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# INDIAN JOURNAL OF CLINICAL PSYCHOLOGY

Editorial Board, Journal Committee, Executive Council & Secretariat	i-ii
Instructions to Authors	iii-v
<b>Editorial</b>	1-3
Challenges and Controversies in Contemporary Psychotherapies <i>K. S. Sengar</i>	
<b>Presidential Address</b>	4-7
Psychological Interventions in Child Mental Health <i>Manju Mehta</i>	
<b>Kang Oration</b>	8-11
Clinical Psychologist and Hospital Administration <i>Amool Ranjan Singh</i>	
<b>Research Articles</b>	12-19
Comprehensive Neuropsychological Rehabilitation to Improve the Quality of Life of Stroke Patients Suffering from Aphasia. <i>Harsimarpreet Kaur, Ashima Nehra and Rohit Bhatia</i>	
Prevalence of Behavioural Problems in School Going Children of Tezpur City <i>Maitrayee Dutta, Masroor Jahan and Ranjan Kumar</i>	20-24
Adapting Cognitive Behaviour Therapy for India: Potential Barriers and Possible Solutions <i>Andrew Beck and B.S. Virudhagirinathan</i>	25-31
Relapse among Persons with Alcohol Dependence Disorder : Does Assertiveness Matter? <i>Sony, M S and Manickam, L S S</i>	32-38
Factors Influencing Hopelessness in College Students <i>Nisha Sachdeva and Naveen Grover</i>	39-46
Neuropsychological Pattern of Performance and its Implication for Rehabilitation in Schizophrenia- A Hospital Based Study <i>Rupesh Kumar Chaudhry, Pankaj Kumar and Bholeshwar Prasad Mishra</i>	47-51
Executive Functions in Medicated Vs Drug Naïve Patients with Obsessive Compulsive Disorder <i>Archana Bharti, Kiran Bala and Basudeb Das</i>	52-59
Representational Drawings of Children With Autism <i>Ashum Gupta and Rekha Negi</i>	60-65
Does Self-Rating of Prospective Memory Correspond With the Performance on Objective Measures? <i>Devvrata Kumar, Surdeo Pahan and Priyadarshree Abhishek</i>	66-70
<b>Mental Health Clinics</b>	71-75
Use of Audio Feedback in Cognitive-Behavioural Treatment of Social Phobia <i>Deepika Srivastav, G. S. Kaloiya and Naveen Grover</i>	
Metacognitive Training (MCT) in Facilitating Awareness of Metacognition and Delusion: A Case Study of Delusional Disorder <i>Sanjay Kumar Bhogta, K. S. Sengar and Amool R. Singh</i>	76-81
<b>Test Review</b>	82
RINPAS Family Relations Test A Projective Test for Children (RINPAS FRT: PTC) <i>Dr Manju Mehta,</i>	



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## **Editorial**

# **Challenges and Controversies in Contemporary Psychotherapy**

**K.S. Sengar**

Therapies belong to variety of disciplines – psychology, psychiatry, social work, and counselling, to name just a few – and apply different principles from different perspectives in their respective areas of work with people who come to them for help. With expanding horizon of mental health issues and for all diversity every therapist who takes up work in clinic, community center, general or psychiatric setup, or elsewhere faces an array of contemporary challenges as well as controversies.

Defining mental health profession as part of mental health workforce with any precision presents complex challenges, especially in light of the fact many therapists work and identify more than one mental health profession ( for example, a therapist may be both a social worker and marriage and family therapists. But this is reality, as there is scarcity of trained and qualified mental health professional in the world. In India, there are approximate fifteen thousand psychiatrists, one thousands five hundred clinical psychologists , one thousand psychiatric social workers and six hundred trained psychiatric nurses which is in no way even near to the requirement of 125 crore population of the country. Mental health services are also delivered by general physicians rehabilitation counsellors, and school counsellors. Majority of therapists practice technical eclecticism and use a variety of methods in formulating clients problems and devising treatment and rehabilitation plans. In fact, multimodal therapists are technical eclectics (e.g. they employ multiple methods without necessarily endorsing the theoretical positions from which they were derived (Pope & Wedding, 2011).

