult behaviour and negative symptoms. Those who were living with the participants had more frequent GP visits. Cuijpers & Stam (2000) found that relatives' ability to cope with the patients' behaviour, worrying about the patient and the strain on the relationship with the patient were strongly related to the subjective burden. The task of supervising the patient was significantly related to the degree of emotional exhaustion in the caregiver. This study also found some evidence to suggest that relatives of bipolar disorder experienced fewer burdens than other caregivers and the duration of illness more than two years predicted a higher degree of subjective burden. The subjective burden on partners of the patients was higher than other caregivers. Recently, findings of an earlier study by Gopinath & Chaturvedi (1992) have been replicated by another group (Saldanha et al, 2002).

Boye et al (2001) prospectively examined the relationship between relatives' distress and patients' symptoms and behaviours. Participants were fifty relatives of thirty-six patients with schizophrenia. The relatives were assessed with General

Health Questionnaire (GHQ) and Perceived Family Burden Scale (PFBS) at the time of admission to the hospital, 4.5 months and 9 months post-discharge. The patients were assessed with Positive and Negative Syndrome Scale for Schizophrenia (PANSS). The follow up assessments revealed a decrease in relatives' distress at 4.5 months post-discharge which remained at the same level after 9 months. At all three assessments there was a positive correlation between the reported PFBS anxiety-depressive behaviour cluster of the patient and the total GHQ score indicating a direct relationship between presence of anxiety and depressive symptoms in the patient and the level of psychological distress in the relative. However no clear relationship emerged between PANSS total score and the relatives' distress. It should be noted that the negative symptoms are poorly represented in the PFBS, a factor that could account for the absence of relationship between negative symptoms of the patients and the distress level in the relatives. Significant burden has been reported in the relatives of bipolar patients as well (Perlick et al, 1999). High levels of emotional distress and burden were observed by Ukpong (2006) in the caregivers of schizophrenia patients in Nigeria and they were significantly associated with some demographic variables. They were also significantly associated with positive and negative symptoms of schizophrenia. Fortune et al (2005) reported that in general, caregivers who viewed their relatives' psychosis as chronic, who had a stronger illness identity (experience of symptoms), who held a stronger belief in the severity of its consequences, and who reported weaker beliefs in treatment control but stronger beliefs that their relative could exert control over their condition had higher distress scores. In Europe, the most common worries of relatives were about the patient's health, and their own future, safety and financial position (Thornicroft et al, 2004).

Family distress can be measured by generic scales measuring distress like the General Health Questionnaire or specific scales like the Scale for Assessment of Family Distress (Gopinath & Chaturvedi, 1986; 1992). The Family Questionnaire (FQ), a scale for measuring symptom appraisal in relatives of patients of schizophrenia is a useful tool for measuring relatives' perceptions of schizophrenia, particularly within the context of family interventions where it may be utilized to help to understand the factors mediating relatives' burden and distress (Quinn et al, 2003).

The role of stigma in causing distress in family members

was evaluated by Perlick & colleagues (2004). The perceived stigma was found to have direct effect on caregiver burden—that is, greater perceptions of stigma were related to greater levels of burden. The perceived stigma was also indirectly related to the level of emotional overinvolvement with the patient. Surprisingly neither the severity of symptoms of the patients nor the fact of living with the caregiver was related to the measured level of distress. Stigma has a definite negative impact on the patient as well as their families (Raguram et al, 2004). Women with schizophrenia and broken marriages in our country are disabled and stigmatised not only by the illness, but also by the social attitudes to marital separation and divorce. Most families express intense distress and concerns about the long-term future and security of the women with schizophrenia (Thara et al, 2003).

### Coping with Distress

A model of psychological functioning in family members of mentally ill persons has been proposed by Vitaliano & colleagues (1991). The model proposes that the caregivers' burden and distress result from an interaction between caregivers' vulnerability and stressors that is affected by the psychosocial resources. The stressors include symptoms, adverse events such as psychiatric hospitalization and other factors such as duration of illness. The vulnerability factors include passive coping styles characterized by avoidance, resignation and self-blame. There is significant amount of research focusing on the way people cope with stress in day to day life. Needless to say those caregivers of patients with severe mental illnesses face a high degree of stress. Birchwood & Cochrane (1990) studied the coping styles in the families of patients with schizophrenia. The study showed that caregivers tended to adopt consistent coping styles which were related to the degree of stress and burden experienced by them. A study from India (Chakrabarti et al, 1995) compared family burden between affective disorders (bipolar and recurrent depressive disorder) and schizophrenia and reported that although mean objective burden was high for schizophrenia, the degree of global objective burden was comparable between an affective disorder and schizophrenia. Coping with resignation was related to higher levels of subjective and objective burden although it was not related to the level of psychological distress. Further support to relationship between use of maladaptive coping strategies (avoidance, self-blame and resignation) and greater degree of perceived burden and distress in caregivers of

schizophrenia patients is provided by Dyck et al (1999) and Magliano et al (2000). In a study examining the experiences of caregivers of patients with first episode psychosis Tennakoon & colleagues (2000) found that most of the caregivers were confronting the emotional upheaval and practical challenges visited on the family of a person with a first episode of psychosis. Most caregivers in this study used both 'practical' and 'emotional' coping strategies rather than 'spiritual' (faith) strategies. This contrasts with the finding of spiritual coping as being the predominant strategy for caregivers in the Mediterranean countries (Magliano et al, 1998). The spiritual strategy was used to cope only with the stigma of having a mentally ill relative. Recent studies of schizophrenia and first episode psychosis has found that coping by avoidance is associated with significantly greater distress and burden in caregivers and family members (RamMohan et al, 2002; Kumari et al, 2003; Raune et al, 2004). Coping through seeking emotional support, the use of religion/spirituality, active coping, acceptance, and positive reframing were associated with less distress, while coping through self-blame was associated with higher distress scores (Fortune et al, 2005). For family members of Latino and African American descent, greater self-reported family cohesion appeared to have a protective effect against emotional distress due to schizophrenia (Weisman et al, 2005). Contrary to expectations, religiosity was not associated with patient or family member's emotional distress or with patient's psychiatric symptoms in this report.

### **Expressed Emotion (EE)**

The concept of EE was developed by Brown in late nineteen fifties and early sixties (Brown et al, 1962). Based upon his study of outcome of schizophrenia patients discharged from mental hospitals to live with their relatives or in hostels, where he found a better course for the latter; the concept of expressed emotion was born (Brown et al, 1962; 1972). Brown described five components of expressed emotion: emotional overinvolvement, critical comments, hostility, positive remarks and warmth (Brown, 1985). The instruments to assess EE have been many though the most commonly used are the Camberwell Family Interview (CFI) and the Five Minute Speech Sample (FMSS). Both the instruments have been validated across the cultures and provide a reliable measure of the different components of EE. Studies till date validate the concept of EE across cultures though the degree and significance of different dimensions of EE vary (Cheng, 2002; Bhugra & Mckenzie, 2003).

There is enough evidence that the affective climate surrounding psychiatric patients has a detrimental effect on their clinical outcome. Various studies have shown increased incidence of relapse in schizophrenic patients from families with high level of EE in terms of criticality, hostility and emotional over-involvement (Brown et al, 1972; Vaughn & Leff, 1976; Leff & Vaughn 1985; Vaughn et al, 1984; 1992; Bebbington & Kuiper, 1994; Tanaka et al, 1995; Mino et al, 1997; 1998; Butzlaff & Hooley, 1998). A meta-analysis of the relationship between expressed emotion and outcome examined the predictive validity of the construct in relapse of schizophrenia, mood disorders and eating disorders (Butzlaff & Hooley, 1998). The study concluded that expressed emotion is a significant and robust predictor of relapse in schizophrenia. The relationship between expressed emotion and relapse was strongest for patients with more chronic schizophrenic illness. A recent study involving Israeli patients found that high EE and particularly high criticism were significantly associated with poorer outcome (higher rate of and earlier readmissions, and higher BPRS score at follow-up) and worse illness course (higher annual number of prior psychiatric hospital admissions) (Marom et al, 2002).

As stated earlier, the findings on EE in relatives of schizophrenia patients have not been uniform across cultures. In a Chinese sample the relatives expressed significantly fewer critical comments (CCs) and less emotional overinvolvement (EOI) than respondents in other similar studies in the West (Ran et al, 2003). The city dwellers were significantly more expressive than villagers expressing warmth, positive remarks, and emotional overinvolvement. Interestingly, although the expressed emotion construct is most closely associated with research in schizophrenia, the mean effect sizes for expressed emotion for both mood disorders and eating disorders were significantly higher than the mean effect size for schizophrenia.

In addition, family EE has been reported to affect social function (Miklowitz & Goldstein, 1983; Inove et al, 1997) and worsen negative and depressive symptoms in patients with schizophrenia (Kavanagh, 1992; Mino et al, 1998). With the growth of literature on EE, the importance of psychoeducational approaches with families in the treatment programs for schizophrenia has become clear. Family therapy and other psycho educational interventions in families with high EE resulted in decrease in the relapse risk of schizophrenia (Leff et al, 1982; 1985; Falloon et al, 1982; Montero et al, 2001; Pitschel-Watz et al, 2001).

Researchers have also examined the relationship of EE with mood disorders such as depression and bipolar affective disorders (Vaughn & Leff, 1976; Hooley et al, 1986; Miklowitz et al, 1988; Priebe et al, 1989; Okasha et al, 1994; Hayhurst et al, 1997; Mino et al, 2001; Bachman et al, 2002; Goldstein et al, 2002). Most of these studies have found a relationship between EE of the family and the course of mood disorders. Since the bipolar affective disorders typically follow a relapse remission course with the intermorbid period decreasing and the episode length increasing as the disease progresses (APA, 1994), the phenomenon of EE has very significant role to play in its course and outcome. It has been found by Miklowitz et al (1988) that the affective climate of the family to which a remitted bipolar patient returns following hospitalization is predictive of his or her subsequent course of the illness and social functioning. Non-compliance, a significant problem in these patients, has been found to mediate the effect of EE in recurrence or relapse of symptoms (Perlick et al, 2004).

Examination of attribution and controlling behaviours in parents of patients with schizophrenia (Peterson & Docherty, 2004) revealed that parents who blamed themselves for the patient's illness had higher emotional overinvolvement ratings than non-self-blaming parents. Measures of controlling behavior revealed that highly critical parents were not more controlling than less critical parents; however, parents high in emotional overinvolvement reported higher levels of patient- and other-controlling behaviors than parents low in emotional overinvolvement. These results suggest that the emotional overinvolvement component of high expressed emotion is associated with self-blaming attributions and controlling behaviors in parents, but the criticism component is not.

Among relatives of borderline personality disorder patients, EE, especially critical comment was found to positively correlate with the level of knowledge about the disorder (Hoffman et al, 2003). The degree of burden experienced by the caregiver was also found to be high among caregivers who had better knowledge about the disorder. The authors raise concern about the implications of such relationship with regard to role of psychoeducation in alleviating the family EE and burden. However cross-sectional nature of the study precludes any conclusion whether the knowledge about the illness increased the burden and EE or relatives with high EE and burden were trying to seek more and more knowledge about the illness.

The relationship of attributional style and EE has been investigated. The review by Barrowclough & Hooley (2003) found that critical relatives were more likely to hold patients responsible for their difficulties. On the other hand, attributions made by emotionally overinvolved relatives were similar to the attributions made by those who had low EE. In reviewing the association between attributions and patient relapse, the authors concluded that caregivers' beliefs may play a role in the relapse process in a variety of ways. These include mediating controlling behaviour, which may serve to increase patients' stress or decrease patients' sense of self-worth. However such assumptions were not validated in an earlier study by Wuerker et al (2002). This study failed to find a relationship between EE and symptoms, as well as between controlling behaviours and symptoms. The authors propose that EE may be an indicator of responsiveness rather than either a cause or result of symptoms.

#### **Family Distress and Expressed Emotions**

The cause-effect relationship between EE and symptoms of the illness has been explored by a few studies. King (2000) explored this relationship between symptoms of schizophrenia patients and the EE in their mothers. Specifically, the stability and cross-lagged effects of mothers' critical comments (CC) or emotional overinvolvement (EOI) and the severity of symptom clusters were examined. Twenty-eight patients and their mothers were interviewed three times at 9 month intervals. Data were analyzed by structural equation modeling: cross-lagged panel analysis. Results suggested that maternal CCs and EOI both tend to be influenced by the patient's total symptom severity and are influenced significantly by negative symptoms, but not by positive symptoms. Also, the more severe the hostile-uncooperative symptoms in the patient, the more critical the mothers become over time. However, the greater the mother's EOI at time 1, the less severe the patient's hostile-uncooperative symptoms at time 3. However findings to the contrary have been reported by another group from Finland (Heikkila et al, 2002). High hostility and criticism has been found to be predicted by the high frequency of behavioural symptoms whereas caregivers' perceptions of coping with specific symptom behaviours decreased criticism/hostility in a Turkish sample of schizophrenia patients and their relatives (Karanci & Inandilar, 2002). Shimodera & colleagues (2000) found high levels of EE to be related to higher psychological distress in caregivers

of patients with schizophrenia. Whether EE was related to presence of any diagnosable psychiatric disorders in biological parents of recent onset schizophrenia patients was investigated by Goldstein et al (2002). However, the results were not supportive of this hypothesis. Recently, an attempt to find a relation between subclinical thought disorder in the family members and EE towards their family members with schizophrenia has failed (Subotnik et al, 2002).

The family distress and the differential perception of distress for symptoms may be related to expressed emotions (Chaturvedi & Gopinath, 1993). There are studies which report significant reduction in family burden by an intervention programme and day care, without reducing family distress, due to lack of specific intervention to reduce family distress (Sudarshan, 1988).

In conclusion, the literature has mixed findings over the relationship between the symptoms of the patients, distress due to the symptoms and the EE among the relatives. A bidirectional relationship is likely to be the most valid one (Woo et al, 2004).

### **Family Distress, Expressed Emotion and Clinical Outcome**

The self esteem in schizophrenia patients is also related to the family attitude. A more critical attitude from family members is associated with greater negative self-evaluation (Barrowclough et al, 2003). There is evidence that the impact of criticism on patients' positive symptoms is mediated by its association with negative self-evaluation. Higher EE in caregivers has been related to poorer compliance with the treatment in the patients with schizophrenia (Sellwood et al, 2003). The relationship of burden, expressed emotions and outcome of schizophrenia is further supported by metaanalysis studies (Cuijpers, 1999; Pilling et al, 2002) demonstrating that family interventions result in reduced burden and increased medication adherence which translates into better outcome. Interestingly, it has been noted that family distress scores correlate with other outcome measures for schizophrenia and affective disorders (Schreeram, 1993).

Quality of life (QOL) as an outcome measure has also been evaluated in patients with schizophrenia and its relationship with family distress in some studies has been reported (Chaturvedi et al, 2000). Poor Quality of life in patients was found to be related to high family distress. Poor QOL was

also noted for those patients with negative symptoms, bizarre behaviour, and formal thought disorder, symptoms which produce more family distress (Chaturvedi, 1997).

### **Treatment Issues for Caregivers**

It is amply clear now that the outcome of the patient improves when the needs of the family member for information, clinical guidance and support are met. The support for this kind of intervention arises from studies showing markedly higher reductions in relapse and rehospitalization rates among patients whose families received psychoeducation than among those who received standard individual services (Dixon & Lehman, 1995; Penn & Mueser, 1996; Falloon et al, 1999). Current treatment programs for patients with schizophrenia also include some kind of intervention for the caregivers. Such help may be rendered either separately or integrated with the treatment package offered to the patient.

Several methods have been proposed and studied to address the needs of families of persons with mental illnesses: individual consultation focusing at problem solving techniques and psychoeducation, family therapy, family psychoeducation, etc. (Dixon et al, 2001). The family psychoeducation specially provided in groups of families over a longer term (9 months to 5 years), often in an ongoing process, provides a cheaper and effective method to address these issues. Family psychoeducation models differ in their format; for example, multiple families, single family, or mixed. Such programs also differ with respect to the duration of treatment, participation by the patients, location of service delivery (e.g. home, community setting, clinic setting), and the degree of emphasis on didactic, cognitive behavioural, and systemic techniques. The goals of these interventions are to achieve the best possible outcome for the patient and to alleviate the suffering of the family members. To achieve these goals, fifteen principles of working with families of persons with mental illness have been suggested (Dixon et al, 2001). These are:

- Coordinate all elements of treatment and rehabilitation to ensure that everyone is working towards the same goals in a collaborative, supportive relationship.
- Pay attention to both the social and clinical needs of the patient.
- Provide optimum medication management.
- Listen to families' concerns and involve them as equal partners in the planning and delivery of treatment.

- Explore family members' expectations of the treatment program and the expectations for the patient.
- Assess the strengths and limitations of the family's ability to support the patient.
- Help resolve family conflict by responding sensitively to emotional distress.
- Address feelings of loss.
- Provide relevant information for patient and his/her family at appropriate times.
- Provide an explicit crisis plan and professional response.
- Help improve communication among family members.
- Provide training for the family in structured problem-solving techniques.
- Encourage family members to expand their social support networks; for example to participate in family support organizations such as NAMI.
- Be flexible in meeting the needs of the family.
- Provide the family easy access to another professional in the event that the current work with the family ceases.

Multiple-family group treatment developed by McFarlane (2002) integrates elements of psychoeducation and behavioural family therapy in a group format with two clinicians and six to eight families. This approach provides information and problem solving experiences to family members and consumers that are designed to improve the management of schizophrenia. The treatment begins with a three-session joining phase with each family and consumer. These initial sessions aim to establish alliance with the family and the patient as well as elicit information about the illness, its impact on the family and the available coping resources to the family. This is followed by a psychoeducational workshop for one day. Then, bimonthly group sessions start with a focus on relapse prevention. This goes for one year followed by monthly group sessions focusing on social and vocational rehabilitation. This treatment approach has been shown to reduce negative symptoms (Dyck et al, 2000), relapse (McFarlane et al, 1995) as well as caregivers' distress (Hazel et al, 2004).

The formal family education programmes require considerable amount of resources. In absence of such resources, voluntary peer-led family education programs have been developed, epitomized by NAMI's Family-to-Family Education Programme (FFEP) (Solomon et al, 1996; Burland, 1998). Such programmes are organized and led by trained

volunteers from families of persons with mental illnesses. The education is based on the 'trauma and recovery model' of a family's experience in coping with the mental illnesses. FFEP combines education with specific support mechanisms to help families in coping with mentally ill members.

The effectiveness of these family level intervention programmes should not make one forget the important barriers to implementation of these programmes. The common barriers which need to be overcome include limited amount of material resources, lack of trained personnel, poor access to information among the great majority of affected population, high degree of stigma and lack of coordination between programme developers and government agencies. In future, a big step would need to be taken towards removing these hindrances to fulfill the mental health needs of the families of ever increasing population with mental illnesses.

## Conclusion

The relatives of patients with mental illnesses suffer from considerable amount of distress and burden. Such relatives have been found to have greater degree of expressed emotion towards their mentally ill family member. The distress, burden and expressed emotions in the family members are significantly related to the outcome of psychiatric patients. Recent studies on psychoeducation of family members have documented its beneficial effect on outcome of psychiatric disorders. However, concerted efforts are required to overcome the barriers to care of psychiatric patients and their relatives in order to fulfill the mental health needs of the population.

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## DIFFERENTIATION OF SELF, SENSE OF SUPPORT AND MARITAL QUALITY IN PATIENTS AFFECTED BY HIV/AIDS AND EPILEPSY

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### ABSTRACT

**Background:** The impact of illness on relationships, especially the marital dyad, has been an area of concern for clinicians as well as for family and marital therapists. In the last two decades, HIV/AIDS has emerged as a psycho-physiologically debilitating illness which is highly stigmatized. With more effective treatment, this erstwhile acute and terminal illness is being viewed as a more chronic one. Long-term survivors of HIV are shifting their focus from illness related concerns to relationship issues. The current study was designed to understand these with reference to an integrated family-dyad-system-illness model, and explain relationship experiences of these patients. **Aim :** The aim was to study marital relationship in persons with HIV and compare this with persons with epilepsy. Differentiation of self, sense of support and marital quality measures were used with a sample of 20 patients with HIV and 20 patients with epilepsy. **Results :** Results revealed that HIV patients were less fused with others, especially with their family of origin, and had more distinct 'I' positions in relationships. Poor marital quality in both the illness groups significantly correlated with differentiation of self subscales. Sense of support was perceived to be low in both illness groups. Qualitative analysis of semi-structured interview data clarified these experiences further. **Conclusion:** Thus, intervention directed to these issues can help AIDS patients.