As the field of psychotherapy has matured, integration has emerged as mainstay. Clinicians now acknowledge that there are certain inadequacies and potential value in every theoretical system. This has resulted to look

across school boundaries to see how patients can benefit from other ways of conducting psychotherapy. Although, various label are applied to this movement e.g. eclecticism, integration, reapproachment, prescriptive therapy etc. The ultimate goal is to enhance the efficacy and applicability of psychotherapy (Norcross & Beutler, 2011).

Nearly everyone agrees and classify psychotherapy as legitimate part of medical practice without any requirement that its use by restricted to psychiatrists. However, psychiatrists now devote the majority of their time to medication management and far fewer psychiatrists are being trained to provide psychotherapy to their patients (Moran, 2009). Hence, clinical psychologists are practicing psychotherapy most. No therapist works in isolation. All therapists must prepare themselves and cope with frequently challenging scenario especially in context to manifestation of various types of psychosocial and economic factors. Several studies suggest a shift away from longer term psychotherapies. Olfson et al (2002) examined changes that occurred between 1987 and 1997. They found that more and more physicians are getting involved in treatment of depression with psychotherapy besides medication. These physicians are of generally primary health care level. The situation in country like Indian is different, as general physicians are treating various psychological disorders adequate understanding and training to treat the same. Due to lack of awareness and scarcity of the mental health professionals, psychotherapy has not picked up the pace with advancement of technology. General population's understanding about psychotherapy is very limited and many time efficacy of psychological treatment is questioned.

To push to put therapy on sound scientific footing, led to the concept of empirically

supported therapies (ESTs). Proponents of ESTs believed that each form of therapy need to be tested in carefully controlled experimental research. The results would show which therapies actually worked and which, though well intended, did nothing to help the patients or worse, were harmful. The concept of empirically supported therapy, appealing to so many in theories, has turned out to be different and at times controversial to put in to practice. Western and Bradley (2005) note that evidence based practice is construct (i.e. an idea, abstraction or theoretical entity) and thus must be operationalized (e.g. turned into some concrete form that comes to define it) The way it is operationalized is not incidental to whether its net effect turn out to be positive, negative or mixed.

One challenge is that a therapy cannot be described simply as “effective” any more than psychological tests can be described simply as “valid” or “reliable. The validity and reliability of the psychological tests do not exist in the abstract. They must be established for a specific population (e.g. identifying malingering), for a specific setting (e.g. school or forensic), and for a specific population (e.g. adults who can read & write). Paul, Gorden L acknowledged this complexity in 1967 when many were searching for therapies that were “effective”. Paul wrote that both therapists and researchers must confront the questions “what treatment by whom, is most effective for this individual with that specific problem, an under which sets of circumstances?” David Barlow (2004) reviewed research showing the importance of these complex sets of variables. He notes for example. He notes for example, that studies show “therapist variable such as experience contribute to successful outcome. But this research on therapist variables occurs in the contest of considering, first and foremost, the presenting pathology of the patients”. He further concludes there are three overriding principles in evaluating the robustness of (psychotherapies) ..... First, it is important

to match the psychological intervention to the psychological or physical disorder. Second, it is important to match the treatment to the patient and therapists characteristics. .... Finally, the evaluation of treatments must be considered in context of the actual settings in which the treatments are provided. The daunting complexity of the research needed to investigate a particular psychological therapy adequately stands in stark contrast with the sheer number of available therapies. Kazdin (2008a&b) for example notes that there are more than 550 psychological interventions for children and adolescents but only a relatively small minority have been subjected to research.

The continuing revolution of digital revolution has great potential for transforming the relationship between clinicians and patients. New media tools like web blogs, instant messaging platforms, video chat and social network are reengineering the way doctors and patients interacts (Hawn, 2009). Digital technology has brought about various changes and challenges for therapists in another area of practice; the storage and transmission of records. Even though the widely hailed paperless office has not come to pass for most therapist, many therapists use computers to administer, score and interpret psychological tests and other assessment instruments. Many use computer for recording information about their clients and notes on psychotherapy sessions. How can therapists make sure that this confidential information is restructured to those authorized to see it? It may seem reasonably easy challenge but therapists and patients have been stunned by instances in which supposedly secure information fell in to wrong hands.