**Key Words:** *HIV, epilepsy, differentiation, marital quality*

### Introduction

In the last two decades, HIV/AIDS has emerged as a psycho-physiologically debilitating illness that is highly stigmatized. Many studies emphasize the psycho-social consequences of HIV/AIDS on the infected individual and their loved ones (Frierson et al, 1987; Wincarski, 1991). The psychological distress caused is compounded further due to the uncertainty of disease progression, and also due to the moral implications it has for the person afflicted. This erstwhile acute and terminal illness is now evolving into a more chronic one due to the advances in the field of pharmacology. Thus, due to the availability of more effective treatments, long term HIV survivors are de-focusing from illness related issues and turning their attention back to career and relationship challenges.

Marital and family theorists are addressing these issues through various models and research studies. Rolland (1991) describes the Family Systems Illness model that hypothesizes that the psychosocial demands of the disorder and the family style of functioning and resources are the prime

determinants of successful versus dysfunctional coping and adaptation. Illnesses, individuals and family have certain phases, and illness and disability push individual and family developmental processes towards transition and increased cohesion. Chronic disorders can affect couples with devastating consequences. As a result, a number of significant structural and emotional skews are likely to occur in terms of whose problem it is, boundary issues, patient caregiver roles, togetherness-separateness, psychosocial recovery, gender-sexuality issues, belief systems, and life cycle stages (Rolland, 1994). Anderson (1993) proposes a Family Illness model where illness is seen as a stressor event that interacts with family resources and family's perception of the event, leading to a family crisis. Stressor events include the illness, ongoing family strain, illness related demands, and severity of the illness. Cohen & Wills (1985) view marital status, quality, and interaction as social support processes that can influence health outcomes. Sense of support is another commonly used concept. It refers to the perceived availability of social support and has the potential to buffer the adverse effects of life events (Cohen, 1990; Blaney et al, 1991).

Expanding on the complex interaction between these phenomena, Burman & Margolin (1992) suggest that marital status, marital quality and marital interaction directly influence illness related stress, and support available. They hypothesize that acute illnesses may alter relationships. Spouses become more supportive even in low quality marriages, when the partner's well being is threatened. On the other hand, in a chronic illness, where one spouse is providing long term care for the other, this may change the way spouses evaluate their marital relationship and make long term adaptations. Further, wives may experience lesser marital satisfaction when they play the role of a caregiver, than when they are patients. The above models support dyadic/systemic/illnesses variables in isolation, whereas an integrated model may be more relevant.

One of the models for understanding marital distress in the Indian setting is from Shah (1996) and it emphasizes on dyadic, familial and external systemic variables. In other words, marital dynamics is more than just the dyadic experience and is often linked with many not-so-obvious themes for a couple. When combined with Rolland's ideas, the hypothesis states that dyadic experiences with health threats of different types, like HIV/AIDS and epilepsy, do influence illness and family experiences in complex ways. This study aims to explore these issues.

Some of the research studies on patients with illnesses and persons with marital distress have found evidences to support these concepts. Beckerman (2000) found that heterosexual HIV positive couples reported more emotional distancing post diagnosis. The three main factors that contributed to emotional distancing were fear of HIV transmission, emotional withdrawal, and preparation for loss of loved ones. Kiecolt-Glaser et al (1987) studied nutritional data, immune functions, marital quality, and distress in separated/divorced and married men. They found that poor marital quality in married cohort was significantly related to greater depression and loneliness, global distress, and a poorer response to immunological assays.

Concepts of autonomy, separation-individuation, and cohesiveness in couple relationships have originated from Bowen's concept of differentiation of self and its four dimensions. It has been made measurable as well (Skowron & Friedlander, 1998). Emotional reactivity refers to emotional flooding, emotional lability or hypersensitivity to environmental

stimuli. 'I' position refers to a clearly defined sense of self, and ability to thoughtfully adhere to one's convictions when pressured to do otherwise. Emotional cut-off implies feeling threatened by intimacy, fear of engulfment, and use of behavioral defenses like denial, overfunctioning or distancing. Fusion with others reflects overinvolvement with others with triangulation and overidentification patterns.

Skowron (2000) developed an inventory for differentiation of self, and studied the relationship between differentiation of self and quality of marital relationships on a sample of 39 heterosexual married couples from the community. Results showed that couples who were less reactive, cutoff, or fused with others, and better able to take I-positions in relationships, taken together, experienced greatest levels of marital satisfaction. Emotional cutoff was found to uniquely predict marital discord. Pergami et al (1993) found that two thirds of their sample of 57 HIV positive women reported disrupted sexual relations post diagnosis. In the Indian context, Krishna & Chandra (1998) found that in their study of 34 persons with HIV/AIDS, the concerns reported included greater dependency on the spouse, sexual roles and performance, family support and marital relations in general. Positive impact of illnesses has also been reported, whereby, HIV positive women reported qualitative changes in their relationships such as greater honesty in the relationship, profound self awareness, rebuilding and redefining relationships (Dunbar et al, 1998).

Thus, the concepts of differentiation of self (DS), sense of support (SS), and marital quality (MQ) were chosen for this study on patients with serious illnesses. The authors hoped to find relationship realities for working with Indian population with illnesses. A global evaluation through a measure for MQ and a dimensional evaluation through a measure for DS provided data from dyadic and systemic domains. Social support and stress buffer theory was examined through a measure for SS. Illness and other individual experiences were explored through a semi-structured interview.

In his typology of chronic and life-threatening illnesses, Rolland (1984) has categorized AIDS at one extreme of the matrix and listed it as incapacitating, gradual, progressive and fatal illness. Epilepsy is nearer the opposite end listed as non-incapacitating, acute, nonfatal, and relapsing. Both conditions are associated with stigma and hence are also

similar in some ways. Thus, the purpose of this study was to explore the marital relations of couples who had HIV infection and those in whom one spouse had epilepsy. Epilepsy group will help accentuate the trends that emerge from the HIV/AIDS group. Finding relationship experiences of these divergent patients will guide clinicians and marital therapists in appropriate psychosocial work. Also, internationally as well as in India, many studies have been carried out with samples of HIV/AIDS, but focus has been more on the psychological sequelae of the diagnosis and issues related to psychoneuroimmunology and rarely on relational and systemic impact of illnesses (Viba, 2001). Marital relations in HIV are compounded by the fact that either both spouses may be infected or there may be a risk of transmission from one spouse to another. This risk is absent in epilepsy and is another distinction that might impact marital relations in the two conditions.

### **Hypotheses**

Authors hypothesized that marital dynamics is different in the two illness categories. These differences would show through at least one of the three variables under study. If DSI differences are found between the two groups, it will suggest that major individual and systemic changes occur in response to illnesses, dyadic changes will be tapped by MQ. Correlated DSI and MQ changes would mean marital discord model from Shah (1996) and illness related marital relationship model of Rolland (1994) can be combined to understand marital relationship changes in response to illnesses. Differences on SS and MQ, on the other hand, would lean the hypothesis towards stress-buffering quality of available relationships.

### **Methodology**

#### **Participants**

Married patients between 20 and 45 years, living with their spouses, speaking English, Kannada or Hindi, were selected from NIMHANS HIV Clinic, neurology OPD, refractory epilepsy clinic, and two residential homes for patients with HIV/AIDS. Inclusion criteria were: 1) patients with a diagnosis of HIV/AIDS for a minimum duration of 3 months for Group A, and a diagnosis of epilepsy for a minimum of 3 years for Group B, and 2) patients who are clinically stable. Exclusion criteria were: 1) history of having undergone marital or individual therapy, and 2) history of severe psychiatric illnesses/cognitive impairments in any patient.

Final sample selected was twenty patients in each group (A=HIV/AIDS, after screening 61; B=Epilepsy, after screening 90). Finding married patients in these populations proved to be difficult as only about one third of this population seems to be married. Finding married men with epilepsy was the most difficult, and has affected gender representation in this sample (A: 10 men, 10 women; B: 5 men, 15 women). Informed consent was obtained from all the participants after disclosing the aims, objectives, and requirements from participants. Confidentiality of research material was discussed very carefully with each participant from group A due to various psychosocial reasons and sensitive diagnostic and clinical issues. Group A and group B data were analyzed using parametric methods.

### **Measures**

- (i) *Socio-demographic data sheet*: This was used for eliciting basic information on age, gender, education, occupation, income, marriage type and duration, family type, diagnosis, duration of illness and treatments.
- (ii) *Differentiation of Self Inventory (Skowron & Friedlander, 1998)*: It is a self report multi-dimensional inventory that focuses on adults, their significant relationships, and current relations with family of origin. It has 43 items that are rated on a 6-point Likert-type scale, ranging from 1(not at all true of me) to 6 (very true of me). Scores range from 1 (low differentiation) to 6 (high differentiation). It has a full-scale differentiation score and sub-scale scores for emotional reactivity (ER), emotional cut-off (EC), Fusion with Others (FO), and 'I' Position (IP). The DSI validation studies report that higher differentiation score on 4 sub-scales predicted less symptoms, less trait anxiety, and greater marital satisfaction. Internal consistency (Cronbach's alpha) for the full scale was found to be 0.88 (ER= 0.84, EC= 0.82, FO=0.74, IP=0.83). Validity ranges from 0.43 to 0.84.
- (iii) *Sense of Support Scale (Dolbier & Steinhardt, 2000)*: The authors suggest that it is a useful tool for investigating relationship of social support and health. It is a self report scale measuring perceptions of the availability of the quantity and quality of social support. It has 21 items which are rated on a 4-point Likert-type scale, ranging from 0 (not at all true) to 3 (completely true). Scores range from 0 to 63, with higher scores being indicative of greater perceived support. It has an internal reliability of 0.84 to 0.87.

- (iv) *Marital Quality Scale (Shah, 1991;1995)*: It is a multidimensional measure of marital quality that gives global and specific scores. It was developed and standardized with the Indian population. Over 800 married persons from the community and psychiatry clinics provided data for different phases of item generation, reduction, and validation. Content analysis and factor analysis were used to retain 50 items in a statement form with a 4 point rating scale, in male/female forms. The range for the total score is 50-200. Higher scores are indicative of poorer quality of married life. It also measures 12 dimensions: affection, decision-making, despair, dissolution potential, discontent, dominance, rejection, role function, satisfaction, self disclosure, trust, and understanding. The scale has an internal consistency of 0.91 and a test-retest reliability of 0.83.
- (v) *Semi-structured interview*: A semi structured interview schedule was developed which explored the individual domains of reactions to illness, coping styles, fears/major concerns, changes experienced in the marital relationship, and other illness related issues.

### Procedure

The study was carried out in two stages. In the pilot phase, translations of selected measures, development of semi-structured interview, and trial data collection with one couple from each group was completed. The improved procedure for administration was used in the main data collection phase. Administration of tools was done in single sessions with the participants.

### Statistical Analyses

Descriptive statistics (means, standard deviations, percentages), t-tests, chi-squares, correlations were used for quantitative analysis and qualitative analysis of the interview data was done through content analysis using coding categories.

### Results

#### Sample characteristics :

Group A comprised of 20 married HIV positive patients, 13 of whom had sero-concordant spouses. Their subjective report of the modes of transmission of infection for 17 participants (85%) showed heterosexual transmission. For 1 participant

(5%) it was transmission through infected needle. Blood transfusion was reported by 1 participant (5%), and it was unknown for 1 participant (5%).

19 of them showed heterosexual transmission-85%, blood transfusion-5%, and through needles-5%. One patient was on a 3-drug anti retro-viral therapy and 3 were on anti tuberculosis treatment. One patient was on maintenance dose of antipsychotic medication for brief psychotic episode, and did not have any impairments affecting participation in the study. They were in the age range of 20-45 years, with a mean age of 29.5 years (S.D=6.71). The mean duration of formal education was 5.6 years (S.D=4.79). Majority of the patients (80%) were employed with a mean income of rupees 2,870 (S.D=2887). The duration of marriage ranged from 1 year to 22 years, with a mean of 8.9 years (S.D=5.9). Number of children ranged from none to 4. The mean duration of illness was 2.08 years (S.D=1.8).

Group B comprised of 20 married epilepsy patients, with 55% with GTCS, 30% with CPS, and 15% with SPS. Patients in the epilepsy group were in the age range of 20 to 45 years, with a mean of 35.5 years (S.D=7.14). The mean duration of the number of years of formal education they had was 9.89 years, (S.D=3.97). The percentage of patients employed was 65%, with a mean income of Rs.2067 (S.D=2306). The duration of marriage ranged from 1 year to 28 years with a mean duration of 13 years (S.D=7.40) and number of children ranged from 0 to 4. The mean duration of illness was 14 years (S.D=8.84).

Group A had 10 men and 10 women, 20% had selected their partners, and 55% lived as a nuclear family. Group B had 5 men and 15 women, 10% had selected their partners, and 40% stayed as a nuclear family.

**Table 1 : Socio-demographic & clinical data of the HIV group and the epilepsy group**

	HIV Group (N=20)		Epilepsy Group (N=20)		t (df=38)
	Mean	S.D	Mean	S.D	
Age (years)	29.50	6.71	35.50	7.14	2.69**
Education (No. of years)	5.60	4.79	9.89	3.97	3.03**
Years of marriage	8.90	5.98	13.05	7.40	1.95*
Duration of illness (years)	2.08	1.82	14	8.84	5.90***
Income (Rupees/month)	2870	2887.05	2067	2306.07	0.971

\* p=0.05; \*\* p=0.01; \*\*\* p=0.001

The two groups differed significantly on age, education, and duration of illness. Group A was younger, had lesser years of education, and had shorter duration of illness. They also had shorter duration of marriage compared to group B.

**Table 2 : Comparison between HIV/AIDS group and epilepsy group on Differentiation of Self, Sense of Support, and Marital Quality Scale**

	HIV Group (N=20)		Epilepsy Group (N=20)		t (df=38)
	Mean	S.D	Mean	S.D	
Total score	3.58	0.31	3.43	0.48	1.13
Emotional Reactivity	3.25	0.65	3.10	0.78	0.64
Differentiation of Self	3.48	0.57	3.11	0.56	2.08*
Inventory (DSI)	3.71	0.57	4.07	0.66	1.86
Cut-off	3.92	0.69	3.37	0.89	2.18*
Fusion with Others	3.92	0.69	3.37	0.89	2.18*
Sense of support scale (SSS)	25	11.67	26.95	11.48	0.53
Marital Quality Scale (MQS)	108.25	38.73	97.45	34.29	0.93

\* p= 0.05

On the DSI, in group A, the scores ranged from 3.11 to 4.25 with a mean of 3.58 (S.D=0.31) showing that the group was poorly differentiated when compared to the norms reported by Skowron & Friedlander (1998) (DSI full scale Mean=3.74 (S.D=0.60). On the subscales with reference to authors' mean plus/minus one SD, emotional reactivity and 'I' position means were within the range, emotional-cut-off was lower and fusion with others was higher than the range (Table 2).

In group B, DSI scores ranged from 2.72 to 4.53 with a mean of 3.43 (S.D=0.48), which indicates that this group too was poorly differentiated when compared to the norms reported by Skowron & Friedlander (1998). On the subscales, emotional reactivity, emotional cut-off and fusion with others were within the range of authors' mean plus/minus one SD. 'I' position was lower than this range.

Comparison of the two groups on the full-scale means revealed that the total mean scores were not significantly different. However, significant differences existed in two of the sub-scale means: 'I' position and fusion with others. On sub-scale IP and FO, HIV patients showed greater differentiation than the epilepsy patients.

On the SSS, scores ranged from 11 to 53 in *group A* with a mean of 25 (S.D=11.67) and *in Group B*, from 8 to 53, with a mean of 26.95 (S.D=11.48). Perceived support in both groups was below the range of mean minus one SD reported by the authors (M=49.3, SD=8.8). This difference between the two groups was not statistically significant.

On the MQS, the scores obtained by patients in group A ranged from 55 to 175 with a mean of 108.25, (S.D.=38.73). The mean score was above the cut-off score of 80 (norms given by Shah, 1995), which is indicative of poor marital quality. In group B, the range of scores obtained on the MQS was from 60 to 159, with a mean of 97.45 (S.D=34.29), indicating poor marital quality.

The t-test revealed the difference to be statistically insignificant, suggesting that both the groups were comparable on their poor marital quality. Further, a t-test for comparing the 2 groups on the 12 dimensions of MQS showed no significant difference on any sub-scale. This suggests that the two groups had comparable marital experiences on specific marital dimensions as well.

Correlations were computed to study the relationship between the DSI sub-scales and the MQS sub-scales for the two groups separately. Results revealed a significant negative correlation between emotional cut-off subscale from DSI, and despair and understanding from MQS, and significant positive correlation between fusion with others and despair and dominance in group A. In group B, emotional cut-off scale from DSI had significant negative correlations with affection, decision-making, discontent, satisfaction, self-disclosure, and understanding subscales from MQS, as well as with the total MQS score.

In both the groups, there was a consistent finding of EC being negatively correlated with the MQS sub-scales, showing lower level of differentiation on emotional cut-off which was associated with poorer marital quality on specific dimensions (Table 3a & 3b).

**Table 3a: Correlation between DSI subscales and MQS subscales in the HIV group**

Marital Quality Scale	Differentiation of Self Inventory				
	Total Score	Emotional Reactivity	Isolation	Emotional Cut-off	Fusion with Others
Total score	-0.028	0.041	-0.032	-0.427	0.394
Affection	0.018	0.063	0.058	-0.405	0.352
Decision Making	-0.244	-0.119	-0.304	-0.430	0.392
Despair	0.043	0.181	-0.027	-0.513*	0.476*
Dissolution Poten.	0.169	0.254	0.122	-0.212	0.181
Discontent	-0.074	-0.069	-0.046	-0.398	0.403
Dominance	0.236	0.373	-0.009	-0.421	0.550*
Rejection	-0.012	0.025	-0.022	-0.422	0.431
Role function	-0.255	-0.267	-0.146	-0.215	0.144
Satisfaction	0.021	0.130	0.000	-0.376	0.307
Self disclosure	0.269	0.176	0.100	0.149	0.109
Trust	-0.067	-0.148	-0.144	-0.054	0.203
Understanding	-0.080	0.012	0.038	-0.492*	0.316

\*p=0.05

**Table 3b: Correlation between DSI subscales and MQS subscales in the epilepsy group**

Marital Quality Scale	Differentiation of Self Inventory				
	Total Score	Emotional Reactivity	Isolation	Emotional Cut-off	Fusion with Others
Total score	-0.126	0.069	-0.018	-0.552*	0.161
Affection	-0.263	-0.024	0.013	-0.696**	0.042
Decision Making	0.068	0.200	0.015	-0.454*	0.401
Despair	-0.106	0.073	0.042	-0.412	0.025
Dissolution Poten.	0.015	0.102	0.140	-0.312	0.141
Discontent	-0.348	-0.184	-0.093	-0.620**	-0.021
Dominance	-0.201	-0.215	-0.244	0.110	-0.213
Rejection	-0.079	0.103	-0.092	-0.374	0.128
Role function	0.313	0.387	0.324	-0.265	0.411
Satisfaction	-0.225	-0.005	-0.060	-0.661**	0.124
Self disclosure	-0.237	-0.193	0.041	-0.452*	0.007
Trust	-0.042	0.078	-0.124	-0.352	0.252
Understanding	-0.128	0.079	-0.012	-0.600**	0.186

\*p=0.05; \*\*p=0.01

**Qualitative analysis of interview data**

**Marital relations:** In group A, 45% reported improvement in marital relations after the diagnosis of the illness, the reasons attributed included:

a) increased concern for each other's health b) increased sensitivity in husbands due to feelings of guilt (of having

infected their spouses) c) decreased physical abuse d) increased feelings of 'belongingness' in reaction to decreased social support.

However, 25% reported no change consequent to knowledge of their diagnosis, and 25% of them reported deterioration in marriage after the diagnosis of their illness. In group B, 55% reported no change in marital life, 25% reported improvement in marital life, and 20% reported deterioration in marriage.

**Reactions to illnesses:** In group A, shock, disbelief, sadness, and denial were common along with anger, especially in women patients infected by their partners. They feared death, stigma, and discrimination. 'Why me' reactions were most common in group B as most saw epilepsy as some form of curse. They feared children's health and rejection from spouse. However, all were compliant with treatments, had benefitted from psycho-education, and used tertiary support systems adequately.