Again another important issue relates to the therapist's sexual involvement with patient or non sexual physical touch and sexual feelings. No circumstances or rational justify sexual involvement with patient. The prohibition continues to be fundamental to the profession for may reasons including the issue of harm to the patients. It is important to distinguish

therapist - patient sexual involvement from two very different phenomena. First, nonsexual physical touch is clearly different from sexual involvement. Pope et al. (1994) documented the ways in which nonsexual physical touch with therapy had acquired "a guilt by association" with sexual touch. The review of research and other professional literature found no harm of nonsexual touch per se, although context and culture, religion and meaning should be always be considered before touching a patient when consistent with patient's clinical needs and the therapist approach. Nonsexual touch can be comforting, reassuring, grounding, caring and an important part of healing process. When discordant with clinical needs, context, competence, or consent, even the most well intentioned nonsexual physical contact may be experienced as aggressive, frightening, intimidating, demeaning, arrogant, unwanted, insensitive, threatening or even intuitive. Nonsexual multiple relationship and boundary issues are also important to be understood by therapist. Sound judgement about nonsexual boundaries always depends on context. Nonsexual boundary crossing can enrich therapy, serve the treatment and management plan and strengthen the therapist – client working relationship. They can also undermine the therapy, sever the therapist – patient alliance and cause immediate or long term harm to the patient (Pope et al., 2008). To what extent nonsexual relationship to be expanded has to be decided and judged by the concerned clinician keeping in view the welfare of the patient as well as the ethical consideration of the profession.

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**Presidential Address**

**Psychological Interventions in Child Mental Health**

**Manju Mehta**

**Abstract**

The Clinical Psychologist can have significant contributions in the area of Child Mental Health. For a mental health professional, working in this area is very rewarding as the response to intervention is generally appreciable and more rapidly noticeable. The field, though challenging, comes with an unsurpassed feeling of satisfaction. The set up of child psychology also generally facilitates greater independence in working environment. Child psychology has become more relevant within the domain of clinical practice, as in a majority of such cases, non pharmacological interventions are required, and considered to be essential to effective treatment planning and execution. Non pharmacological interventions come with their own set of advantages – primarily, they are perceived as non-threatening by the child owing to their interactive nature and the active involvement of family members. focus on specific symptoms and emphasis on learning. These interventions are aimed at not only the reduction of symptoms and the resultant distress, but also lay emphasis on learning. They also have a preventive and remediative focus and employ strategies for teaching life skills, coping skills & social skills. The scope of child psychology broadens beyond the individual child to help caregivers/family members to deal with the child. As childhood, and the developmental years, lay a foundation for later life; the long term goals of child psychology and the subsequent benefits cannot be overlooked.

There are various forms of interventions used in managing childhood problems. These are Psycho-education, Cognitive Behavior Therapy, Family Therapy and Play Therapy. These techniques have also been used in pain management, stress management and life skill training for children. There have been a number of research studies to assess their efficacy in Indian children. There are some randomized clinical trials on CBT based interventions. There are many challenges in the practice of these therapies such as engaging the child/adolescent in therapy process, acceptance by parents, compliance, problems with follow-up, explanation of therapeutic strategies, time/cost effectiveness and adequate training of professionals.

**INTRODUCTION**

Child Mental Health is an important and upcoming specialisation under mental health profession. Children between ages 3 years to 15 years are registered in this clinic. Many psychiatry departments and teaching and non teaching hospitals have special clinics designated as Child Guidance Clinic or Child Psychiatry Units. Currently the age range of children in these clinics has increased - from birth to 3 years, labelled as Infant Psychiatry, and 12 to 18 years is called adolescent psychiatry. The clinics are called Child and Adolescent Mental Health Clinics. This speciality is not limited to hospital setup only, but extends to schools also.

Clinical Psychologists have made very

important contributions in this field. The psychologist working in this speciality find the work very satisfying as often only few therapy sessions are required for improvement in child's behaviour. There is constant feedback from parents and children, which enables them to review and modify their approach as and when identified, thereby leading to faster gains. In this area, clinical psychologists can work independently and the problems with which children present are challenging. Clinical psychologists have an important role in this field as psychosocial influences have great impact on the child mental health as family environment, school and peer group interact with child's temperament.

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## Psychological Interventions

Psychological interventions for children differ significantly from those that are employed for use with adults. With children and adolescents, a more developmental focus is required with special emphasis on other contributing factors such as family, peer group, social structure and emotional development. Social attribution and social information processing models (Dodge, 1993; Garber & Flynn, 2001) are two common approaches incorporated in the use of psychological interventions with children. Need for mental health services in children is for life skills training, promoting well-being, preventing emotional and behavioural problems, intervention for these problems and identification and management of serious mental disorders. According to WHO and studies conducted in India, 20-30% children/adolescents have emotional problems and 3-12% of children/adolescents have serious mental health problems (ICMR, 2000). Pharmacological management is helpful in serious mental health problems like childhood psychosis, depression and severe anxiety. Psychological interventions can be useful as an adjunct therapy in serious mental health disorders, and first choice of treatment for mild to moderate behavioural and emotional problems. Need for non pharmacological intervention is greater in the child psychiatry set up because it is non-threatening, interactive, with active involvement of family members and employs focus on specific symptoms, emphasis on learning coping skills, social skills, anxiety management and anger management. This type of intervention has long term benefits.

### Aims of Psychological Intervention in Children are Manifold:

- Prevention and Remediation Services
- Symptom Relief/ Reduction of Distress
- Teaching life skills, coping skills & social skills
- Helping caregivers/family members to deal with the child

Psychological interventions have applications for both preventive and intervention. In many

disorders it is the only method of management, it's indications are for following disorders-

- **Developmental Disorders** : Autism, Mental Retardation, Specific Learning Disability
- **Behavioural Disorders**: ADHD, Conduct disorder, Behavioural Problems, Enuresis, Thumb Sucking, Substance Use
- **Affective Disorders**: Anxiety, Phobia, OCD, Depression
- **Somatiform Disorders**: Headache, Recurrent Abdominal Pain

### School Based Intervention:

Intervention can be carried out in other settings like in school setting. School teacher's are given training, and involved to deal with behavioural problems, School based programmes are required as school children display variety of problem behaviours, they are due to increased stress in family, competition with peers, expectations from teachers. There is limited access to mental health resources and problem of stigma. Coping skills training and help children to develop cognitive and behavioural strategies to solve their problems. School mental health can be organized for promotion of mental health, management of mild specific learning disability, stress management and training to develop coping skills.

### Adaptation and Research in India:

Psychological Therapies are very important, yet to be effective they should be adapted according to culture. Thus we have researched and developed some intervention modules like - Psycho-education, Cognitive Behavior Therapy, Family Therapy, Play Therapy, Pain Management, Stress Management and Life skill training.

Coping Skills Training Module for Children was given to school children, pre and post assessment was done to assess its efficacy. The 6 sessions consisted of training in problem solving, anxiety management, emotions and rational thinking, social skills, anger management and bringing it all together.



Specific Learning Disability (SLD) is a problem where children find difficulty in coping with academic tasks with average intelligence. This problem is being recognized by teachers and parents but not many standard management strategies are available. There is need to address management of problems both in academic and non-academic areas. There is also need to have strategies for management of SLD in regional languages. Training parents and teachers to engage them as co-therapists/co-educators. It is important to make learning strategies fun for the child. To fulfil these objectives an ICMR study was carried out titled - Development & Dissemination of Intervention Strategies for Specific Learning Disabilities in this a training guide for parents & teachers of children with specific learning disability was developed.

#### **CLINIC BASED INTERVENTIONS**

These have been developed by Department of Psychiatry, All India Institute of Medical Sciences, New Delhi for training of children with Intellectual Disability, Attention Deficit Hyperactivity Disorder, Anxiety Disorder, Depression, Somatoform Disorder and Substance Abuse Disorder.

##### **Intellectual Disability:**

Management of intellectual disability cannot be addressed with pharmacotherapy or psycho-education alone. Parent Training to teach self care, basic academic and social skills training is necessary, for this mothers—the primary caregiver were trained on the principles of Behavior Modification as training of techniques can be done in structured manner. 50 Mothers, both working and housewives in the age range of 20-35 years were given 2 sessions per week. Total 10 Sessions, (initial 3 sessions were in group and later 7 sessions were individual sessions) were given. All the sessions were of one hour duration. Training was imparted through practical demonstration, manual and video recording. Pre and post assessment revealed increase in skill development in children and decrease in problem behaviour.

##### **Attention Deficit Hyperactive Disorders (ADHD):**

Mongia, Mehta and Sagar (2008) developed a Psycho-educational Module for management of ADHD. 10 sessions module comprised of Parental education, training using behavior therapy and cognitive behavior therapy principles for improving attention and reducing associated behavioural problems.