**What patients worry about:** 1) Children's future after their death and impact of stigma witnessed by children (A: 60%) - if children would grow up to develop seizures (B:55%); 2) financial stressors (A:40%) – inadequate finances (B:45%); 3) health worries of symptoms and decrease in immunity (A:35%) – uncertainty of attacks, dependence on medication, memory loss and impotence (B: 40%); 4) relationship with spouse and other family members, future of marital life (A:35%) – marital relationship (B:25%); 5) available working years and illness disclosure at work (A:15%) – unemployment (B:5%); 6) uncertainty about future only in group A (15%); 7) perceived stigma and discrimination (A:10%, B: 5%); and 8) domestic problems, sexuality worries, regret for past events, restricted freedom (A: 10%, B: 35%).

The frequency of reporting these concerns was more in Group A than in Group B, thus reflecting the qualitative difference in relationship experiences in the two illness groups.

**Coping with illnesses:** Types of coping used by patients were: religiousness (A: 60%, B: 30%), counseling (A: 45%, B: 25%), work/distracton (A: 35%, B: 35%), family support (A: 15%, B: 35%), denial (A:15%, B:10%), hope of finding a miracle drug (A:15%), self instruction A:(40%), and substance use (A:30%, B: 5%)

## Discussion

Patients with HIV were younger, less educated, and had shorter marriages as well as illness duration compared to those with epilepsy. These, along with uneven gender distribution (10 each in group A, 15 women, 5 men in group B) perhaps framed the socio-demographic reality of these patients. On one hand, this lack of group matching reduced generalization of the findings. Yet, this also specified their location on Rolland's (1984) chart further and supported that they were indeed very different in many ways. However, the study did have other limitations due to small sample size, and use of two Western measures and norms. Nevertheless, results showed some significant patterns.

The HIV group was more differentiated than the epilepsy group on 'I' position and fusion with others dimensions of differentiation of self. HIV patients didn't seek approval and acceptance above other goals, were out of triangulation and over-identification patterns, and go more with their beliefs and convictions. They were less fused with others in close relationships, especially with family of origin. Krishna & Chandra (1998) had found increased dependency in marital relationship whereas Beckerman (2000) had reported more emotional distance in similar patients. This might be their way of protecting their intra-psychic selves from threat of shame with stigmatizing illnesses.

DSI studies had found emotional cut-off to be predictive of marital discord (Skowron, 2000). Our results suggested that in couples with serious illnesses, IP and FO differentiation was more relevant and should be examined within dyads and across illnesses. Individuation sometimes occurs under forced circumstances (Kerr and Bowen 1988). Age and gender issues also require scrutiny. Bowen's theory emphasizes that greater differentiation on 'I' position is not related to being younger in age. Since women formed 2/3<sup>rd</sup> of group B, lower 'I' position could also be due to gender and not connected with illness. Further studies are needed to clarify if 1) age and differentiation, especially on 'I' position are correlated in our culture; 2) it needs to be explained separately for men and women patients.

The two groups also differed in the way differentiation relates to marital quality. For HIV patients, higher the differentiation on emotional cut-off, lower the despair and understanding difficulties in marriage. Many of the participants felt emotionally

closer to their spouses due to their shared experiences of illness and with mutual increased care and concern. However, being less fused with others was correlated with increased despair and dominance problems within the marriage. This was a critical finding as it showed how vulnerable the spouses were when they were less fused with others. It also clearly pointed towards the protective quality that this concept had in cultures like ours, whereas the results from Western cultures might be completely opposite to this. In a way, these were culture specific findings for the constructs.

Epilepsy patients had less problems in affection, decision-making, discontent, satisfaction, self-disclosure, and understanding dimensions of marriage, and had greater differentiation on emotional cut-off. Overall, greater the emotional cut-off, poorer the marital quality, similar to marital discord couples. The fact that EC was correlated with many of the MQS sub-scales suggested that their marital relations were comparable to marital discord and marital therapy couples.

Lower levels of differentiation on emotional cut-off was correlated with poor marital quality in both the groups. This was similar to previous studies where greater emotional cutoff was found to be predictive of marital discord (Skowron, 2000). Various correlations between emotional cut-off and marital quality subscales supported these trends though a regression analysis could not be attempted in this study.

Overall, lower differentiation, low sense of support and poor marital quality were found in both the groups. The patients with HIV had significantly shorter duration of illness as compared to the epilepsy group, and had shorter duration of marriage, yet no significant differences emerged on the measures. A number of structural and emotional skews in terms of patient-caregiver roles, togetherness-separateness, boundary issues, and sexuality would have occurred, as suggested by Rolland (1994). He that with illnesses, couples have opportunities to reconsider what is important and what is trivial; they may pull away or cling to each other in a fused way. Healthy boundaries become difficult due to a split between couple-illness-decline-death inside the relationship and the world of health and normality outside. Triangulation occurs with the illness becoming the third powerful member in the dyadic family relationship. Skews in relationships are quite common. Partners have fears of uncontrolled suffering and fear of separation from intimate relationship and facing

death alone. They can be helped to learn to distinguish between 'my' versus 'our' problem; between illness related roles of patient and caregiver, and between rights and privileges of ill and well partner.

Similar processes in this sample might have caused deterioration in the marital relationship, which possibly could be occurring at a faster pace in the HIV group. The finding of poor marital quality in both illness groups might be the result of having had to adjust to not only the health related issues, but also the long term stress associated with the psychosocial sequelae of having to adjust to a stigmatizing illness. This was in line with the hypothetical model put forth by Burman & Margolin (1992). It suggests that irrespective of the type of illness, the impact of marital relations is a debilitating one and specific to illnesses. HIV patients have shorter duration of illness, poor prognosis, shorter duration of marriage, and poor marital quality. Thus, their marital experience and distress do not seem to be a function of general relationship dynamics or family dynamics.

Epilepsy group had longer duration of illness, and marriage. Poor marital quality in them suggested chronic illness was depleting marital resources, and it may also be creating marital discord phenomenon linked to many other family system and external system dynamics. Women patients dominated the sample, but did not seem to have better marital satisfaction as predicted by Burman & Margolin (1992). Also men were inexperienced as caregivers, and tended to tackle instrumental aspect of coping (Rolland, 1994), whereas in epilepsy, spouses had only limited means of instrumental coping. Women were also more likely than men to experience decrease in marital satisfaction when their spouses suffered from chronic illnesses.

Patients in the HIV group faced truncated relationship experiences where the stages of progression in a marriage (or deterioration, as the case may be) occurred at much faster rate than for patients with epilepsy. Cohen (1990) pointed out that these couples will be at any of the following stages: initial crisis-catastrophic-effect, transitional state, deficiency state, and preparation of death. With different illnesses special adaptations are required and clinicians must help individuals remain as functional and healthy as possible within the family setting. The illness groups in this study were also in different

stages of adaptation, and this needs to be researched further.

Both types of marriages were different. Illness did create change in marital relation in at least half of the affected couples, with HIV/AIDS. Becoming less fused with others was more typical of HIV/AIDS. Culturally it is expected that families get more involved to help illness related couples. Yet, younger couples tend to get more isolated with illnesses (Rolland, 1994) and this may explain group A results. But illness does not bring personal life and family life together, as perceived global social support is low. In fact, it was low in both the groups, not just in HIV group. There might be a similarity between impact of HIV on perceived social support and women's perception of quality and quantity of social support. Or the results might be an artifact of the Western norms used for interpretation.

The above discussion supported relevance of Rolland's concepts, and Shah's model for marital experiences. A family-dyad-system-illness model is very distinct from the marital discord model or the stress-buffering model, and has more relevance for clinicians.

## Conclusions

Many issues have emerged in the process of understanding the marital relations in persons with HIV/AIDS and epilepsy, some of which shed light on areas which could benefit from intervention.

- Patients with HIV/AIDS will benefit from counseling over emotionally laden themes related to illness, sexual functioning, worries about family relationships and future of children, role-changes, social isolation, and guilt (especially males patients).
- Patients with epilepsy and their spouses may benefit with interventions used for distressed couples, as illness mediated variables are not as prominent as relationship variables.
- Marital therapists can tackle these sensitive issues through individual and conjoint sessions and use specific techniques to reduce the dissonance created by this illness on the family equilibrium in general and marital dyad in particular.

The findings of this study suggested definite changes in

relationship experiences post diagnosis; it would be worthwhile examining the *direction* of impact in future studies, which would then have implications on therapy as well.

Future studies can address issues specific to sero concordant and discordant couples-with and without marital dissatisfaction, gender, personality variables, and couple dynamics with reference to illnesses, and use culture specific measurement methods/in-depth interviews, and longitudinal design.

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## OFFENDING AND NON-OFFENDING DRIVERS IN KOLKATA METROPOLIS: A COMPARATIVE PSYCHOSOCIAL PERSPECTIVE

Nilanjana Sanyal<sup>1</sup>, Manisha Dasgupta<sup>2</sup>

### ABSTRACT

**Background:** "Aggression-rimmed outlook" of man has apparently become the shield of prime importance veiling the raw self in the present era of "value-void". As such, manifestations of aggression in the form of motor vehicle accidents is of much concern which essentially calls for putting forth a stop to the road menace by probing into the psychosocial canvas of offending and non-offending drivers. **Aim & Method :** The present study investigated 40 offending and 40 non-offending drivers of Kolkata metropolis in the domains of aggression, controllability awareness and cognitive emotion regulation. **Results:** Suggested that offending drivers had significantly lower controllability awareness, implying their low personal self-confidence over basic things in life. Furthermore, a trend of negative cognitive emotion regulation has been reported, meaning that they tend to have a negative attitude and appraisal towards the outside world. Again, offending drivers have significantly higher aggression than non-offending counterparts as far as their predisposition is concerned . They were also found to have significantly low personal control, others in control and uncontrollable dimensions of controllability awareness. They reported significantly low positive refocusing, positive reappraisal and were significantly high in the domains of aggressive predisposition. **Conclusion :** Psychiatric morbidity of drivers might serve as a mediating variable in explaining the actiology of motor vehicle accidents. Guidelines for promoting road safety from mental health perspective are also provided to solve the upsurging crisis of road-safety.

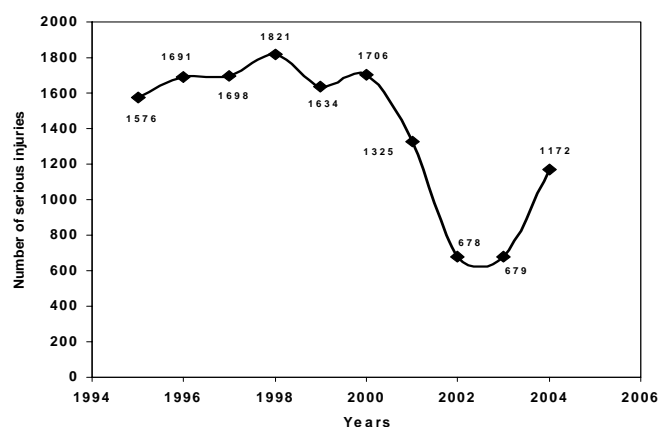
**Key Words:** *Aggression, controllability awareness, cognitive emotion regulation*

### Introduction

In the present era of "value-void" and external pomp and grandeur, the whole world seems to be ornamented by raw animalistic aggression of mankind, being victims of the social contagious disease of "Odium" (Wolfe et al, 1997). Risk-taking behaviour has increasingly become a shield against the vulnerabilities and striking negative emotional qualities of the raw self. It thereby inflates one's sense of esteem, pushing him further into the domain of the "blind self" of the psyche. Road-rage is an excellent weapon to vent out aggression and anger easily among drivers (Parker et al, 2002), hinting at the loosened accommodative strings and diminished flexibility of individuals in the parlance of interpersonal relationships. Repeated bouts of road-rage over a prolonged period of time jeopardises the very physical as well as emotional safety of the pedestrian. In fact, approximately 230,000 people worldwide die on the roads each year (Brom et al, 1993), and one in four people will experience a serious

motor vehicle accident at some point in their lives (Norris, 1992). Hence, the question of unfurling the mental make-up of offending drivers in the present attempt; not only to delve into their profiles but also to enlighten with solutions from mental health point of view in order to bring about a stop to the road menace and ensure safety while travelling. The present attempt takes the oath to probe into this process intensely.

The alarming high rate of aggressive driving has been found to consist of honking, cutting across one or more lanes in front of other vehicles and passing on the shoulders apart from rash behaviours (Shinar & Crompton, 2004). This naturally contributes to the "boiling rate" of motor vehicle accidents in Kolkata metropolis that paralyses many innocent lives owing to the uncontrollable aggressive spree of drivers. In fact, the number of serious injuries due to road accidents in Kolkata metropolis in the past few years may be graphically represented as—



**Fig.1: Graphical representation of the number of serious injuries in the past few years in Kolkata metropolis**

This essentially calls for a peep into personality psychology to demystify the vulnerabilities among high-risk drivers in order to be able to prevent the fatalities as far as practicable. Such a focus seems to highlight that such drivers have greater loadings of aggression in their personality cores, which unfurls itself in the upcoming fold.

#### ***Rash Driving : an outcome of aggressive personality ?***

Lajunen & Parker (2001) revealed that the effects of verbal aggressiveness on self-reported driver-aggression were mediated by driver anger whereas physical aggressiveness was directly related to aggressive behaviour.

In yet another interesting study of driver anger expression by Deffenbacher et al (2002), aggressive forms of anger expression were found to correlate positively with driver-related anger, aggression and risky behaviour while adaptive expression tended to correlate negatively with these variables.

Furthermore, Deffenbacher et al (2003) revealed that high anger drivers drove at higher speeds in low impedance simulations and had shorter times and distances to collision and were twice as likely to crash in high impedance simulations. Additionally, high anger drivers were more generally angry, and prone to aggressive driving. In a related study by Hennessy & Wiensenthal (2002), violence was also found to be greater among aggressive drivers reporting traffic violations.

A heightened loading of aggression among offending drivers seems to be intimately associated with deficit in their ability to distinguish between controllable and uncontrollable aspects of their potential outcomes, which is an eminent factor

demanding attention in the following section.

#### ***Poor controllability awareness: a vulnerable platform for aggressive driving***

Controllability awareness describes the extent to which a person's outcomes reflect distinctions between controllable and uncontrollable aspects of potential outcomes (Heth & Somer, 2002). It is closely related to stress in that it is associated with positive emotions, leads to active problem-solving, reduces anxiety in the face of stress, and buffers against negative physiological responses, thereby enabling in combating stress in a positivistic fashion. As such, offending drivers appear to have deficits in controllability awareness resulting in low stress tolerance and proneness to develop aggressive orientation that gets manifested through "rash driving".

In fact, controllability of consequences and observability of impending failure were found to be highly related to judgements of risk, desire for risk regulation and anticipated recall compliance (MacGregor & Slovic, 1989). The uncontrollability of the damage of the safety device and the foreseeability of the defeat by the manufacturer were found to be vital factors in this context (Slovic et al, 1987).

Furthermore, Finn & Bragg (1986) found that excessive risk-taking by young drivers could be due to them being more willing to take risks than older drivers, failing to perceive hazardous situations as being as dangerous as older drivers do or both. Studies supporting the idea of a general self-control problem underlying aggressive behaviour have been found (MacGregor & Slovic, 1989; Slovic et al, 1987).

Controllability awareness has been found to be closely linked to the construct of cognitive emotion regulation apart from other personality components which is provided in the next fold.

#### ***Maladaptive cognitive emotion regulation strategies: a 'poor safeguard' for aggressive driving***

Cognitive emotion regulation refers to the part of emotion regulation concerning the conscious, cognitive processes by which individuals regulate their own emotions. It plays an eminent role in aiding one to cope effectively with varied demands, which supposedly comes at a disadvantage for high-risk drivers. Ho et al (2000) showed that blaming others

for the accident was associated with higher levels of psychological distress and a lower level of psychological well-being (PWB) for both passengers and drivers. For drivers, accepting responsibility for the accident was associated with lower levels of psychological distress and a higher level of PWB. As such, the apparently non-adaptive types of cognitive coping seem to come at the forefront in aggressive driving and can be an important line of prevention along psychotherapeutic means.

Some of the other important factors contributing to motor vehicle accidents have been found to be inexperience (Jimenez-Moleon et al, 2004), seat-belt non-use (McCartt & Northrup, 2004), life events, driving stress (Li et al, 2004), and drinking related variables (Vingilis et al, 1994).

The present study is guided by the following objectives—

- a) to find out the relationship of the construct, controllability awareness and its different dimensions among offending and non-offending drivers (each classified into psychiatrically morbid and morbidity-free drivers);
- b) to seek for the relationship of cognitive emotion regulation and its different dimensions among offending and non-offending drivers;
- c) to reveal whether offending and non-offending drivers show any difference in the domain of overall aggression as well as its different dimensions.

Hence, the ultimate objective involves fathoming the important cognitive, conative and affective factors that might prevent the occurrences of motor vehicle accidents, thereby providing some lead to interventions to ensure the safety of the people and prevent errant driving.

## Method

### Sample

The sample comprised 80 drivers, of whom 40 had committed some offence (killed people on the road), were referred to as 'offending' drivers, had their driving-licence seized temporarily and had attended a three-day refresher training course at the Traffic Training School (TTS), Kolkata and 40 subjects had safe records and were referred to as 'non-offending' drivers. Permission was taken from the authorities of the Police Department and all the drivers were personally interviewed and subsequently administered the selected tools. The non-offending drivers also attended the three-day refresher

course at TTS, Kolkata and were selected by matching each of them to their offending counterparts with respect to age, educational level, socio-economic level, and the number of hours spent in driving per day.

All the subjects were exposed to the first author in experiential workshops on all the three days of the same programme. All of them were Indians, belonged to lower socio-economic status (SES), ranged from 20-55 years of age and did not attain formal education up to secondary levels.

### Tools Used

The following tools were used in the present study—

1. *Information Blank*: The information blank, constructed by the researchers themselves, aimed at eliciting certain basic information like age, sex, education, occupation, duration of service, number of hours expended in driving per day, reason for opting driving as an occupation, whether used seat-belt or not, how long they had been holding their driving licence, the number of accidents they encountered in their driving-lives and the like. The items of this blank were prepared in advance and were approved by experts of the field.
2. *Controllability Awareness Inventory (CAI)*: It was developed by Heth & Somer (2002) to assess controllability awareness as a characteristic of stress tolerance. The inventory consists of 20 simple statements clustered into four groups, each comprising of five statements and thereby assessing four different aspects of controllability awareness, namely, personal control, shared control, others in control and no one in control.

Each of the statements are scored on a 5-point scale from 1='disagree strongly' to 5='agree strongly'. Anti-trait items are reversed and the responses are summed to produce a score between 20 and 100. Similarly, scores for each of the different dimensions of controllability awareness are also found out, which is found to have a range between 5 and 25. High score in a domain indicates high level of controllability with respect to that dimension.

Chronbach alpha measures for the C.A.I. previously yielded 0.78 and 0.85, indicating the reliability of this inventory. The validity index was significant at a  $p < 0.01$  level (Heth & Somer, 2002).

3. *Cognitive Emotion Regulation Questionnaire (CERQ)*: It was developed by Garnefski et al (1999). The CERQ is a 36-item self-report questionnaire measuring nine cognitive coping strategies of adults and adolescents aged 12 years and more, namely, self-blame, acceptance, rumination, positive refocussing, refocus on planning, positive reappraisal, putting into perspective, catastrophizing and other-blame.

Each of the statements are scored on a 5-point scale. Of the four items included in a dimension, a sum score is made which can range from 4 (never used) to 20 (often used cognitive coping strategy). For all cognitive coping strategies, high scores refer to frequent use of a specific strategy and vice versa.

The lowest alpha reliability of the CERQ was reported in a recent study to be 0.68 (blaming others) and the highest to be 0.83 (rumination). Five of the alphas were about 0.80. The test-retest correlations after a period of five months were found to be acceptable to good with values ranging between 0.41 (acceptance) and 0.59 (refocus on planning) (Garnefski et al, 2001).

4. *Aggression Orientation Scale (AOS)* : This scale was developed by Basu (2001). It consists of two major parts, namely, Readiness for Aggression and Expression of Aggression. The Readiness part has five sub-scales, namely, hostility, anger, positive attitude to aggressive expression, externalising tendency, internalising tendency. The expression part has three sub-scales – verbal, physical and indirect aggression. The respondent answers in a Yes/No format. The sub-scales are treated separately. The entire scale has 76 items. The test-retest and split-half reliability values for the sub-scales ranged between 0.60 to 0.80. Concurrent validity and criterion validity were reported (Basu, 2001).

The affirmative responses were scored 1 and the negative ones 0. Only two of the items in the domain of predisposition were reverse scored. The higher the score, the greater the aggression.

5. *General Health Questionnaire (GHQ)* : It was developed by Goldberg & Hiller (1979) as a self-administering screening test aimed at detecting psychiatric disorders among respondents.