##### **Anxiety and Depression:**

Prevalence of Anxiety and Depression is increasing at an alarming rate in children and adolescents due to psychosocial stresses in academics and personal lives. They report examination anxiety, social anxiety, Phobias. Low mood, Irritability, School refusal, Social withdrawal and somatic complaints. CBT based therapy is best suited in such cases. With Adolescents are developing a computerized model based on CBT techniques. Its effectiveness is being assessed on pre- post treatment research design.

##### **Somatoform Disorders:**

In this disorder child is unable to express his, psychological conflicts, family plays important role in maintaining illness behavior and doctor shopping increases stress on family and child. The six session module imparts training for both child and the family. Dutta et al. (2008) Explored alternative therapeutic forms – art and play to treat children with somatic complaints. Abdominal pain and headache was the commonest problem. With nondirective play therapy significant improvement was reported. Psycho-education was given to family members.

##### **Substance Abuse:**

This is a growing problem in both school going and street children. Majority of the adolescents are brought for treatment of Inhalant use. There is need for culturally adapted strategies such as coping skills for various problems, Involvement of family members as co-therapists helps in cooperation from parents and monitoring at home. Sharma et al. (2009) developed a brief CBT Based Module for Adolescents with Substance Abuse. The module has 6 sessions- Motivation enhancement

and Psycho-education, Identification of high risk situations, Coping Strategies, Craving Management, Social Skills Training and Family Counselling

### **Obsessive Compulsive Disorder:**

OCD has been seen to have paediatric onset in some cases, with children as young as age 6 reporting to outpatient services for treatment. ERP has effectively been tested with children and adolescents, with newer modalities such as computer assisted and self help modes of treatment are being explored (Kapoor, 2013).

### **Stress Management For Students**

Increase in stress amongst students is well documented. Stress has negative impact on examination performance, interpersonal relationship and in sports. Stress management helps in overcoming many problems in students. Brief, simple and easy to practice strategies can reduce stress in students. These are Relaxation Exercises, dealing with exams, Problem Solving, Time Management, Cognitive Restructuring, Setting Realistic Goals, Positive Thinking and Positive Self Statement. These strategies can be demonstrated to students in 2 hour single sessions with follow up booster session.

### **CHALLENGES:**

Working with children and adolescents is not very easy, one has to understand developmental perspectives of the client. The psychotherapy techniques though similar in theory, is different in practice. It is challenging to engage the child/adolescent in therapy process. The therapy should be accepted by parents, as this will ensure compliance. There are problems with follow-up, as the child has to depend on others and the school schedules may call for attending them after school hours. Explanation of therapeutic strategies should be done in simple language. At present not many trained professionals are available, so more professionals, man power should be developed. Intervention modules should be cost effective and brief.

### **NEW DIRECTIONS**

To be at par with the rest of the world

and meeting with technological advances, there is need to develop self-help manuals, computerized and internet based CBT Modules. Today's adolescent are more computer friendly, thus these modes of delivery are more acceptable to them. Culturally adapted manuals for therapy and translation of therapy manuals for regional languages needs to be developed. Transdiagnostic CBT, multimodal therapeutic modules and metacognitive therapies have to adapted to our cultural needs. Moreover, these methods can also bridge the gap of demand and supply- clients and professionals. We need to have controlled randomized studies, efficacy studies for process and outcome research,

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## KANG ORATION

### Clinical Psychologist and Hospital Administration

Amool Ranjan Singh

The Clinical Psychology has come a long way since Dr. Girindrashekhar Bose, a qualified medical practitioner interested in the treatment of mental illness, decided to join the post graduate programme in psychology that begun at Calcutta University in 1915 and eventually becoming first candidate to obtain a doctorate degree in Psychology in 1921. His thesis was on "The Concept of Repression" and he started his career as lecturer in the Department of Psychology there and in 1938, headed the Department of Applied Psychology at Calcutta University, when a separate department was created.

Focusing his effort on carving professional niche for dynamic psychology in India, he introduced a course in psychoanalysis for post graduates in Psychology at Calcutta University, during the early twenties and in 1930 he began training programme in Psychoanalysis at the Indian Psychoanalytic Institute, Calcutta. This phase was important for early professional recognition and growth in India as the Clinical Psychology as a profession was able to earn quite a good reputation and was being widely recognized in the western world not only for psycho-diagnostic point of view but as a psychotherapeutic discipline with sound theoretical and scientific constructs to serve human kind.