Each item of GHQ-28 has four response alternatives. GHQ-28 has been adapted for Bengali population by Basu & Dasgupta (1996).

Scoring was done by G.H.Q. method (0-0-1-1) as suggested by Goldberg & Williams (1988). Total score ranges from 0 to 28. In this study, cut-off point for psychiatric morbidity was considered as 4/5 (Basu & Dasgupta, 1996).

### **Statistical Procedure**

The data obtained from the subjects were systematically arranged and properly tabulated with respect to each of the variables considered in the present study. The data expressed as measures of the variables constituted different statistical distributions and suitable statistical techniques were used to analyse the distributions. Attempts were made to test the significance of the difference between the means of offending and non-offending drivers for each of the variables under consideration. For the purpose, independent t-test was used with respect to the variables of controllability awareness and cognitive emotion regulation. Pearson–chi square test was used for finding out whether offending and non-offending drivers differed significantly amongst themselves with respect to the levels of aggression, namely, low, average and high, for each of the different dimensions of aggression, namely, predisposition, externalisation tendency, internalising tendency, expressed aggression (verbal), expressed aggression (physical), and expressed aggression (indirect) (since Aggression Orientation Scale has dichotomous responses). Significance was tested at 0.01 and 0.05 level of significance for each of the variables and the two tails were also taken into consideration during the process.

### **Results**

*Section-1* : Table 1.1. summarizes the significance of difference between the means of offending and non-offending drivers with respect to controllability awareness, positive as well as negative cognitive emotion regulation along with the dimensions of the same variables. As hypothesized, controllability awareness with its dimensional focus on personal control, others in control and uncontrollable/unpredictable outcomes, positive cognitive emotion regulation with its specific strategies of positive refocussing and positive reappraisal had been found to differ significantly among the two groups of drivers.

**Table 1.1: Comparison of controllability awareness and cognitive emotion regulation (both positive and negative) between offending and non-offending drivers**

Variables	Dimensions/ Strategies of variables	Offending drivers (N=40)		Non-Offending drivers (N=40)		t (df=78)
		M	S.D	M	S.D	
Controllability awareness	Personal control	65.29	12.01	73.68	12.71	3.00**
	Shared control	18.21	3.73	20.05	3.47	2.27*
	Others in control	16.76	4.75	18.58	4.76	1.69
	Uncontrollable/ Unpredictable	16.60	4.38	18.63	3.66	2.23*
Positive cognitive emotion regulation		13.71	4.36	16.42	4.82	2.61**
	Acceptance	49.71	13.81	57.84	13.56	2.62*
	Positive refocussing	10.29	3.27	10.71	3.23	0.57
	Refocus on planning	9.90	4.32	12.66	4.31	2.82**
	Positive reappraisal	12.98	4.02	14.63	3.62	1.92
Negative cognitive emotion regulation	Putting into perspective	9.12	3.47	11.97	4.27	3.20**
		7.10	2.83	8.13	3.05	1.54
		39.07	10.76	35.53	9.82	1.52

\*\*p&lt;0.01; \*p&lt;0.05

**Table 1.2: Comparison of various dimensions of aggression between offending and non-offending drivers**

Dimensions of Aggression	Chi-square value (df=2)
Predisposition	5.99*
Externalisation tendency	0.65
Internalising tendency	0.75
Expressed aggression (verbal)	3.10
Expressed aggression (physical)	1.58
Expressed aggression (indirect)	2.38

\*\*p&lt;0.01; \*p&lt;0.05

Table 1.2 provides the chi-square values of the different dimensions of aggression. It indicates that offending and non-offending drivers differ significantly with respect to the dimensions of predisposition to aggression, expressed aggression (verbal, physical as well as indirect forms).

**Table 2.2: Comparison of different strategies of negative cognitive emotion regulation between non-offending morbid and morbidity-free drivers**

Strategies of negative cognitive emotion regulation	Non-offending morbid drivers (N=20)		Non-offending morbidity-free drivers (N=20)		t (df=38)
	M	SD	M	SD	
Self-blame	9.25	3.66	8.14	1.93	1.21
Rumination	12.44	4.49	11.00	4.22	1.00
Catastrophising	9.19	3.25	6.45	1.95	3.22**
Other Blame	8.81	4.52	6.91	2.29	1.68

\*\*p&lt;0.01; \*p&lt;0.05

Section-2: Further analyses of data (Table 2.1) indicates that non-offending morbid and non-offending morbidity-free drivers differ from each other with regard to negative cognitive emotion regulation, and specifically the strategy of catastrophising (Table 2.2)

**Table 2.1: Comparison of controllability awareness and cognitive emotion regulation (both positive and negative) between morbid and morbidity-free offending and non-offending drivers**

Variables	Offending morbid drivers (N=20)		Offending morbidity-free drivers (N=20)		t (df=38)	Non-offending morbid drivers (N=20)		Non-offending morbidity- free drivers (N=20)		t (df=38)
	M	S.D.	M	S.D.		M	S.D.	M	S.D.	
1 Controll-ability awareness	62.81	11.53	67.76	12.55	1.33	68.94	13.03	77.14	11.89	2.00
2 Positive cognitive emotion regulation	51.43	11.32	48.95	15.97	0.58	58.25	13.37	57.55	14.30	0.15
3 Negative cognitive emotion regulation	42.00	9.44	36.14	11.63	1.79	39.69	12.10	32.50	6.85	2.30*

\*\*p&lt;0.01; \*p&lt;0.05

## Discussion

The present study focussed on probing into the personality profiles of drivers to shed light on the root causes of the alarming rise of motor accidents. As expected, offending drivers had been found to be significantly lower in controllability awareness when compared to non-offending counterparts (as suggested by their respective accident records) (Table 1.1). This indicated that offending drivers were either unaware of or unable to distinguish between those aspects of situations that are controllable and those that were not and were more likely to appraise environmental demands as threatening, rather than challenging. On the contrary, controllability analyses of offending drivers immediately categorises the situation as achievable or has futile outcomes, unlike rash drivers. Research on the relationship between stress responses and compromised effectiveness of the immune system (Kiecolt-Glaser & Glaser, 1994) suggested that continued threat appraisals have deleterious effects on health, thus offending drivers might be more likely to suffer from physical symptoms than their non-offending counterparts who make accurate controllability distinctions and thereby experience less stress.

A higher proportion of motor vehicle accidents had also been reported by younger drivers in the study. This excessive risk-taking behaviour among such drivers might be because of them being more willing to take risks than older drivers, failing to perceive hazardous situations as being as dangerous as older drivers or both (Finn & Bragg, 1986; Jonah, 1986).

In addition, when the different dimensions of controllability awareness were taken into consideration, an interesting profile appears to unfurl. Offending drivers had been found to have significantly lowered personal control as compared to non-offending drivers (Table 1.1). As such, their confidence in managing responsibilities themselves was deficient. They were also neither able to accept outcomes that are under the control of others in their socio-emotional context, nor were they "flexible" enough to accept uncontrollable outcomes, owing to their deficient controllability analyses. This, in turn, created a constricted domain of controllability awareness that paved the way for their maladjustment in the conative spectrum in the form of reckless and "killer-driving".

As far as cognitive emotion regulation was concerned, offending drivers had been found to score significantly low in the positive strategies as compared to non-offending drivers,

while they exhibited a higher trend of negative cognitive emotion regulation strategies (Table 1.1). This further fueled support to the relative impairments in the affective and cognitive realms of rash drivers. Taking positive refocussing into consideration, these drivers were found to have a low score, that could be related to a low score of emotional well-being (Table 1.1). As such, they engaged in a form of "mental disengagement" to a lesser extent than non-offending drivers. Rash drivers also had significantly lower positive reappraisal, suggesting that they tend very little to mentally attribute a positive meaning to an event in terms of personal growth (Table 1.1); they did not look for the positive sides of an event and never thought that the event made them stronger. The findings were supported by those of Carver et al (1989). As regards the other positive strategies of cognitive emotion regulation like refocus on planning, putting into perspective and acceptance, offending drivers reflected a lower trend when compared to non-offending counterparts.

Further implications were obtained when "aggression" as a variable is brought into focus, for offending drivers had been found to aggress to a significantly higher degree compared to non-offending drivers with regard to the dimension of predisposition (Table 1.2). This implied the relative significant "venting out" of aggression among unsafe drivers due to their faulty controllability analyses, lowered perceived stress tolerance and consequently lowered frustration tolerance. In fact, Lajunen & Parker (2001) found that the effects of verbal aggressiveness on self-reported driver aggression were mediated by driver-anger while physical aggressiveness was directly related to aggressive behaviour. Other studies had also claimed that aggressive forms of anger expression correlate positively with driver-related anger, aggression and risky behaviour (Deffenbacher et al, 2002; Deffenbacher et al, 2003; Hennessy & Wiensenthal, 2002).

However, no significant statistical differences had been found in between offending-morbid and morbidity-free drivers among the different variables though a trend of relative well-being may be implied among morbidity-free rash drivers as far as their personality profile is concerned (Table 2.1). A similar picture is also reflected from such a comparative analysis among non-offending drivers (Table 2.1). Furthermore, non-offending, morbidity-free drivers had been found to use negative cognitive emotion regulation strategies to a significantly lesser extent than their morbid counterparts. This especially held true for the strategy of catastrophising (Table

2.2). It meant that morbid drivers tended to be pre-occupied with recurring thoughts about how terrible the event had been and what they had gone through being the worst thing to happen to them. The obtained results were in line with the general finding that a catastrophising style appeared to be related to maladaptation, emotional distress and depression as supported by Sullivan et al (1995). Hence, it could be inferred that psychiatric morbidity might serve as a mediating variable in explaining the aetiology of aggressive, 'heart-pounding' driving, thereby taking a toll on many innocent lives, and leaving the canvas of 'pedestrian-safety' completely jeopardised.

Thus, to conclude, the final fold of the study unwraps with the key guidelines for promoting road-safety from mental-health perspective and the major highlights are:

- To restore offending drivers to a domain of cognitive and affective equilibrium by personal counselling.
- To reinstate perceived sense of controllability leading to high self-esteem among offending drivers by dint of therapeutic programmes.
- To aid rash drivers in engaging in positive and constructive cognitive emotion regulation strategies when faced with a problem through cognitive therapy.
- To enable drivers to vent out their excessive aggression through constructive sublimated forms.
- To encourage them to be focussed at "balanced driving" by following traffic rules adequately that would impart a "sense of satisfied completion" at the end of the day's work.
- To project clippings of outcomes of casualties and their family members, increase information regarding motor vehicle accidents and to systematically and effectively manipulate the effect of trauma to make offending drivers more aware of the core problem and encourage them to adopt safer means of driving.
- To properly counsel rash drivers so as to enable them in using their aggression as assets in individual-systems, improve their skills, raise their esteems and designate them as "better beings" in personal life context at least.
- To be able to identify vulnerable factors in one's personality and predict the accident record of drivers with a greater degree of accuracy.
- To devise psychological test(s) to serve as screening and diagnostic devices for accident-vulnerability among

motor-vehicle drivers during the time of their recruitment.

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## VALIDITY OF EARLY INTERVENTION DEVELOPMENTAL PROFILE IN INDIAN POPULATION

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### ABSTRACT

**Background:** In the context of disability and mental deficiency, early identification of the handicapped child is important to lessen the impact of the handicapping conditions on the child and society. However, mere screening is of no consequence unless identification is followed by developmental programs and curriculum. The aim of the present study was to determine the concurrent validity of Early Intervention Developmental Profile (EIDP) by Rogers et al - a curriculum based assessment schedule in the Indian population. Concurrent validity of the schedule was determined by correlating measures of EIDP and Vineland Social Maturity Scale (VSMS) (Indian adaptation). **Method:** The sample consisted of 60 children below 3 years of age of both sexes. Among them, 30 were children with developmental delays and 30 were normal children. Both EIDP and VSMS (Indian adaptation) were applied on the subjects. **Results :** Both EIDP and VSMS were found to be significantly correlated ( $P<0.01$ ), domain wise and also in terms of developmental quotient (DQ) and social quotient (SQ). Discriminant analysis was done and it was found that the schedule was more efficient in identifying delayed children (96.7%) than normal children (80%). **Conclusion:** Significant correlation among domains of Early Intervention Developmental Profile in normal, delayed and combined group indicate that both instruments measure similar constructs. Misclassification of normals point out to the need for modification of some items according to Indian context.

**Key words :** *Disability, Concurrent validity, Early Intervention Developmental Profile, Vineland Social Maturity Scale*

### Introduction

The first 3 years are unique in the life span of an individual since this is the period when growth is extraordinarily rapid. 75% of brain growth is completed by 2 years of age (Shonkoff & Marshall, 1992).

All children upon conception and their birth become subject to hazards of human existence and environment in which they live. Out of total children born about 7% have congenital anomalies involving genetic, physical or biological defect. Approximately 1/3rd are recognizable at birth. Disabilities of remaining 2/3rd become apparent during infancy and childhood (Anastasiow, 1986).

With increasing awareness of the significance of the early years in human development, early childhood intervention has gained momentum in recent years. Early childhood intervention consists of multidisciplinary services provided to developmentally disabled children from birth to age 3 years and their families, designed to enhance child development, minimize potential delays, remediate existing problems to prevent further deterioration (Shonkoff & Marshall, 1992).

Effective early intervention requires early identification of children "at risk". The earlier children with developmental delays are intervened the greater the chances are of lessening the impact of the handicapping conditions on the child.

Identification begins with both medical and educational screening to locate children at "high risk" of developmental problems. However, mere screening is of no consequence unless followed by developmental programs aimed at targeting and improving skill deficits.

In India, problems in screening are related to some of the common problems related to the nature of assessment schedules or tests used for screening. The problems include use of tests which lack ecological validity. Moreover, very few instruments focus on the developmental aspects of behavior during early infancy periods. Most of the tests are for older children between 5-11 years of age (Saraswathi & Dutta, 1988). Most of the tests have the goal of quantifying the child's abilities. They are restricted to the cognitive domain for assessment placing undue emphasis on Intelligent Quotient/ Developmental Quotient (I.Q. /D.Q.).

Considering the lacunae in most traditional tests, an attempt has been made in the present study to determine the concurrent validity of Early Intervention Developmental Profile (EIDP) in the Indian context by correlating it with Vineland Social Maturity Scale (VSMS) (Indian adaptation). An attempt was also made to see whether EIDP could discriminate between normal and delayed children.

## Method

### Sample

This cross-sectional study was carried out with outpatients from two sites, Central Institute of Psychiatry (CIP) and Deepshikha Institute for Child Development and Mental Health (ICD & MH). The normal sample was selected from children attending the immunization program at Public Health Center Kanke, Ranchi.

Sixty children of both sexes between the age group of 0-36 months were selected. Among them 30 were children with developmental delays and 30 were normal children. They were all screened with the help of Screening Schedule (below three years) developed by National Institute for the Mentally Handicapped, Secunderabad (NIMH, 1989). The schedule contains 11 items related to normal developmental milestones from 0-3 year's age level. Using this schedule, if any child was found to be delayed in any one of the items or if the child had fits or physical disability, "developmental delay" was diagnosed. In absence of the above criteria, children were declared to have normal development. Informed consent was obtained from the parents of the participants.

### Measures

All participants were assessed with Early Intervention Developmental Profile (Rogers et al, 1981) whose concurrent validity was to be determined along with Vineland Social Maturity Scale (VSMS) (Indian adaptation by Malin, 1992) which was selected as the criterion test. VSMS is extensively used in India and found to have good psychometric properties (Jayashankarappa, 1986; Bharat Raj, 1992). Items in this scale are drawn from areas like self-help general, self-help eating, self-help dressing, self direction, socialization, occupation, communication and locomotion. Studies have shown consistent and high correlation between Vineland Social Maturity Scale (VSMS) and Stanford Binet Scale.

### Statistical Analysis

Statistical analysis was done using Statistical Package for Social Sciences (SPSS, Inc., Chicago, Illinois) version 10.0. Pearson's correlation ( $r$ ) was done to see the correlation between different domains of Early Intervention Developmental Profile and Vineland Social Maturity Scale and also between Developmental Quotient (DQ) obtained from EIDP and Social Quotient (SQ) which was obtained from VSMS. Discriminant analysis was done for Early Intervention Developmental Profile to examine its ability to discriminate between normal and delayed children. Qualitative analysis was done to see the areas where the normal children were misclassified. This was done by assigning specific scores to average, below average and above average developmental level, determined in terms of developmental age reached in each domain for each individual. In this study a level of significance ( $\alpha$ ) of < 0.05 (two-tailed) was taken to consider a result statistically significant.

## Results

The two sample groups did not differ significantly with respect to age and sex. The normal group consisted of 15(50%) males and 15(50%) females while the delayed group had 20(67%) males and 10(33%) females. The age range for normal group was 11-33 months (mean=22.57, SD=10.63) and 9-29 months (mean=19.40, SD=9.97) for the delayed group.

Analysis revealed significant ( $P < 0.01$ ) correlation between developmental quotient and social quotient in normal, delayed and combined groups (Table 1). Significant correlation ( $P < 0.01$ ) was also found among different domains of Early Intervention Developmental Profile (EIDP) and Vineland Social Maturity Scale (VSMS) in normal group (Table 2a), delayed group (Table 2b) and normal and developmentally delayed groups combined (Table 2c).

**Table 1: Pearson correlation between Developmental Quotient (DQ) and Social Quotient (SQ) in normal, developmentally delayed and combined groups**

	$r$	$P$
Normal group (Gr-I)	.996	0.01**
Delayed (Gr-II)	.764	0.01**
Combined group (Gr-I + Gr-II)	.839	0.01**

\*\*Correlation is significant at 0.01 level

**Table 2a: Pearson correlation among different domains of Early Intervention Developmental Profile (EIDP) and Vineland Social Maturity Scale (VSMS) in normal group (N = 30).**

Domains (VSMS)	Domains (EIDP)								
	PM	COG	LAN	SOC	FE	TOL	DR	SEL-C	GM
SHG	.960**	.945**	.952**	.947**	.902**	.932**	.914**	.926**	.922**
SHE	.921**	.883**	.915**	.909**	.885**	.947**	.844**	.892**	.905**
SHD	.942**	.941**	.945**	.924**	.919**	.964**	.891**	.968**	.913**
SOC	.741**	.744**	.715**	.714**	.777**	.736**	.699**	.955**	.744**
OCC	.941**	.939**	.952**	.947**	.887**	.936**	.879**	.967**	.910**
COM	.886**	.917**	.902**	.883**	.901**	.854**	.845**	.963**	.876**
LOC	.822**	.828**	.806**	.797**	.853**	.783**	.770**	.956**	.815**

\*\* Correlation significant at 0.01 level

VSMS (Domains)	EIDP (Domains)		
SHG:	Self-help general	PM:	Perceptual/fine motor
SHE:	Self-help eating	COG:	Cognition
SHD:	Self-help dressing	LAN:	Language
SOC:	Socialization	SOC:	Socialization
OCC:	Occupation	FE:	Feeding
COM:	Communication	TOL:	Toileting
LOC:	Locomotion	DR:	Dressing
		SEL-C	Self-care (Feeding+Toileting+Dressing)
		GM:	Gross Motor

**Table 2b: Pearson correlation among different domains of Early Intervention Developmental Profile (EIDP) and Vineland Social Maturity Scale (VSMS) in developmentally delayed group (N = 30)**

Domains (VSMS)	Domains (EIDP)								
	PM	COG	LAN	SOC	FE	TOL	DR	SEL-C	GM
SHG	.915**	.808**	.855**	.900**	.905**	.797**	.830**	.775**	.937**
SHE	.893**	.787**	.818**	.852**	.888**	.791**	.822**	.827**	.914**
SHD	.802**	.778**	.781**	.753**	.809**	.737**	.793**	.813**	.855**
SOC	.831**	.783**	.879**	.817**	.728**	.778**	.798**	.906**	.806**
OCC	.860**	.824**	.839**	.803**	.843**	.725**	.760**	.965**	.824**
COM	.767**	.859**	.826**	.735**	.747**	.677**	.682**	.978**	.685**
LOC	.801**	.810**	.774**	.763**	.792**	.692**	.750**	1.00**	.822**

\*\* Correlation significant at 0.01 level

VSMS (Domains)	EIDP (Domains)		
SHG:	Self-help general	PM:	Perceptual/fine motor
SHE:	Self-help eating	COG:	Cognition
SHD:	Self-help dressing	LAN:	Language
SOC:	Socialization	SOC:	Socialization
OCC:	Occupation	FE:	Feeding
COM:	Communication	TOL:	Toileting
LOC:	Locomotion	DR:	Dressing
		SEL-C	Self-care (Feeding+Toileting+Dressing)
		GM:	Gross Motor

**Table 2c: Pearson correlation among different domains of Early Intervention Developmental Profile (EIDP) and Vineland Social Maturity Scale (VSMS) in the normal and developmentally delayed groups combined (N =30)**

Domains (VSMS)	Domains (EIDP)								
	PM	COG	LAN	SOC	FE	TOL	DR	SEL-C	GM
SHG	.945**	.888**	.879**	.927**	.923**	.889**	.887**	.925**	.937**
SHE	.916**	.847**	.844**	.890**	.906**	.894**	.854**	.910**	.917**
SHD	.904**	.887**	.872**	.882**	.898**	.892**	.877**	.915**	.908**
SOC	.811**	.792**	.792**	.793**	.800**	.791**	.777**	.813**	.806**
OCC	.924**	.899**	.899**	.907**	.898**	.876**	.853**	.901**	.900**
COM	.866**	.932**	.932**	.888**	.878**	.824**	.858**	.866**	.865**
LOC	.845**	.841**	.841**	.822**	.859**	.804**	.804**	.838**	.848**

\*\* Correlation significant at 0.01 level

VSMS (Domains)	EIDP (Domains)		
SHG:	Self-help general	PM:	Perceptual/fine motor
SHE:	Self-help eating	COG:	Cognition
SHD:	Self-help dressing	LAN:	Language
SOC:	Socialization	SOC:	Socialization
OCC:	Occupation	FE:	Feeding
COM:	Communication	TOL:	Toileting
LOC:	Locomotion	DR:	Dressing
		SEL-C	Self-care (Feeding+Toileting+Dressing)
		GM:	Gross Motor

Discriminant analysis of Early Intervention Developmental Profile revealed that it had correctly classified 24 (80%) out of 30 children in the normal group and 29 (96.7%) children in the delayed group (Table 3a). Across various domains Early Intervention Developmental Profile could discriminate 63.3% - 66.7% of the cases in the normal and 66.7% - 93.3% of the cases in the delayed group (Table 3b).

**Table 3a: Discriminant analysis of Early Intervention Developmental Profile (EIDP) in normal and developmentally delayed group**

	No. of cases	Predicted group membership	
		Group-I	Group-II
Normal group (Gr-I)	30	24 (80%)	6 (20%)
Delayed group (Gr-II)	30	1 (3.3%)	29 (96.7%)

**Table 3b: Domain wise discriminant analysis of Early Intervention Developmental Profile (EIDP) in normal & delayed groups**

	PM	COG	LAN	Domains (EIDP)					
				SOC	FE	TOL	DR	SEL-C	GM
Normal group (Gr-I)	63.3%	63.3%	63.3%	63.3%	63.3%	66.7%	66.7%	66.3%	66.7%
Delayed group (Gr-II)	80%	90%	93.3%	86.7%	80%	76.7%	66.7%	76.7%	76.7%

PM:	Perceptual/fine motor	FE:	Feeding
COG:	Cognition	TOL:	Toileting
LAN:	Language	DR:	Dressing
SOC:	Socialization	SEL-C :	Self-care (Feeding+Toileting+Dressing)
DQ:	Developmental Quotient	GM:	Gross Motor

Qualitative analysis of scores of Early Intervention Developmental Profile in different domains reveal maximum misclassification of normal children in the cognition and

feeding domains, 12 and 13 respectively (Table 4a). Misclassification of delayed children was in the socialization and dressing domains, 2 and 5 respectively (Table 4b).

**Table 4a: Frequency of normal children falling under different categories in different domains of Early Intervention Developmental Profile (EIDP)**

Categories		PM	Domains (EIDP)						GM	DQ	
			COG	LAN	SOC	FE	TOL	DR			
Categories	Above Average	3	1	2	6	0	7	3	2	2	
	Average		20	17	19	21	17	20	20	21	23
	Below Average	7	12	9	3	13	3	7	7	5	

PM:	Perceptual/fine motor	COG:	Cognition
LAN:	Language	SOC:	Socialization
FE:	Feeding	TOL:	Toileting
DR:	Dressing	GM:	Gross Motor
DQ:	Developmental Quotient		

**Table 4b: Frequency of developmentally delayed children falling under different categories in different domains of Early Intervention Developmental**

Categories		PM	Domains (EIDP)						GM	DQ
			COG	LAN	SOC	FE	TOL	DR		
Categories	Above Average		-	-	-	-	-	-	-	-
	Average		-	-	-	2	-	-	5	-
	Below Average		30	30	30	28	30	30	25	30

PM:	Perceptual/fine motor	COG:	Cognition
LAN:	Language	SOC:	Socialization
FE:	Feeding	TOL:	Toileting
DR:	Dressing	SEL-C	Self-care (Feeding+Toileting+Dressing)
GM:	Gross Motor		

## Discussion

The aim of the present study was to determine concurrent validity of Early Intervention Developmental Profile in the Indian population and also to examine its ability to discriminate between normal and developmentally delayed children.

The finding of significant correlation between Early Intervention Developmental Profile and Vineland Social Maturity Scale indicated that on the whole both attempted to measure the same constructs as they were significantly correlated with respect to respective domains as well as developmental quotient and social quotient.

This finding was consistent with the study that reported significant correlation ( $P < 0.01$ ) between the two scales with the exception of the self-care domain of Early Intervention Developmental Profile that showed significant correlation at 0.05 level (Rogers et al, 1981).

However, discriminant analysis of Early Intervention Developmental Profile revealed that the scale was more efficient in identifying delayed children (96.7%) than normal group (80%).

Qualitative analysis of Early Intervention Developmental Profile revealed that when individual domains were taken into consideration maximum number of normal children fell under the below average category in the domains of cognition and feeding. One of the possible reasons for this could be the nature of some of the items in which most children faced difficulties. In case of the cognition area it were the items like being able to i) deduce location of object after multiple displacement (item no. 81), ii) anticipating path of the ball by detouring around object (item no. 82) iii) matching two sets of objects by color (item no. 85), iv) recognizing pictures from reduced cues (item no. 87).

In the feeding domain difficulties arose in the items of i) using fork to eat (item no 200) ii) getting drink without help (item no. 201) iii) spoon feeding (item no. 202) that most of the children have failed. Children failed in these items irrespective of their socio-economic status. So it could be tentatively inferred that the items were not appropriate to the Indian context. In case of the delayed group when individual domain was considered it was found that some children were in the average category in the social and feeding domains. This finding in the present study endorses the view that it is not enough to denote development in terms of IQ or DQ. Greater emphasis should be given on the qualitative aspects of the data, emphasizing an individual's strengths and weaknesses (Mishra & Tripathi, 1993).

Domain wise discriminant analysis of Early Intervention Developmental Profile also revealed that misclassification was more in the normal group than delayed group. It could correctly classify 66.3%-66.7% of cases across various domains in normals and 66.7%-93.35% of the cases in the delayed group. Thus, it is apparent that Early Intervention Developmental Profile has high sensitivity in identifying developmentally delayed children. However, its specificity is lower than the sensitivity. Consequently, the instrument may be more suitable for mentally retarded population than developmentally normal children.

In conclusion it can be stated that both Early Intervention Developmental Profile and Vineland Social Maturity Scale on the whole attempts to measure the same constructs as they are significantly correlated with respect to respective domains as well as developmental quotient and social quotient. At the same time, Early Intervention Developmental Profile needs

to be used with reservation when they are applied on the normal population. It appears not be directly applicable for the Indian population and would require modifications. It appears to be more appropriate for identifying particular areas of developmental delay and for planning intervention strategies and measuring intervention outcome. In the absence of adequate psychometric properties this scale is not suitable for assessing the normal developmental pattern in normal children. There is a need to develop separate norms for normal as well as delayed children.

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## PERSONALITY, COPING AND QUALITY OF LIFE IN HEADACHE

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### ABSTRACT

**Background:** Headache is a common disabling condition in the general population. Concomitant variables like the individual's personality and coping strategies, underlying headache may act as predisposing or precipitating factors. Also, headache may affect general functioning and sense of subjective well-being. Information on these psychological correlates can be useful in evaluation and management of patients as well as in understanding specific vulnerability indices to headache. The present study sought to explore personality traits, coping strategies and quality of life in patients diagnosed with primary headache. **Method:** It was a cross-sectional hospital based study using purposive sampling technique conducted at the outpatient department of Central Institute of Psychiatry and 'Hatia Extension Clinic'. 30 patients and 30 normal controls (male and female aged between 20-55 years) were administered the Clinical Analysis Questionnaire (Part -A), Ways of Coping Questionnaire and WHO Quality of Life scale. **Results:** Results revealed that in personality traits, patients were low on impulsivity ( $p < 0.045$ ) and high on insecurity ( $p < 0.043$ ), they used more of escape avoidance ( $p < 0.047$ ) and less of positive reappraisal copings ( $p < 0.015$ ), and reported poorer quality of life in the physical health domain ( $p < 0.045$ ). Greater severity of headache attacks was associated with high level of insecurity as a personality trait ( $p < 0.003$ ). Among the different headache groups (migraine, tension, mixed), migraine patients were found to possess high levels of dominance ( $p < 0.02$ ) as a personality trait. **Conclusion:** Headache sufferers appear to have a pattern of distinct personality traits, coping strategies and poorer quality of physical health as compared to healthy controls. However, a larger & more representative sample of each headache group and a pre-post research design could have improved the scope of generalizability of the results.

**Key words:** Headache, personality, stress, coping strategies, quality of life, vulnerability indices.

### Introduction

Headache is one of the most common human afflictions. It is the condition that most often leads people to seek medical advice. Ten percent of all people report that headache leads to impairment in their daily life (Merikangas & Merikangas, 1999). It has a dramatic impact on occupational and social disability and use of health services. Over the life span, 18% women and 6% of men will suffer from migraine (Lipton et al, 1999).

Pain related conditions such as headache could inflict an enormous burden on the individual, which ultimately translates into direct and indirect costs to society. Migraine sufferers report frequent, painful and temporarily disabling attacks and experience notable decrements in Health Related Quality of Life that are not accounted for by co-morbid depression. In comparison, however, episodic tension type headache has a modest impact on the individual sufferer, being generally less painful and less likely to impose activity limitations (Schwartz et al, 1997; 1998). The more a patient's life changes as a consequence of headache attacks, the more

overwhelming the emotional response is likely to be and the common ones are denial, depression, hostility, anger and dependency (Horenstein, 1983). There may be decrease in cognitive abilities like attention, immediate and late memory in migraine patients. Thus, chronic, severe headache affects general functioning and well being both as a direct and indirect consequence of the attacks. More severe grades of headache are associated with higher levels of unemployment and increased risk of co-morbid conditions such as depression. However, long term consequences of these secondary effects may depend on the extent of social and medical support available to the individual.

Every headache is a multi-factorial symptom occurring in a person with a unique personality. Basic personality structure has become an important element in the psychological management of any patient who is physically ill, even when the patient is a psychologically normal and well functioning person (Kahana & Bibring, 1964). Identifying specific personality factors can be useful in the evaluation and management of these patients. In 1743, Junkerius wrote that the primary cause of migraine is anger, especially when it is

tacit and suppressed (Jonckheere, 1971). Wolff in 1937, described migraine patients as compulsive, perfectionistic, rigid, ambitious, competitive, unable to delegate responsibility and chronically resentful.

Physicians have long been aware that emotionally stressful factors could trigger headache. Stress is an ever present, universal part of life. Response to stress involves every set of organs and tissues in the body, and thoughts and feelings are clearly intertwined with physiologic processes. Jones (1989) conducted a longitudinal study of 114 tension and migraine headache patients and found that appraising stressful events as amenable to change and engaging in a broad range of coping responses may reduce the occurrence of headache in the face of stressful events, while a failure to do this rendered the individual vulnerable to a subsequent headache attack. More recent evidence indicates that headache patients are likely to react to such stressors poorly and in a maladaptive manner. It can become disabling, both physically and emotionally. It can drain an individual's energy, cause loss of time at work, disrupt the family and lead to medication over use or abuse (Mathew, 1987). Jenkinson (1990), using the Nottingham Health Profile, found more problems in areas of energy, emotional reactions, sleep, social isolation and pain in assessing quality of life in migraine patients. Osterhaus & Townsend (1991) found migraine patients to score lower on role function, social function, pain, mental health and energy than patients suffering from arthritis, gastrointestinal disorders and diabetes. Children with migraine & tension type headache show impairments in general somatic area, psychological well being and role functioning.

Thus, headache is a common disabling condition in the general population. Various types of headache differ from each other in terms of their quality, intensity, duration etc.; and they usually develop a chronic course over time. They account for considerable usage of medical care services. They have a profound physical and psychological impact on the individual, and ultimately contribute in direct and indirect ways to societal costs. It has obvious psychological correlates and significantly influences a person's sense of well being as reflected in the quality of life experienced by him. Moreover, there are concomitant personality and coping variables underlying headache that may act as predisposing or precipitating factors.

Assessment of the personality profile of headache sufferers

along with their coping skills and sense of subjective well being is likely to throw light on the planning of effective intervention strategies to enable these individuals to lead a better life, as headache, by itself is never completely curable. Also, gaining insight into specific personality correlates and coping strategies used by headache sufferers may enable mental health professionals to identify specific triggers and vulnerability indices to headache.

The present study aims to compare personality profile, coping strategies and quality of life of headache patients with healthy controls.

## Material and Methods

The present study was a cross-sectional, hospital based study, using purposive sampling technique and was conducted at the out-patient department of C.I.P. and "Hatia Extension Clinic" at Ranchi.

Sample consisted of 30 patients aged between 20 to 55 years (male=14, female=16) who were diagnosed as having primary headache, according to the International Headache Society Classification (IHS), 1988. Thirty normal controls (male=12, female=18) of same age range were selected from the staff and students of C.I.P., local residents of Kanke, matched in terms of age and sex with the patient group. Patients with history of head injury, neurological disorder, epilepsy, significant general medical condition, substance abuse and co-morbid psychiatric illness were excluded. In the control group, individuals scoring above 0 on General Health Questionnaire-5 were excluded from the study.

## Tools Used

- **Socio-demographic and Clinical Data Sheet** – This is a semi structured proforma including various socio-demographic characteristics and clinical variables specially designed for the study.
- **Clinical Analysis Questionnaire (Part A)** (Cattell, 1973) – It has 272 items, 128 in Part A and 144 in Part B. Part A of the test covers the normal personality traits and Part B assesses depression and other pathological traits. Each item has three response choices viz. yes, no and uncertain. The primary personality factors assessed are: warmth, intelligence, emotional stability, dominance, impulsivity, conformity, boldness,

sensitivity, suspiciousness, imagination, shrewdness, insecurity, radicalism, self-sufficiency, self-discipline and tension. Test-retest reliabilities range from .51 to .74 in Part A.

- **Ways of Coping Questionnaire** (Folkman & Lazarus, 1984) – Derived from the cognitive-phenomenological theory of stress, it consists of 66 items and includes 8 scales to denote different kinds of coping strategies, namely, confrontative coping, distancing, self-controlling, seeking social support, accepting responsibility, escape avoidance, planful problem solving, positive reappraisal. The items on this questionnaire are endorsed on the basis of 4-point Likert type scale. The reliability of the scale is 0.77 and validity is 0.75.
- **World Health Organization Quality of Life Scale (WHOQOL)** (WHO, 1996) – The WHOQOL-BREF is an abbreviated version of the WHOQOL-100. It has 26 items, distributed across four domains: physical health, psychological health, social relationships, environment.
- **General Health Questionnaire-5 (GHQ-5)** - (Shyamsunder et al, 1986)- This is a self-report questionnaire to screen psychiatric morbidity in the normal subjects and the shortest version of GHQ. The items have been scored as 0 or 1. The higher the score, the higher is the distress. It has a sensitivity of 86%, specificity of 89%.

#### **Method of data collection**

Patients attending Outpatient Department and Extension Clinic for the first time as well as on follow-up and diagnosed by senior residents or consultants as suffering from primary headache and, fulfilling the inclusion and exclusion criteria were selected. Informed consent was taken from them prior to including them in the study. Personality traits were explored by administering the CAQ – part A. Patients' coping strategies during stressful situations were assessed by the WOC questionnaire. Quality of life, as experienced by them was rated by WHO-QOL (BREF).

For the normal control, after informed consent, GHQ-5 was administered to rule out any psychiatric morbidity and subsequently, they were also evaluated on CAQ, WOC and WHO-QOL.

The collected data were scored as per standardized scoring procedures mentioned in the respective test manuals.

#### **Statistical analysis**

The data were tabulated and analyzed using standard Statistical Packages for Social Sciences, Version-10 (SPSS-10). Independent sample t-test was computed for comparing continuous variables. Since Mann Whitney U test is the nonparametric counterpart for independent t-test for comparing between groups on categorical variables, in the present study, it has been used to compare between the headache and control groups on the various categorical variables viz. sociodemographic, personality, coping, quality of life etc. Kruskal Wallis, the nonparametric counterpart of one-way ANOVA, has been computed to make comparisons across 3 groups (viz. different diagnostic categories within the headache group) on categorical variables. Contingency Coefficient has been computed to analyze the association between 3 or more groups of categorical variables viz. severity of headache attack and personality traits.

#### **Results**

**Table 1 : Shows distribution and comparison of socio-demographic variables between headache group and controlgroup**

Variables		Headache (N = 30) n (%)	Normal (N = 30) n (%)	Mann Whitney U	p
Sex	Male	14 (46.66)	12 (40.00)	375	0.200
	Female	16 (53.33)	18 (60.00)		
Residence	Suburban	12 (40.00)	15 (50.00)	405	0.440
	Urban	18 (60.00)	15 (50.00)		
Marital status	Single	10 (33.33)	13 (43.33)	350	0.192
	Married	20 (66.66)	17 (56.66)		
Education	Primary	05 (16.66)	03 (10.00)	370	0.186
	Secondary	12 (40.00)	10 (33.33)		
	Above	13 (43.33)	17 (56.66)		
Occupation	Employed	26 (86.66)	28 (93.33)	410	0.234
	Unemployed	04 (13.33)	02 (06.66)		
Socio-economic status	Lower	06 (20.00)	04 (13.33)	420	0.490
	Middle	24 (80.00)	26 (86.66)		

Comparison of socio-demographic variables (Table-1) revealed that there was no significant difference between the two groups.

**Table 2: Shows comparison of age between headache group and control group**

Variable	Headache Group	Control Group	t	df	p
	Mean ± SD	Mean ± SD			
AGE	34.2 ± 12.12	30.06 ± 1.32	1.602	58	0.115

No significant difference between the two groups on the variable of age could be noticed either (Table-2).

**Table 3: Shows comparison between the two groups in terms of personality traits**

Personality Traits	Group	N	Mean rank	Mann Whitney U	p
CAQ 1 (Warmth)	Headache	30	29.50	421.5	0.668
	Normal	30	31.45		
CAQ 2 (Emotional Stability)	Headache	30	29.47	419.0	0.639
	Normal	30	31.53		
CAQ 3 (Dominance)	Headache	30	29.75	427.5	0.734
	Normal	30	31.25		
CAQ 4 (Impulsivity)	Headache	30	26.05	316.5	0.045*
	Normal	30	34.95		
CAQ 5 (Conformity)	Headache	30	33.95	346.5	0.118
	Normal	30	27.05		
CAQ 6 (Boldness)	Headache	30	31.10	432.0	0.786
	Normal	30	29.90		
CAQ 7 (Sensitivity)	Headache	30	29.72	426.5	0.724
	Normal	30	31.28		
CAQ 8 (Suspiciousness)	Headache	30	33.42	362.5	0.189
	Normal	30	27.58		
CAQ 9 (Imagination)	Headache	30	28.47	389.0	0.354
	Normal	30	32.53		
CAQ 10 (Shrewdness)	Headache	30	29.67	425.0	0.706
	Normal	30	31.33		
CAQ 11 (Insecurity)	Headache	30	32.10	313.0	0.043*
	Normal	30	22.90		
CAQ 12 (Radicalism)	Headache	30	28.80	399.0	0.442
	Normal	30	32.20		
CAQ 13 (Self sufficiency)	Headache	30	27.63	364.0	0.190
	Normal	30	33.37		
CAQ 14 (Self discipline)	Headache	30	35.50	320.0	0.054
	Normal	30	27.27		
CAQ 15 (Tension)	Headache	30	33.45	361.5	0.178
	Normal	30	27.55		
CAQ 16 (Intelligence)	Headache	30	29.23	412.0	0.558
	Normal	30	31.77		

\*p<0.05

Comparison of personality traits (Table-3) indicated significant differences between the two groups in relation to impulsivity (CAQ-4) and insecurity (CAQ-11). The headache patients scored significantly low on the trait of impulsivity and significantly high on the trait of insecurity, as compared to normals. There is also a trend towards a significant difference among headache and normal groups on the trait of self discipline, with headache patients obtaining higher score. The two groups were not found to differ from each other

significantly on any of the other personality trait.