The profession of Clinical Psychology continued to grow in the second half of the 20th Century. In 1954, the Govt. of India established the All India Institute of Mental Health (AIIMH) at Bangalore which is known since 1974, as the National Institute of Mental Health and Neuro Sciences (NIMHANS). A post graduate Diploma in Medical Psychology (DMP) was started as a full-time, structured training programme with an inbuilt supervised internship. The training was based within a psychiatric hospital and there

was a marked adherence to the medical model. Subsequently, the qualifications attained on this programme went through a series of changes: Diploma in Medical and Social Psychology, (DM&SP, 1960); M.Phil. in Medical and Social Psychology (MM&SP); and M.Phil. in Clinical Psychology (current nomenclature).

In 1962, the AIIM programme was replicated at the Central Institute of Psychiatry (CIP: then known as the Post-graduate Training Centre of the Hospital for Mental Diseases), Ranchi. Similar training was also introduced at Ranchi Institute of Neuro-Psychiatry and Allied Sciences (RINPAS), Ranchi in the year 2000. Recently, subsequently more than one and half dozen centres have started above training programmes. The Rehabilitation Council of India (RCI) gives recognition to M.Phil training programmes in Clinical Psychology. In addition, residential doctoral programmes in Clinical Psychology are available at NIMHANS (Bangalore), CIP and RINPAS (Ranchi), PGIMER (Chandigarh) and AIIMS (New Delhi).

#### **Professional Role of the Clinical Psychologists:**

The Clinical Psychologists have been actively involved in their professional activities and responsibilities in different type of set ups. Majority of clinical psychologists have been serving in hospital and/or in academic medical institutions contributing their knowledge and skill mainly for the welfare of their patients and family members. In addition to this, they have been instrumental in helping the organizations to which they work for, to achieve its goals and objectives. Working and service conditions in most of the hospitals have been far from satisfactory. Though almost two generations of qualified Clinical Psychologists (though not a very large in numbers) have spent their life in the

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profession, however, we still have been lacking in terms of being able to carve our professional position at par with our other colleagues from different specialities.

Generally, we have been silent workers and have shied away from coming to limelight, why? May be that we believe that as a Clinical Psychologist, our role is confined to the hospital to school or the community, mainly focusing on psycho-diagnostics, therapeutics, research and rehabilitation etc. Very few Clinical Psychologists prefer to participate or even to volunteer to work as a team member in the administration and management of the organization (hospital or any other medical institution) they work with. Clinical Psychologists in India do not like to involve themselves in administrative responsibilities. International literature confirms the diminished appeal that managerial responsibilities hold for Clinical Psychologists. Contributions to policy formulations, programme development and implementation, training initiatives etc. are possible within a profession only if there are individuals with sound managerial experience. In the absence of such expertise, there may be a risk for profession in expansion of its horizon by way of creating new avenues and opportunities for upcoming clinical psychologists.

### **Hospital Administration:**

A hospital is an integral part of a social and medical organization, the function of which is to provide for the population's complete health care, both curative and preventive, and whose out-patient services reach out to the family and its home environment; the hospital is also a centre for the training of health workers and biosocial research.

Individual as well as group health has evolved as a product of human biology, environment, ways of interactions and living, economic status, psycho-social factors and health services. The society's health is influenced by the accessibility, affordability, quality, availability and utilization of health services.

In general, health services are the services provided by hospitals, health centres and nursing homes, apart from private practitioners. The care is provided through promotion of health, prevention of disease, early diagnosis and treatment, and rehabilitation.

No single agency can deliver the entire range of medical and health care. Achievement of health and medical care can best be a joint function of many professional groups of workers like medical personnel, nurses, para-medicals, health educators, public health engineer, and many others including human resource management, and other experts who share a common, unifying goal to serve the society in a better way.

With the wide range of coverage of different aspects of human welfare as part of health care, a hospital system has to be in a dynamic equilibrium with the wider social system. To run a hospital efficiently, management of hospital includes following components.