**Table 4: Shows comparison between the two groups in terms of coping**

Coping	Group	N	Mean rank	Mann Whitney U	p
WOC 1 (Confrontive coping)	Headache	30	30.82	440.5	0.888
	Normal	30	30.18		
WOC 2 (Distancing)	Headache	30	29.60	423.0	0.688
	Normal	30	31.40		
WOC 3 (Self controlling)	Headache	30	26.80	339.0	0.098
	Normal	30	34.20		
WOC 4 (Seeking social support)	Headache	30	31.57	418.0	0.635
	Normal	30	29.43		
WOC 5 (Accepting responsibility)	Headache	30	31.17	430.0	0.766
	Normal	30	29.83		
WOC 6 (Escape Avoidance)	Headache	30	34.97	316.0	0.047*
	Normal	30	26.03		
WOC 7 (Planful problem solving)	Headache	30	29.82	429.5	0.761
	Normal	30	31.18		
WOC 8 (Positive Reappraisal)	Headache	30	25.05	286.5	0.015*
	Normal	30	35.95		

\*p<0.05

Comparison of coping showed significant difference between the two groups on two types of coping, viz., escape avoidance and positive reappraisal (Table-4). Headache sufferers compared to normals scored significantly higher on escape avoidance coping and lower on positive reappraisal coping.

**Table 5: Shows comparison between two groups in terms of quality of life**

QOL Dimensions	Groups	N	Mean rank	Mann Whitney U	p
Life in general	Headache	30	30.63	446.0	0.949
	Normal	30	30.37		
Health in general	Headache	30	26.42	327.5	0.054
	Normal	30	34.58		
Grand Total	Headache	30	27.08	347.5	0.119
	Normal	30	33.92		
Domain 1	Headache	30	22.57	212.0	0.000**
	Normal	30	38.43		
Domain 2	Headache	30	28.93	403.0	0.486
	Normal	30	32.07		
Domain 3	Headache	30	29.72	426.5	0.724
	Normal	30	31.28		
Domain 4	Headache	30	27.90	372.0	0.247
	Normal	30	33.10		
Domain Total	Headache	30	24.78	278.5	0.011*
	Normal	30	36.22		

\*p<0.05, \*\*p<0.01

Significant differences between the headache group and normal controls were observed in term of quality of life where the former group obtained lower score in relation to physical health and quality of life domain total (Table-5). No significant

difference was detected between the two groups on the other domains of quality of life.

**Table 6: Shows comparison among the different diagnostic categories within the headache group in terms of personality, coping and quality of life**

Variable	Diagnosis	N (%)	Mean rank	Kruskal Wallis	p
<b>(A) Personality</b>					
CAQ 1 (Warmth)	Migraine	21 (70.00)	13.93	2.35	0.31
	Tension	05 (16.66)	18.90		
	Mixed	04 (13.33)	19.50		
CAQ 2 (Emotional stability)	Migraine	21 (70.00)	16.57	5.49	0.06
	Tension	05 (16.66)	18.40		
	Mixed	04 (13.33)	06.25		
CAQ 3 (Dominance)	Migraine	21 (70.00)	18.02	7.64	0.02*
	Tension	05 (16.66)	12.90		
	Mixed	04 (13.33)	05.50		
CAQ 4 (Impulsivity)	Migraine	21 (70.00)	16.55	1.74	0.42
	Tension	05 (16.66)	10.90		
	Mixed	04 (13.33)	15.75		
CAQ 5 (Conformity)	Migraine	21 (70.00)	15.00	1.57	0.45
	Tension	05 (16.66)	13.70		
	Mixed	04 (13.33)	20.38		
CAQ 6 (Boldness)	Migraine	21 (70.00)	15.14	0.26	0.88
	Tension	05 (16.66)	17.30		
	Mixed	04 (13.33)	15.13		
CAQ 7 (Sensitivity)	Migraine	21 (70.00)	16.05	0.57	0.75
	Tension	05 (16.66)	15.60		
	Mixed	04 (13.33)	12.50		
CAQ 8 (Suspiciousness)	Migraine	21 (70.00)	18.57	1.59	0.43
	Tension	05 (16.66)	17.00		
	Mixed	4 (13.33)	13.00		
CAQ 9 (Imagination)	Migraine	21 (70.00)	16.24	0.58	0.75
	Tension	05 (16.66)	13.10		
	Mixed	04 (13.33)	14.63		
CAQ 10 (Shrewdness)	Migraine	21 (70.00)	15.64	0.30	0.86
	Tension	05 (16.66)	13.80		
	Mixed	04 (13.33)	16.90		
CAQ 11 (Insecurity)	Migraine	21 (70.00)	15.50	1.43	0.49
	Tension	05 (16.66)	12.40		
	Mixed	04 (13.33)	19.40		
CAQ 12 (Radicalism)	Migraine	21 (70.00)	14.74	0.94	0.62
	Tension	05 (16.66)	18.90		
	Mixed	04 (13.33)	15.25		
CAQ 13 (Self sufficiency)	Migraine	21 (70.00)	15.98	0.905	0.64
	Tension	05 (16.66)	16.50		
	Mixed	04 (13.33)	11.75		
CAQ 14 (Self discipline)	Migraine	21 (70.00)	16.90	2.55	0.28
	Tension	05 (16.66)	10.00		
	Mixed	04 (13.33)	15.25		
CAQ 15 (Tension)	Migraine	21 (70.00)	14.88	0.50	0.78
	Tension	05 (16.66)	17.90		
	Mixed	04 (13.33)	15.75		
CAQ 16 (Intelligence)	Migraine	21 (70.00)	15.83	0.13	0.94
	Tension	05 (16.66)	15.10		
	Mixed	04 (13.33)	14.25		
<b>(B) Coping</b>					
WOC 1 (Confrontive coping)	Migraine	21 (70.00)	14.43	1.053	0.591
	Tension	05 (16.66)	18.20		
	Mixed	04 (13.33)	17.75		
WOC 2 (Distancing)	Migraine	21 (70.00)	14.31	1.29	0.521
	Tension	05 (16.66)	18.20		
	Mixed	04 (13.33)	18.38		
WOC 3	Migraine	21 (70.00)	15.17		

(Self controlling)	Tension	05 (16.66)	15.70	0.15	0.93
	Mixed	04 (13.33)	17.00		
WOC 4 (Seeking social support)	Migraine	21 (70.00)	15.07	0.22	0.89
	Tension	05 (16.66)	17.10		
WOC 5 (Accepting Responsibility)	Mixed	04 (13.33)	15.75	0.034	0.98
	Migraine	21 (70.00)	15.40		
WOC 6 (Escape avoidance)	Tension	05 (16.66)	16.25	3.62	0.16
	Migraine	21 (70.00)	13.55		
	Mixed	04 (13.33)	21.20		
WOC 7 (Planful problem solving)	Migraine	21 (70.00)	15.48	0.085	0.96
	Tension	05 (16.66)	14.80		
WOC 8 (Positive Reappraisal)	Mixed	04 (13.33)	16.50	0.10	0.95
	Migraine	21 (70.00)	15.17		
	Tension	05 (16.66)	16.40		
	Mixed	04 (13.33)	16.13		

**(C) Quality of Life**

Grand Total	Migraine	21 (70.00)	14.88	3.52	0.17
	Tension	05 (16.66)	12.40		
	Mixed	04 (13.33)	22.60		
Domain Total	Migraine	21 (70.00)	06.62	2.27	0.32
	Tension	05 (16.66)	10.10		
	Mixed	04 (13.33)	16.40		

\*p<0.05

Comparison of different diagnostic categories within the headache group in terms of personality, coping and quality of life indicated that there exists a significant difference among the headache groups on personality trait of dominance (CAQ-3). Of the three headache groups, migraine patients scored significantly high on this trait compared to tension and mixed headache patients. There is also a trend towards a significant difference among the groups on the trait of emotional stability, with migraine and tension headache patients obtaining higher scores. No other significant difference was found with respect to the other traits of personality. In terms of coping, there was no significant difference among the different headache groups. With respect to quality of life also the headache groups were not found to differ significantly from each other.

**Table 7: Shows association between Severity of Headache Attack and Personality Traits**

Personality	Severity of Attack	Frequency N (%)	Contingency coefficient (C)	p
CAQ 7 (Sensitivity)	Mild	05 (16.67)	0.639	.054
	Moderate	06 (20.00)		
	Severe	19 (63.33)		
CAQ 11 (Insecurity)	Mild	05 (16.67)	0.737	.003**
	Moderate	09 (30.00)		
	Severe	16 (53.33)		

\*\*p<0.01

Analysis for association between severity of headache and personality traits revealed significant correlation between insecurity (CAQ-11) and severity of headache. There was

also a positive correlation between personality trait of sensitivity (CAQ-7) and severity of headache although it did not reach a significant level. No other significant associations were found with other traits of personality.

## Discussion

The headache and normal control groups were well matched on various sociodemographic variables, and thus any observed difference between them may be explained on the basis of the effect of clinical variables studied.

In personality traits, headache patients had low impulsivity and high insecurity compared to healthy controls. Impulsivity here refers to extent of sociability, change and acting out or externalizing internal conflicts. Low score indicates less sociability, non preference for change and internalizing behaviour. These findings corroborate with some early theoretical concepts as well as data from empirical researches. Fromm- Reichman (1937) related the etiology of migraine to hostile impulses followed by guilt turned back against the self. Dubojska et al (1998), in assessing personality traits in patients with tension headache found them to be introverted, compared to normals. There was a characteristic tendency of migraine patients to repress anger and aggression as has been reported in a study by Lanzi et al (2001). These concepts can thus be used to explain the findings of the present study, with respect to impulsivity.

High insecurity indicates that headache patients are anxious, worried, easily upset and self-reproachful. High scores on this have a strong positive correlation with succorance and negative correlation with a sense of well-being. Some of these features are confirmed by results of several previous studies. Increased emotionality and significantly more psychological symptoms in migraine sufferers compared to normals were reported by Gutt & Rees (1997). In the same line, Mongini et al (2000) using the State Trait Anxiety Inventory found that while scores on state anxiety decreased after treatment of chronic daily headache, trait anxiety scores did not. Moreover, Cao et al (2002) in their study reported significantly greater neuroticism-anxiety and depression in patients with episodic tension headache, chronic tension headache and migraine without aura, compared to normals.

Headache patients obtained high scores on the trait of self discipline with a trend towards a significant difference with the normal controls. High self-discipline means that headache

sufferers have a strong control over their emotional life and behavior in general. They prefer to be organized in their thoughts and activities, do not leave things to chance and have a tendency to be excessively compulsive and rigid. Wolff (1937) had conceptualized migraine patients as compulsive, perfectionist and rigid, among other personality features. Migraine was thought to be particularly frequent in women with inhibited behavior by Selinsky (1939). Jonckheree (1971) noted that most of his migraine patients were obsessional.

Among the three diagnostic groups of headache, namely, migraine, tension and mixed, migraine patients had high level of dominance as a personality trait. This is an indicator of the independence pattern in an individual, assertiveness, aggression and competitiveness. This finding corroborates with that of an earlier one where McAnulty et al (1987) reported that 53% of migraine patients were classified as type A personality compared to 23% of tension headache patients, the difference being significant; type A behavior pattern being characterized by excess sense of urgency, hostility, competitiveness, ambitiousness etc.

With respect to quality of life, analysis of results show a significant difference between the headache and control groups in terms of health in general and in the domain of physical health, both being poorer in the headache group as compared to normals. These findings are fairly consistent with most of the earlier studies. Lipton et al (1999; 2000) found significantly low scores on Health Related Quality of Life in migraineurs compared to normals. Adelman et al (1996), Gross et al (1996) and Cohen et al (1996) found significant improvements in Health Related Quality of Life scores pertaining to bodily pain, general health perception and physical role functioning along with mental health domains after three months of headache therapy.

A positive association was found between severity of headache attacks and the personality trait of insecurity, with a trend towards a positive association with the trait of sensitivity which did not reach a significant level. High scores on sensitivity mean tender mindedness, dependency and being overprotected. Moreover, medical research has found high scores on this trait to be consistently related to incidence of coronary heart disease, hypertension and other chronic illnesses (Sherman & Krug, 1977). There is some suggestion that high scoring individuals tend to exaggerate symptoms, which may be of some consideration in the context of patients'

subjective reports. The trait of insecurity is often associated with worry, anxiety, getting upset easily, brooding and fearfulness. An individual already having such components as their inherent personality feature can be understandably overwhelmed by periodic attacks and the chronic course of headache. Thus, they may perceive or experience the headache to be excessive or unbearable, as high scores on this trait also happen to be negatively associated with a sense of well being; and severity of headache being assessed or rated based on self-reports of patients.

However, the present study is not free of limitations. A larger sample and usage of random sampling technique would have improved upon the representativeness of population and led to greater generalizability. Also, only questionnaire based assessment tools could have led to some distortions of the real picture.

Future research may focus on using larger and more comparable proportions of various headache subgroups to bring out clearer and varied reflections of within group differences. Inclusion of a third group consisting of patients suffering from some other chronic condition, e.g. skin disease etc., will be methodologically more sound and yield better comparable data.

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## PHENOMENOLOGICAL & PSYCHOPATHOLOGICAL ATTRIBUTES IN WIVES OF PATIENTS OF ALCOHOL DEPENDENCE

Neena S. Sawant<sup>1</sup>, Kishor P. Dave<sup>2</sup>

### ABSTRACT

**Background :** To study the psychiatric morbidity in the wives of patients of alcohol dependence and the related phenomenological factors. **Method :** Fifty wives of patients of alcohol dependence were randomly selected from the department of a general municipal hospital and were assessed clinically for morbidity on the ICD 10 diagnostic guidelines. Tools used were HRSD & HARS and a specially prepared proforma for collecting information on demographic and phenomenological factors. Data was analysed using frequency distribution. **Results :** 37 (74%) of the wives had psychiatric morbidity. The diagnoses as per ICD 10 were depressive episodes, dysthymia and mixed anxiety depression which was confirmed on rating scales of HRSD & HARS. Sexual disharmony was seen in 54% whereas marital disharmony was seen in 80% of the wives. **Conclusion :** The study gave some phenomenological and psychopathological attributes of the wives of patients of alcohol dependence, which would have to be confirmed across a larger sample.

**Key Words :** *Wives of alcohol dependents, psychopathology, attributional factors*

### Introduction

Alcohol has been considered as an elixir of life since time immemorial. The level of acceptance of alcohol in society is nearly universal which has seen an alarming increase in its consumption throughout the world and especially in India.

Alcoholism affects both the user who consumes it and those within the sphere of its influence (Clifford, 1960; Corder et al, 1964). In 1940s literature relating to alcoholism and marriage began to emerge. Over the next several decades a large number of studies focused on the 'nonalcoholic' wife of the alcoholic man (Edwards et al, 1973). Majority of the studies were concerned with exploring the psychopathology in the wife of the man consuming alcohol and a number of investigators found such women to be extremely disturbed (Price, 1945; Futterman, 1953; Whalen, 1983).

Over the years the scenario regarding consumption of alcohol might have changed in India due to the strong Western influence. Studies confirm that family relationships and roles were affected by and in turn affected the problem drinker (Singh, 1985).

One of the most important factors in the life of the patient who is dependent on alcohol is the spouse. Hence, the

understanding of the spouse cannot be underestimated as the spouse may play a role not only in the etiology of alcoholism but in the recovery from it as well.

Though there are many studies conducted in general with regard to alcohol consumption and the effects of alcohol on the wife, the children and the family as a whole, there are not many studies on the extent of alcohol related problems faced by the wife of a person who is dependent on alcohol.

Hence, it was necessary considered to study the various nuances prevailing in the wives of patients of alcohol dependence with respect to the type of psychiatric morbidity and the phenomenological factors that could contribute to the same.

### Material and Method

**Sample :** The sample consisted of 50 wives of patients of alcohol dependence who were randomly selected from the outpatient department of a general municipal hospital. Only those wives whose husbands satisfied the criteria of alcohol dependence as per the ICD-10 diagnostic guidelines (WHO, 1992) were randomly selected for the study.

**Inclusion Criteria :** Wives who were currently staying with their husband.

**Exclusion Criteria :**

- Wives who were staying at native place.
- Wives who had a known psychiatric or medical problem.
- Wives whose husbands had serious medical complications.

**Tools :**

*Socio-demographic data sheet* : A performa was designed to obtain information regarding the wife's age, education, religion, occupation type of family, duration of marriage, questions regarding the wife's reaction to her husbands drinking, presence or absence of sexual disharmony and marital disharmony, and history of alcoholism in the wife's parental family.

*Hamilton Psychiatric Rating scale for Depression (HRSD)* : HRSD (Hamilton,1960) was used to rate the depressive symptoms. It consists of 21 items which are observer rated on a 0 to 4 spectrum where 0= none/absent and 4=most severe which best characterize the patient. A total score is obtained which consists of the sum of all items.

*Hamilton Anxiety Rating Scale (HARS)*: HARS (Hamilton,1959) was used to evaluate the anxiety symptoms at baseline. It consists of a checklist of 14 items focused on somatic symptoms which are rated on a 0 to 4 scale(0=not present,4= severe) with a final item which rates the behaviour at interview. This also gives a total score which is computed by adding the individual item scores.

**Procedure**

All the wives of patients of alcohol dependence who satisfied the inclusion and exclusion criteria were taken up for the study after valid informed consent and ensuring confidentiality. The wives were individually interviewed and the required demographic and phenomenological data was collected on the specially prepared performa. The ICD-10 diagnostic guidelines(WHO,1992) were used to diagnose psychiatric morbidity in the wives.

The data obtained was then analysed using descriptive statistics such as means, standard deviations and percentages.

**Results**

**Socio Demographic Distribution** : The sample consisted of 50 women whose ages ranged from 21 to 50 years, of whom 22(44%) were in the age range of 21 to 30 years, 23(46%) were in the age range of 31 to 40 years & 5 (10%) were in the

41 to 50 years age group. Amongst them 90% were Hindus, 68% were housewives and only 11(22%) were illiterate. 19(38%) were married since 1 to 10 years, 20 (40%) since 11 to 20 years and 11(22%) since 21 to 30 years. 40 wives (80%) were staying in nuclear families whereas the remaining 10(20%) were either in joint or extended families .

**Table 1: Phenomenological Factors**

Factor	Present (N=50)	Absent (N=50)
<b>1. Reaction to Husbands Drinking</b>		
a. Disappointment	20 (40%)	30 (60%)
b. Feeling Cheated	25 (50%)	25 (50%)
c. Feeling Angry	30 (60%)	20 (40%)
d. Not a Serious problem	06 (12%)	44 (88%)
<b>2. Sexual Disharmony</b>	27 (54%)	23 (46%)
<b>3. Marital Disharmony</b>	40 (80%)	10 (20%)
<b>4. Alcoholism in Wife's Family of Origin</b>	16 (32%)	34 (68%)

1. **Wife's Reaction to her husbands drinking** : While interviewing, the wives had given different reactions to their husbands drinking behavior. These included feeling disappointed, feeling cheated, feeling angry, did not take the problem seriously or no reaction at all. Of the above mentioned reactions, some of the commonly seen reactions were those of disappointment (n = 20, 40%), feeling cheated (n = 25, 50%), and feeling angry ( n = 30, 60%). Though a few wives (n = 6, 12%) did not consider it to be a serious problem, none of the wives had no reaction at all to their husbands drinking behavior.
2. **Sexual Disharmony** : Twenty seven (54%) of the wives accounted for sexual disharmony in their marital life. The sexual disharmony was in the form of unwillingness on part of the wife to take part in sexual activity, inability to respond to husband's responses and impotence and ejaculatory problems in the husband.
3. **Marital Disharmony** : Forty (80%) of the wives claimed to have marital disharmony which was in the form of severe interpersonal stressors between the husband and wife with continuing fights and lack of respect for the husband.
4. **History of Alcoholism in Wife's Parental Family** : Sixteen of the wives (32%) had a history of alcoholism in their family of origin. Alcoholism was seen predominantly in their fathers, grandfathers and maternal or paternal uncles.

**Psychiatric Morbidity** : When all the wives were assessed for prevalence of psychiatric morbidity as per the ICD-10 diagnostic guidelines (WHO,1992), then it was seen in 37 of the 50 wives (74%). (Table 2a).

**Table 2a: Prevalence of Psychiatric Morbidity**

Psychiatric Morbidity	Present	Absent	Total
No. of Wives	37 (74%)	13 (26%)	50

**Table 2b: Type of Psychiatric Morbidity.**

Morbidity as per ICD-10 diagnostic guidelines	No. of Wives (n = 37)
<b>1. Mild Depressive Episode</b>	
a. Without Somatic Symptoms	8 (21.62%)
b. With Somatic Symptoms	2 (05.40%)
<b>2. Moderate Depressive Episode</b>	
a. Without Somatic Symptoms	2 (05.40%)
b. With Somatic Symptoms	5 (13.50%)
<b>3. Severe Depressive Episode</b>	3 (08.10%)
<b>4. Dysthymia</b>	5 (13.50%)
<b>5. Generalised Anxiety Disorder</b>	4 (10.81%)
<b>6. Mixed Anxiety Depressive Disorder</b>	8 (21.62%)

When these, were further assessed for the type of morbidity then 45.92% of the wives of alcohol dependent patients had mild to moderate depression, 8% had severe depression, 13.5% had dysthymia and the remaining 32.4% had anxiety or mixed anxiety and depressive features. (Table-2b). No other psychiatric morbidity like paranoid disorders or even somatisation disorders which are common in the female population were seen, probably due to the small size of the population.

**Psychometric Evaluation** : When the wives were assessed on the HRSD for the severity of their depressive symptoms then the mean score of HRSD was  $16.32 \pm 8.93$ , the range being 10 to 39. Similarly on the HARS the range was from 9 to 27 with the mean score being  $14.03 \pm 7.63\%$  (Table 3).

**Table 3: Scores on HRSD & HARS**

Scores	Mean	S.D.	Range	Total
HRSD	16.32	8.93	10 to 39	50
HARS	14.03	7.63	9 to 27	50

## Discussion

An assessment of the demographic and phenomenological factors as contributory factors towards the development of psychiatric morbidity revealed that majority of the wives had primary or secondary education and were housewives. Researchers (Rae, 1972; Lal & Singh, 1979) have found that the education and the socioeconomic status of wives was

correlated to alcohol related problems, where an educated wife was more likely to create a tense atmosphere in the family. In our sample, the educated wives had greater expectations from their husbands and were more concerned about their children's education and future.

Though 68% of the wives were housewives, 32% were working. It is difficult to decide whether this is the cause or effect of the alcohol dependence in the husband which in turn leads to an increased morbidity in the wives. In our sample of patients, the wives had started working due to their husband's drinking which is keeping with the study done by Hecht (1973) which concludes that due to the shift of the role from the husband to the wife, an additional economic responsibility as well as the emotional burden of the alcohol dependent husband is borne by the wife.

Furthermore, staying in nuclear families could also be a predisposition to develop psychopathology as the entire brunt is faced by the wife alone whereas in joint or extended families, financial and social support are provided. Majority of the wives in our sample were from a nuclear family which also could be due to the fact that in metropolitan cities due to space crunch, there is a tendency to shift from joint to nuclear families.

All the wives in our study were continuing in their marriage and were staying with their husbands despite the alcohol problem. As the duration of alcohol dependence would increase, so would the duration of marriage which would in turn increase the predisposition to psychiatric morbidity. Bailey et al (1962) found that 82% of wives living with their husbands had marked symptoms, compared to 55% subsequent to separation. Edwards et al (1973) found that wives of problem drinkers had more personality dysfunctions when their husbands were drinking, whereas Jacob et al (1978) reported an increase in neurotic traits and psychosocial disturbances in women living with an alcoholic spouse.

Sexual disharmony was prevalent in 54% of the wives. This could be due to their own psychopathology or the effect of the husband's alcoholism. Sexual relationships deteriorate and all the persons involved could have feelings of sexual inadequacy and failure.

Marital disharmony was seen in 80% of the wives due to their husband's alcoholism which in turn could lead to increased psychopathology in the wives. Several researchers (Singh, 1985; Paolini et al, 1976; Jacob et al, 1978) have reported an increased incidence (90%) of marital disharmony among alcoholics. There may be periods of relative harmony but the mutual trust and sharing which is necessary for a good

relationship is absent. The increased marital instability in turn leads to increased divorce rates. However, separation and divorce were not seen in our sample.

Studies on wives of patients of alcohol dependence have reported that presence of alcoholism in the wife's family of origin contributed to the maintenance of alcoholism in her present family (Paolini et al, 1976). However, on interviewing the wives in our study no such factors were revealed which could have led to the development or perpetuation of alcohol dependence in their husbands.

The findings of this study also shed light on the prevalent psychopathology in the wives of patients of alcohol dependence. The studies done in the past have concentrated more on the personality aspects of the wives of alcohol dependent patients (Ballard, 1959; Edwards et al, 1973; Rae & Forbes, 1966; Rao & Kuruville, 1991) and there is a dearth in the literature regarding the actual psychiatric morbidity prevalent in the wives. Rae & Drewery (1972) had found 100% of the wives to be psychiatrically disturbed. Mc Donald (1956) reported that 50% of the wives had neurotic breakdown and Kogan & Jackson (1965) found that wives of active alcoholics had highest personality and emotional disturbances. This is in keeping with the findings from our study. Those wives who were clinically diagnosed as having depression and anxiety scored significantly higher on HRSD and HARS, which thus confirms the clinical diagnoses in these wives.

Though our study gave some phenomenological and psychopathological attributes of the wives of alcohol dependent patients, it had limitations of sample size and absence of a control group to confirm the findings. Hence studies with a larger sample size may be useful in clarifying the unresolved issues of the present study.

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## A PASSAGE TO INDIA

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Nilesh Wagh<sup>5</sup>, Muzaffar Khan<sup>6</sup>, Saurabh Gupta<sup>7</sup>

### Introduction

“India a Nation! What an apotheosis! Last comer to the drab nineteenth-century sisterhood! Waddling in at this hour of the world to take her seat! .....

These mocking but largely unmeant words of E.M. Forster give away his ambivalent engagement with India - an engagement that was deep and personal, even somewhat neurotic, with emotional, sexual, and spiritual antecedents. Nonetheless, it provided Forster a rich taproot for the creation of his magnificently thoughtful novel, ***A Passage To India***.

This novel is of particular psychiatric interest because its themes and characters are interwoven with the life and psychopathology of E.M. Forster himself.

And hence this book review.

Forster wrote the book ***A Passage To India*** in 1924. It is set in the context of the British ruled India and depicts the political as well as the socio-cultural milieu of that era. It is a philosophically rich novel, complex in its narrative and analyzable at multiple psychological levels. It has been widely acclaimed worldwide and has been regarded as perhaps the best novel written about India in the 20th century.

Forster's novel starts with a question: can the English and the Indian become friends; the answer at the end of the novel appears to be: “No, not yet”.

The novel weaves delicately the intricacies of the life of the so-called Anglo Indians and the natives by sensitive portrayals of various Hindu, Muslim and British characters. It has been heavily influenced by Forster's personal experiences as well as by his interactions with several Indians, especially from the Muslim community. Thus, the personal lives of the Muslims have been described in minute details.

### Biography of Forster

FORSTER, E (dward) M (organ) ([1 Jan.] 1879 - [7 June] 1970), was the only child of his parents. His father died when Forster was only five. His boyhood was dominated by women, among them his influential great-aunt and benefactress Marianne Thornton.

In 1893, he moved to Tonbridge, and attended the Tonbridge School. He was deeply unhappy there and developed a lasting dislike of the English public-school values. He went to King's College, Cambridge, where he found congenial friends, the atmosphere of free intellectual discussion, and an emphasis on the importance of personal relationships, which profoundly influenced his later work.

In 1906, he became tutor to Syed Ross Masood, a striking colonial Indian Muslim patriot, for whom Forster developed an intense affection. He visited India for a few months in 1912-13, meeting Masood in Aligarh and traveling with him. He revisited India, on this occasion for a longer time, and worked for several months during 1921-22 as personal secretary to the Maharajah of the native state of Dewas. The completion of ***A Passage To India*** (1924), which he had begun before the First World War, was overshadowed by the death of his close Egyptian friend Mohammed, but when the novel appeared in June 1924 it was an immediate success. Forster supported Gandhi's Non-Cooperation Movement of the early 1920s, and he continued to remain involved in Indian affairs.

This was his last literary creation as a novel, though the remainder of his life was devoted to a wide range of literary activities. He spent his last year in King's College, and was awarded the Order of Merit in 1969. His other significant works include ***Where Angels Fear To Tread*** (1905), ***The Longest Journey*** (1907), ***A Room With A View*** (1908), ***Howards End*** (1910) and ***Maurice*** a novel with homosexual theme, published posthumously in 1972.

A very significant aspect of E.M. Forster's life is related to his sexual orientation, which profoundly affected his life work, in particular ***A Passage To India***. Forster was a homosexual.

According to Sigmund Freud, homosexuality represents an arrest in psychosexual development in the continuum from instinctual bisexuality to mature heterosexuality, which could result from a variety of factors. Freud gave both biological and environmental explanations for the arrested development.

Explanations from the contemporary Postmodern Theories (Constructivist and Essentialist Arguments) seem to be more cogent. Postmodernism is characterized by an attitude that questions fix beliefs and categories of knowledge. Constructivist ideas maintain that there is no inner sexual drive; rather, the human potential for thinking and acting is shaped by social forces of regulation and categorization into various types of sexual desire at different times in history and in different societies. In contrast, essentialism refers to the view that sexual desires and identities are fix personal characteristics that are inherent, objective, trans-cultural, and trans-historical.

### **About the Book**

This book is predominantly about India - its philosophies, its religions and its mysterious hold over the Western imagination. But, as a piece of writing, the book comes closest to Forster as person himself. As suggested at the beginning of this review, his deep personal engagement with India emblazons it; his liberal-humanistic attitudes inspire it; and oddly enough - but perhaps not so surprising after all, considering life-histories of so many great authors - his own hang-ups and psychological complexes animate it.

The mythological town of Chandrapore is modeled on a town Bairakpore, near Kolkata, and the Marabar hills on Barabar hills, about 45 km. from Gaya in Bihar. The Book has been divided into three sections - the Mosque, the Caves and the Temple representing Islam, Jainism (a fifth century BC atheistic religion) and Hinduism.

The key element to the book's construction is the central symbol of the caves, which has been interpreted in many ways. What exactly does happen in the Marabar Caves? What do the Caves mean or suggest within the narrative? First, they appear as a hollow, empty space to match Forster's perception of metaphysical emptiness in a Godless universe.

Second, they arguably match Forster's view of India as a place of mystery and enigma and bewilderment. Third, the hollow caves can be read as a symbol of the main textual absence in the book, its missing center.

A brief description of major characters of the book is as below.

**Dr. Aziz:** The protagonist in the book; his characterization is highly influenced by Syed Ross Masood, friend of Forster in real life.

**Adela Quested:** The central female character. As the very name suggests, she epitomizes inquisitiveness and may be thought of as representing the anima side of Forster's personality.

**Richard Fielding:** He represents the animus side of Forster.

**Narayan Godbole:** A serene, unawed, wonderless Brahmin who epitomizes the enigma that India always was for Forster, and more so Hinduism.

**Mrs. Moore:** She represents many of the virtues that western culture possesses such as fairness, personal integrity, kindness and constructive thinking. She is also a part of Forster's anima and a vestige of the several maternal influences working on him during his growing up.

**Ronny Heaslop:** He is a true product of Britain's public school system. He is a source of officialism without emotion. Forster sets him up as symbolic of the detrimental effects of English colonialism on India.

**Mr. Das:** He represents the helplessness of even supposedly high-ranking Indians in those times.

**Mr. & Mrs. Turton, Mr. & Mrs. Callanders:** They represent Forster's brush with English officialdom during his two stints in India.

**Hamidullah, Amrit Rao, Mahmoud Ali:** Through these characters, presence of India's freedom struggle can be clearly felt.

**Fan Blower in the Court:** He symbolizes the contentedness and non-aggression that is the mark of India's civilization and a theme pervasive in its philosophy. In the contrasting words of Adela, "By what right did they (the Western people) claim so much importance in world and assume the title of civilization".

### A Detailed Description of the Main Characters in the book-

**Dr. Aziz:** One of the pivotal characters of the novel, if not its hero (the book has no center and, as stated earlier, the emptiness of the caves stands as a symbol of the missing center), is Dr. Aziz.

He is a Muslim doctor - young, strong, athletic, warm, open hearted. He is a widower. He is a typical Oriental with extreme swings of emotions, and is deeply sentimental. Forster depicts him favorably in the novel; Aziz's image is after all a carry-over from his Indian Muslim friend, Ross Masood Syed.

Dr. Aziz is generous to a fault and takes pride in deriving his sense of hospitality from his grand fantasies of the Mughal emperors. He is a man of commitment, having his own values and cultural tastes in clothes, eating habits, and love of language and poetry. He is a widower with very tender feelings for his long dead wife. A devout Muslim, Dr. Aziz has been influenced by the writings of Dr. Alama Iqbal, Hafiz and Hali, who emphasized the glorious past of Muslims. But, to his credit, he is equally sensitive to the plight of all Indians and not just Muslims.

In the novel, a character change occurs in Aziz in his attitude towards his British overlords. Although never too fond of them, Aziz moves from being a good-natured innocent 'native', who is eager to please them, to hating them. Towards the end of the novel, he becomes an ardent Indian nationalist committed to driving the English out of India. Thus, events turn a generous and good-hearted Aziz into an unforgiving and bitter revenge-seeker, a gentle and accommodating Aziz into an aggressive radical.

The relationship of Dr. Aziz and Mr. Fielding reveals a larger, and perhaps an unbridgeable, gulf between the two. It is a relationship between two ways of life and between two civilizations. It is also a dyadic interaction between an emotional, imaginative, romantic Aziz and a rational, down-to-earth, levelheaded Fielding - both molded by their disparate cultural backgrounds. The quasi-collapse of friendship between them towards the end of the novel only proclaims the difficulties antecedent to a friendship between the East and the West, between a disenfranchised people and an occupying, alien power. The fate and failure of this relationship also shows how circumstances and racial attitudes can raise a wall between two well-meaning individuals.

And yet, through a sensitive depiction of beauty as well as pathos in the interaction between Aziz and Fielding, E.M. Forster's *A Passage To India* succeeds in underscoring the universality of human nature.

**Adela Quested:** Adela Quested is a sincere, tenderhearted, young Englishwoman. Although somewhat lacking in physical attractiveness, She is highly sensitive towards the nuances of interpersonal relationships and gets touched by emotions readily.

She arrives in India with intentions to get married to Ronny Heaslop. She is introduced in the novel with the phrase "I want to see the real India" which symbolizes her name 'Quested'. With a disposition high in novelty seeking, she has a strong desire to see and understand the culture, religion and philosophy of India. Her openness to experiences makes her unconventional in the eyes of the British colonialists. Their negative racial prejudice towards the Indian society has no influence over her. She feels much closer to Mrs. Moore; both are immune to racial prejudice and are open to new experiences.

Adela Quested's interaction with Dr. Aziz and Prof. Godbole is another means to answer her quest for India. Aziz represents Muslim culture and Godbole Hindu spirituality and beliefs, the two predominant influences in India at that time. Her fiancé Ronny embodies the racial values of English colonialism in India and of their deleterious effects. Adela comes to the conclusion that she does not have the strength of character to resist becoming the typical Anglo-Indian with the corresponding narrow-minded beliefs towards the Indians.

The expedition to Marabar caves is not only the turning point in the novel but it also brings to a focus Adela's feelings and preoccupations about Love and Marriage. She may be said to be in a state of conflict - Intimacy vs Isolation - as described by Erik Erikson in the Adulthood Stage of his theorized eight life stages. As she is about to enter the cave, where she later feels she may have been assaulted, she significantly looks within herself - as if the cave was beckoning her to do this - to examine her relationship with Ronny. The wide difference between them in opinion, attitude and understanding makes her feel that they are not closely bonded. Her indecision about her engagement and her perceived lack in physical charm make her feel isolated and anguished.

Marabar caves are dark and empty, signifying fear, uncertainty and ignorance. In them, Adela's muddled feelings about love and relationship gets externalized. She confronts the emptiness and embarrassment of the realization that she and Ronnie are not actually attracted to each other. The Marabar caves also symbolize her unconscious; from their depths her fears about love, marriage and sex are set adrift and lead her to imagine that Aziz has assaulted her in the cave.

Mr. Fielding's and Mrs. Moore's faith in Aziz's innocence, as well as logical questioning in the court about the sequence of events prior to entering the caves, brings Adela back to the rational world of evidence. She shows courage and integrity in withdrawing her allegation even as this compromises her safety and status. Alienated as she is from both the Indian nationalists and the British establishment, for a while she stands alone until Fielding rescues her.

**Cyril Fielding:** The character of Cyril Fielding can perhaps be best understood through Jungian concepts.

Carl Jung believed that all men and women have elements of the opposite sex within them. Each man has an unconscious feminine side, and each woman has unconscious masculine qualities. This concept is based, at least partially, on the fact that both men and women have varying amounts of male and female hormones. The feminine archetype in man is called Anima; the masculine archetype Animus.

Adela and Fielding in the novel reflect this to an extent. Adela can be taken as the Anima archetype of Forster with all the female elements whereas Fielding is the Animus archetype of Forster with all the masculine elements.

Forster took his own time to work on the character of Fielding. While less naïve than Miss Quested, Fielding shares her limitations, as well as her virtues. Both Fielding and Miss Quested begin in some degree to 'inhabit the desert' and withdraw from their compatriots, indeed from communication itself, into inner contemplative silence.

Fielding - as described by Forster in *A Passage To India* and representing an aspect of Forster's own psychological but not physical personality - is a middle aged, large shaggy type, with sprawling limbs and blue eyes. He is a hard-bitten, good tempered, intelligent person with a belief in education; as he speaks confidence spills from his mouth. He does not

care to whom and where he gives education. To him all school boys, mental defectives, and policemen, and even Indians are welcome.

With his high education and influence of some of his well-known friends, he gets appointed as the principal of the little college of Chandrapore. He likes his teaching and his pupils adore him. There is something in his character, which puzzles most people. He believes the world to be a globe of men who are trying to reach to each other, and one can do best by goodwill plus culture and intelligence - which, of course, is Forster's own philosophy.

City of Chandrapore is an ill suited place for Fielding where the inhabitants try to widen the gulf between him and his English countrymen, which distresses him greatly. His lack of bias and prejudice and absence of harboring any kind of racial feeling further chisel his character. He interacts with Indians on an individual-to-individual basis. On one hand men try to tolerate him because of his good heartedness and strong body but the women of the white community do not consider him to be a sahib and dislike him. Fielding is in many respects like a bridge between the English and the Indians. He practices social autonomy to a large extent for which he has to pay a heavy price to the English community by whom he is considered an outsider. Fielding believes in liberalism and justice - again, a reflection of Forster's own beliefs.

In another context, Forster has defined the humanist as possessing "four leading characteristics: curiosity, a free mind, belief in good taste, and belief in the human race" - all the characteristics Fielding shares in *A Passage To India*.

Going yet again to Jung - whose thinking, if not rooted in Indian philosophy, is certainly cogeneric with it - he postulated that the Self is the archetypal potentiality in all of us. He sees it as an innate blueprint that is capable of being realized. This "destiny within us" involves a process that Jung calls the "way of individuation - a process by which a person becomes the definite, unique being that he in fact is." In doing so he does not become 'selfish' in the ordinary sense of the world, but is merely fulfilling the peculiarity of his nature, and this, according to Jung, is vastly different from egotism or individualism.

There is a suggestion in the novel that both Adela and Fielding - anima and animus imagoes of ambi-sexual E.M. Forster

himself - potentiate their archetypal Self by their courageous actions in the aftermath of the cave tragedy. They do so not by any outward measures of 'success'- by which they indeed even fail - but by their own unstated standards of integrity and honor and personal worth. They become what in fact they are.

**Professor Narayan Godbole:** E.M. Forster draws a rather striking portrait of Professor Godbole in *A Passage To India*. His name has perhaps a meaning - like that of Adela "Quested" - and a humorous pun. As an English-Hindi conjunctive, "Godbole" translates into: "God has spoken." This fits with his metaphorical role in the novel.

Professor Godbole is a Deccani Brahmin. He is a professor of philosophy in a college, where Mr. Fielding is the principal. He is depicted as an elderly man with a grey moustache and grey-blue eyes with fair complexion like a European. He wears a turban that resembles coiled pale purple macaroni. The rest of his attire consists of a coat, a waistcoat, and a dhoti. He dons socks with a design of clocks on them, which match his turban. He is usually dressed impeccably and his whole countenance reflects harmony as if he represents a physical and psychological reconciliation of the products of East and West.

Godbole is a witty, laconic, wonderless man who tosses out his terse pronouncements in an indifferent but firm manner. They purportedly issue from 'one who has seen the world and knows about it.' A devout follower of Lord Krishna, he is deeply religious and sings devotional songs addressed to Krishna. His spirituality and his philosophical thinking help him to look beyond reality and at times it appears as if he can foresee destiny.

Paradoxically perhaps, in his mundane life the professor is characterized as a voracious eater who loves to eat. Unlike other staunch Hindus, he takes tea, fruit, soda water and sweets from anyone, but vegetables and rice only if cooked by a Brahmin. However, he does not eat meat, or cake if it contains eggs, and would not allow any one to have beef in his presence.

Professor Godbole is the one who introduces the Marabar caves to Mrs. Moore and Miss Quested at Fielding's place. He describes them as dark and empty but never mentions the eerie echo, the one common feature of all the caves, as if this has never impressed him much. However, on the day of the supposed trip to the caves arranged by Dr. Aziz, the

professor misses the train. His lengthy 'puja' makes him late. Consequently, Fielding also misses the train.

Professor Godbole may be perceived by some as cold and indifferent for it seems worldly matters do not make much of an impact on him. His verdict always is: "Whatever we do, the outcome will be the same." So, should we regard him as someone who is actually a foreseer and a wise man with no attachments towards the materialistic world, or should we see him as a pessimist towards life as such? He knew that the caves were dark and empty and had the strange echo and he did never reach the caves. Was this an unavoidable misstep, or a purposeful attempt to stay away from that which is empty and foreboding? The novel is ambiguously - and perhaps purposefully - silent about this.

Towards the end of *A Passage To India* we find a vivid description of the Janmashtami which celebrates the birth of Lord Krishna. Professor Godbole is in the temple 'full of spirit and religious energy and lost in it'. In the midst of the celebration, he feels a wonderful relationship with Mrs. Moore and, as if he has a vision of her death, he knows that she is in pain and that she is disillusioned and would die a painful and lonely death. Although he is a Hindu and she a Christian, he thinks it to be his duty, as well as his desire, to love her and pray for her to his God so that she gets peace and tranquility and her soul rests in eternal peace.

**Mrs. Moore:** Mrs. Moore, an elderly English widow in her late 60's, came to India accompanied by Miss Quested to meet her son Ronnie. She has been happily married twice with two children from her first marriage and Ronnie from the second.

Mrs. Moore along with Ms. Quested takes a genuine interest in Indians. They want to meet and know more about them to gain an understanding about the Eastern culture. Mrs. Moore is not impressed by the way the British Raj governs India and treats the natives since her Christian faith enjoins her to regard all men on this Earth as equal. She is of open-minded and flexible and devoid of any sense of superiority while interacting with the Indians.

Mrs. Moore as a person unfolds in the initial pages of the novel when she meets Dr. Aziz in the mosque on a moon lit evening. Here we get a genuine feel for her character: she is warm, genial, and compassionate. She has a truthful, earnest

feeling for “God” - a feeling that comes to her irrespective of any particular religion. Mrs. Moore’s distinctive attribute is that she deals with life through intuition rather than reason.

Mrs. Moore is in search of peace and tranquility, and so her old soul is mesmerized at the sanctity of the ‘Moon in the Ganges’, as Dr. Aziz directs her attention to it. Her feelings are beautifully expressed by Forster: “In England the moon had seemed dead and alien; here she (the moon) was caught in the shawl of night together with earth and all the other stars. A sudden sense of unity, kinship with the heavenly bodies, passed into the old woman and out, leaving a strange freshness behind”.

The relationship she develops with Dr. Aziz that day is a source of freshness and tenderness for her throughout her stay in India. She trusts Aziz implicitly and is not ready to believe that he has anything to do with the incident that took place in the Marabar Caves.

At the caves, Mrs. Moore has a traumatic experience. The strange, never-ending echo makes her feel lost and awfully ill. It forces her to realize life’s basic truth: ‘nothing has value’. This undermines her Christian idealism and faith. She feels empty and hollow amidst the dark and empty caves with their identical eerie monotonous echo.

Mrs. Moore’s traumatic experience in the caves, the accusations against Dr. Aziz, the preparation for the upcoming court trial, Ronnie’s insistence on her testimony all make her disillusioned and hopeless, and she decides to return to England alone. She is despaired at her own plight and at the misfortune of the human race. Her idealistic belief in the friendliness of Nature has been deeply challenged. She realizes that Nature is indifferent, and possibly hostile, and for the first time in her life she faces the nothingness of life - a concept with which the East, and especially India, is quite at home. Despaired and fatigued, she dies a painful and lonely death.

Thus, through the character of Mrs. Moore, E.M. Forster has attempted to explore profound and fundamental issues of life: Good and Evil, Truth and Reality, Integrity and Despair.

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**'MAINE GANDHI KO NAHIN MAARA' (I HAVE NOT KILLED GANDHI)****Samir Kumar Praharaj<sup>1</sup>, Vinod K. Sinha<sup>2</sup>, Manu Arora<sup>3</sup>****Introduction**

This film casts Anupam Kher, Urmila Matondkar, Parvin Dabas, Rajit Kapur and Boman Irani in the lead roles. It is directed by Jahnu Barua, who is an internationally acclaimed Assamese filmmaker and winner of nine National Awards; this film is his first venture into Hindi cinema. The film has a runtime of 100 minutes.

In the movie, Anupam Kher stars as Professor Uttam Chaudhary, a retired Hindi teacher who lives with his daughter Trisha (Urmila Matondkar) and son Addy in Mumbai. He is shown to be suffering from forgetfulness which gradually progresses. As the film moves on, he becomes deluded with the idea that he has murdered Mahatma Gandhi by accident, and is kept in a jail with his family as his captors. Amidst all this, Chaudhary's daughter is a positive force, and the only lifeline that can save her father from drowning in the universe his mind is creating. She approaches a famous psychiatrist Sidharth Kothari, who tries to look deep into this extraordinary case. On exploration, a childhood trauma surfaces, a memory of being accused of murdering Mahatma Gandhi. He is prescribed a novel treatment to get rid of his delusion, a courtroom drama, before considering admission into a mental hospital as last resort.

This movie portrays a case of dementia, probably Alzheimer's disease, and formation of delusion of wrongdoing. At the same time it also raises concern regarding the Gandhian ideologies that today's generation has forgotten or overlooked. It also delves into the parent-child relationship, the feeling of being 'unwanted' that a senior citizen experiences at times, and caregivers' burden.

**Discussion**

Alzheimer's disease, a neurodegenerative brain disease, is the most common cause of dementia, and is the leading cause of mental impairment in elderly people. In the movie, the gradual progression of illness is aptly presented; the regression of memory from recent past to remote memory (i.e. Ribot's law) is beautifully depicted. Professor Choudhary initially forgets small things in his daily routine, with gradual shrinking of memory, when he feels that he lives in 1970s (he insists upon giving the barber less money for a haircut). While the depiction of loss of memory and the affect associated with it is excellent, his remembrance of dates and other events with such remarkable efficiency is contradictory.

The depiction of delusion formation is worth appreciating, where Choudhary is shown collecting paper cuttings with words such as 'murder', 'Gandhi', and is perplexed as if immersed in a delusional atmosphere. A full blown delusion that 'he has killed Gandhi' emerges suddenly; and there is gradual systematization of the delusion that he is kept in a jail, his son is the warden of the jail and wants to kill him by mixing poison in his food for his shameful act. In a 'two-factor' delusion model, Davies et al (2001) argue that delusional beliefs arise through either pathological explanation of anomalous experiences based on cognitive biases, or simply believing the pathological perception without being able to reject the explanation in light of current knowledge. This inability to reject could be explained by damage to right-hemisphere processes that re-organize beliefs in response to new information (Ramachandran, 1995), a hypothesis which is more consistent with delusion formation in brain injury and dementia (Bell et al, 2006).

It has been suggested that all delusions are understandable if one knows enough about the patient (Sims, 2003). The life-story perspective takes into account the numerous events that have taken place in a person's life and tries to explain the person's emotional state on the basis of a narrative that incorporates past and present experiences (McHugh & Slavney, 1986). A causal link between childhood trauma and the later development of both hallucinations and delusions have been suggested (Read et al, 2005); recent information processing theories are trying to unravel how intrusive trauma-related memories can maintain and exacerbate psychotic states (Steel et al, 2005). In this film the revelation of patient's traumatic childhood memories by his brother allows identification of the origin of ideas reflected in the 'content' of delusion.

The delusions commonly seen in Alzheimer's dementia are simple, transient and fleeting, and involve persecutory themes such as stealing. The complexity of delusions is related to the severity of intellectual impairment. Patients who have moderate to severe cognitive impairment develop simple delusions secondary to their poor judgment and reasoning capacity, whereas, patients who are much less cognitively impaired have greater ability to think and reason and thus have complex, elaborate delusions (Cummings, 1985). In the film, the delusion shown was persistent, complex, well systematized and accompanied by multimodal hallucinations, which might suggest an alternative diagnosis.

One of the greatest challenges in caring for delusional patients with Alzheimer's disease is continuing to provide respect, understanding, and objectivity while managing anger and other emotions evoked in the caregiver. Green et al (1982) reported that it is not the cognitive impairment or the functional incapacity of the demented patient but the behavioral changes, such as delusions, that cause the greatest stress to the patients and their caregivers. In the movie, Trisha beautifully portrayed the role of empathetic caregiver, even at the expense of her career and her love life. Society's rejection towards members of such families is also depicted when Trisha's boyfriend deserts her to marry a girl of his parents' choice.

Another interesting character, Dr. Bharoocha, appears to portray the image of a prototype busy practitioner who has very little time and patience to answer the queries of patients and their caregivers. In sharp contrast, Dr. Siddharth is shown to be a sympathetic listener, with all the good qualities a

psychiatrist should possess. Nevertheless, a leading psychiatrist employing stage actors to treat the guilt associated with a delusion looks far-fetched, inappropriate, and conveys wrong message to public that melodrama can resolve a delusion instead of antipsychotics.

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## A DARK PHASE OF MY LIFE

*The article that follows is part of the Indian Journal of Social Psychiatry's (IJSP) Memoirs series. We hope that mental health professionals will take the opportunity to learn about the issues and difficulties confronted by the patients. In addition we hope that these accounts will give patients and families a better sense of not being alone in confronting problems that can be anticipated by persons with serious emotional problems. We welcome other contributions from patients, ex-patients or family members.*

*Clinicians who see articulate patients should encourage these patients to submit their articles to Editor, IJSP, Memoirs, Central Institute of Psychiatry, Ranchi-834006—The Editors*

No, I can't go back to work. I've lost myself. I'm out of college. My relationship with my family has worsened. I am not the person I used to be. I am only a mouth to feed. I've no right to live; I'm better off dead. Has anyone cast a magic spell on me? Or the almighty has some enmity with me?

This was me a year back. Having lost a year in college and walking out of my family business was tough time. Life started to appear colourless to me. It was as if I was losing my grip over life. I became "housebound" and would go out only if it was inevitable. I thought of it as a phase that would go away by itself but to no avail. Days, weeks and then months passed by, there was no sign of improvement.

I had a feeling of continuous disinterest in the surroundings, even in those things which I loved to do. I felt no energy to do things. My self esteem and confidence level was down. My ability to concentrate, self-analyze and my decision making power was missing. It was as if I weren't in control of my life, there was a resistant force which pulled me backwards.

This state of mine continued for a year. Frustrated, I went to a psychiatrist and he wrote a prescription. Hoping to come out of this phase, I started taking his medicines regularly and on time. Ten days passed by, but there was no sign of improvement. I knew it was my last chance. Frustrated, I took an overdose of my prescribed medicine coupled with a few pegs of neat whisky. It only managed to give me 4-5 hours of sleep. The next day I repeated the same process, having the

same result. Yes, I was flirting with death. I said to myself, "I'll have to do something serious; I can't take it anymore". I was desperately looking for an answer and in this negative state of mind "suicide" seemed to be an end to my sufferings, an answer to all my problems.

By that time, my mind was completely haunted by death wishes and it was the only thing which was present in my mind. The next day in the evening, as I had planned, I wrote a suicide note and then ripped apart the veins in my wrists. The blood started flowing out immediately and that sight made me happy. I expected death any moment, but to my surprise it didn't come. Blood clotting in my veins prevented my death. Disappointed, I knew I couldn't back out. So I went for a sure shot way of dying. I rolled my bed sheet and prepared to hang myself. I wrapped the bed sheet around my neck and kicked back the chair I was standing on. The rope tightened its grip around my neck and I saw death coming to me in front of my eyes. I struggled for 15-20 seconds; then suddenly there was a knock at the door. It was my sister. I knew I couldn't go through with it as I feared getting caught attempting suicide. I stretched my leg downwards and found that my leg had an access to one of the legs of the chairs. I applied some pressure and the chair stood straight. I opened the bed sheet and hid it only to go through with another attempt the next day. Anyhow, I was caught by my aunt next day trying to hide my 'equipment of death' (bed sheet) inside the almirah.

Getting caught attempting suicide was the most embarrassing situation in my entire life. I was brought to a tertiary psychiatric hospital the same day I was caught. One month down the line, I was completely transformed into a new person. I was on 'medication and psychotherapy'. I could find myself coming back to life. The energy level was coming back and other things improved which were lost during this phase.

"Depression" as a disease did more good to me than harm. It strengthened my belief in God. It was more of a learning experience. The disease which I once thought was untreatable had gone. I was once again myself. It has changed my attitude towards life. It has also helped me discover those

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aspects of my life which I never looked upon. It has made me discover my spiritual side. God has at last made his presence felt through little miracles.

There's no single factor that lead to my positive recovery phase, but a variety of factors that jointly came together. Firstly and most important it was the quality of the treatment here. The process that a patient goes through in the hospital also helps. Talking and revealing my problems to the doctors here made me feel very light-hearted. I was being convinced by my doctor's that things would change sooner or later, so I believed in them and gave them a chance. That was when I first saw a "ray of hope" in the midst of so much chaos. By that time my mind had transformed from hopelessness state to a hopeful state.

Getting admitted into the hospital also meant a complete change from the previous environment. This also had a positive effect on my mind. But very soon I realized that the "doctor and drugs" are not enough, as one has to 'self help' oneself to come out of the problem.

I was given a mood chart which I had to fill in three times a day. It created a kind of 'positive pressure' to keep my mood as good as possible. I also had long sessions with my doctors every alternate day. The kind of questions that were asked by my doctors was very crucial, e.g., I was asked about my personal problems, family relations, academics, childhood, future vision etc. The answer to these questions did reveal a lot about the causes involved in my depression.

The more I revealed, the more I felt light-hearted. I think it was more of an attitude change that helped my case. Instead of focusing on my problems, I started to count my blessings in any given situation. Listening to good music and 'laughter therapy' with other patients also helped 'getting philosophical' and thus proved to be a valuable asset for me.

There were other patients who were suffering form the same disease, sharing our problems with each other, made us friends and we never had any dull moment.

By the time of my discharge the medicine had started showing its effect. My mood remained positive and stable. This treatment phase also gave me a break, so that I could rest, think about my life in a calm manner and then go ahead. All my major problems with which I entered e.g. depression,

negative frame of mind, worn ideas about my disease, helplessness state were reversed.

No single aspect could be named, there were various aspects (doctors, medication, psychotherapy, counseling, self-help) that collectively contributed to my recovery.

***Name withheld on ethical ground***

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## INSTRUCTION FOR AUTHORS

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Manuscripts are accepted for consideration of publication by *The Indian Journal of Social Psychiatry* with the understanding that they represent original material, have not been published previously, are not being considered for publication elsewhere, and have been approved by each author.

### Preparation of Manuscripts

All contributions should be written in English. All manuscripts apart from "Letters to the Editor", "Book Reviews" and "Film Reviews" are reviewed by two or more assessors.

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Reviews are usually invited by the Editor. However, good quality reviews on pertinent topics can be submitted for publication. The maximum length of reviews (including abstract and references) is 7500 words. Abstract may be an unstructured summary which should not exceed 250 words.

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#### Letters to the Editor

Brief letters (maximum of 1000 words, including references; no tables or figures) will be considered if they include the notation "for publication". These limits may be exceeded in *exceptional circumstances*, but authors are advised to confer first with the Editorial Office.

Case reports or any other uncontrolled observations should be submitted as Letters to the Editor. Letters critical of an article published in the *Journal* must be received within six months of the article's

publication. Such letters must include the title and author of the article and the month and year of publication. The letters will be forwarded to the authors of the discussed article for their response. Letters that do not meet these specifications will be returned immediately.

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All parts of the manuscript must be double-spaced throughout with a minimum margin of 1 inch on all sides. The manuscript should be arranged in the following order, with each item beginning a new page: a) cover letter, b) title page, c) abstract, d) text, e) references, and f) tables and/or figures. All pages must be numbered.

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A summary of the paper must be in the form of a **structured abstract** using the format below. However, abstract may be unstructured for review articles (as mentioned above). Case reports, letters, and film/book reviews do not require any abstract.

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**Background:** need for the study with specific aim or objectives

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The text should be written in grammatically correct good English. It should be typed double-spaced throughout with at least 1 inch margins on all sides.

**Pejorative Language:** Do not use pejorative labels like 'schizophrenics', 'psychotics' and 'neurotics'. Instead refer to 'patients with schizophrenia', etc.

**Abbreviations:** Abbreviations should in general be avoided. However, phrases may be abbreviated if their shortened form is widely known and they are used repeatedly (e.g. CNS, OCD etc). When first used in the text, they should be spelt out in full followed by the abbreviation in brackets.

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References should include a list of all articles and books at the end of the paper. Arrange alphabetically by the authors' names and date of publication in parentheses. Authors should follow journal style for reference list using the following examples.

Bhugra, D. & Mastrogianni, A. (2004) Globalization and mental disorder: Overview in relation to depression. *British Journal of Psychiatry*, 184, 10-20.

Rosenberg, A.A., Solarz, A.L., Bailey, W.A.(1991) Psychology and homelessness: A public policy & advocacy agenda. *American Psychologist*, 46, 1239-1244.

Woodward, D., Drager, N., Beaglehole, R., et al (2001) Globalization and health: a framework for analysis and action. *Bulletin of the World Health Organization*, 79, 875-881.

Marsella, A. (1995) Urbanization, mental health and psychosocial well-being. In: Harpham, T. & Blue, I., (Eds.), *Urbanization and Mental Health in Developing Countries*, pp.17-40, Aldershot: Avebury.

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Tables should be included on a separate page, numbered with Arabic numerals and accompanied by short titles at the top. Each table must be referred to in the text in consecutive order. Data presented should, in general, not be duplicated in the text or figures. Explanatory matter should be placed in footnotes below the tabular matter and not included in the title. All non-standard abbreviations should also be explained in

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## CORRIGENDUM

The editors would like to draw attention to omissions in the following articles:

1. "Aggression- a psychosocial perspective" in Volume No. 20, Number 1-4, Year 2004, page nos. 3-10. Full authors' affiliation and details were missed out in the article and are reproduced herewith:
  - a) Malhotra, S., MD (Psych), MNAMS, Ex-Assistant Professor, Department of Psychiatry and National Drug Dependence Treatment Center, All India Institute of Medical Sciences (AIIMS), New Delhi; Ex-Consultant, West Kent NHS and Social Care Trust, United Kingdom, Consultant Psychiatrist, Dept. of Neurosciences, Fortis Hospital, Email: sameersankalp@hotmail.com
  - b) Varghese S.T., Junior Resident, Dept. of Psychiatry, AIIMS, New Delhi
  - c) Amardeep K, Senior Resident, Dept. of Psychiatry, AIIMS, New Delhi
  - d) Balhara, Y.P.S., MD (Psychiatry), Senior Resident, AIIMS, New Delhi
  
2. Shah, A. & Isaac, R. (2005) Couple Relationship and Sexuality, Indian Journal of Social Psychiatry, 21, 32-40. In: Kar, N. & Kar, G.C., (Eds.), Comprehensive Textbook of Sexual Medicine, pp. 92-100, Jaypee Brothers: New Delhi (with permission from the editors and publisher)
  - a) Shah, A., PhD, Additional Professor, NIMHANS, Hosur Road, Bangalore-560041
  - b) Isaac, R., M.Phil, PhD Scholar, Lecturer, Bangalore University, Bangalore

The editors' apologies for this omission and any inconvenience it may have caused.