- Determination of goals and objectives
- Infrastructural facility and programme planning for better medical care
- Recruiting most suitable medical and paramedics
- Human resource development & management
- Financial management
- Coordination with different internal departments
- Educational and research development

Thus, at the hospital level the function of administration rests with the hospital administrator, variously called as chief executive officer, medical superintendent, director (administration), hospital director/ manager etc. Nevertheless, managing a hospital always involves partnership of medical, paramedical and nursing staff. The job of hospital administrator is to plan, to organize, to direct and to control, functions which are inherent to the job of every administrator. As a leader, he represents the organization to higher authorities and to the outside world.

Having to deal with multiple groups with conflicting interests, the demands on a top hospital administrators are almost unending. He must be flexible in his approach but should not compromise with the quality of care to attending patients. The good hospital administrator should be capable of understanding and interpreting medical, economic, functional and logistic matters and he must excel at personnel management.

Opinion is divided whether a hospital administrator should be a person of medical background or a non-medical person. For a long time, all types of hospitals were headed and administered by highly qualified medical professionals who had hardly any time, let alone the background, to devote to administrative functions.

In some western countries and recently in our country as well, some nonmedical persons, trained in hospital administration are functioning as hospital administrator / manager. There is now increasing realization that we need a good manager / administrators, not necessarily a medical person, to run the hospital or any medical care institution. Generally, in such set up, hospital administrator functions under the guidance and direction of the governing board, management committee, to mention a few.

Key Roles and Functions of Hospital Administrator:

- 1. Working with People:** Balance the goals of the hospitals by working with patient care teams where doctor is kingpin (who in turn work with others in rendering patient care). The hospital administrator develops a good team and understands workers, their motivations and aspirations, instill a sense of belongingness and responsibility among all the staff members. Further, administrator has to deal with the requirement of their clientele and their family members, who have to be dealt with dignity and respect. All the staff members must inculcate empathy for hospital service utilizers.
- 2. The Enabling Role:** One of the prime roles of administrator is to ensure the provision of necessary physical facilities and also to ensure that the supportive services are available in the right amount, of the right quality, and at the right time and place.
- 3. Staff Motivation:** Expensive facilities and equipment do not necessarily make for a good hospital; it is the people who operate them that make the hospital go. This is one of the most challenging functions of a hospital administrator where he has to develop measures to keep up motivation of all categories of staff, and be constantly on the look-out for cases of dissatisfaction and conflict. Conflict resolution is always a priority for hospital administrator. Coordination facilitates different groups in an organization and orchestrates their effort to achieve the common goal of good patient care and efficient hospital operation.
- 4. Facilitating Decision Making:** A hospital administrator plays most significant role in decision making. In fact, in-charge of every department/unit also functions as administrator but decision regarding upgradation or interdepartmental coordination is generally facilitated by hospital administrators.
- 5. Creation and Management of Resources:** All decision making is limited by the human and material resources the hospital has. Pressure and constraints on hospital administration is best seen when it comes to deciding between competency claims for man power and financial resource. The management examines the priority and then creates certain positions in the hospital to improve quantity and quality of care. The management also utilizes the additional administrative and management attributes of existing specialities of various levels. It is important to understand that the judgment of hospital administrator may not necessarily be superior to that of the experts who propose but his position is the most appropriate one from which to make it.
- 6. Negotiating:** The administrator functions as a bridge between the staff members and

service utilizers. Further, the administrators also negotiates with external agencies like insurance companies, regulatory agencies etc. in order to bring maximum benefit to hospital service utilizers as well as service providers. This also enhances the prestige of the institution.

**7. Establishing Conducive Environment:**

One of the key responsibilities of the hospital administrators is that of creating a conducive working environment. Each hospital has its own characters and “personalities” as people do. This phenomenon springs from values held by those who are part of the hospital. Sense of belongingness is one of the most important ingredients for inculcating conducive environment. Administrative personnel must be compatible with each other and with the organization.

**8. Management Development:** No one as administrator can manage the institute single handedly. Administrative and management responsibilities have to be decentralized and distributed at different levels so as to achieve best possible results. Work distribution with certain degree of autonomy paves the way for emergence of better managers/ administrations at different levels with certain degree of added sensitivity and accountability. The specialists and other staff members are encouraged to participate in various programme of courses and workshops to improve their managerial and leadership skills. In fact, the quality of patient care depends upon the quality of the hospital’s human resources, which in turn is determined by the quality of leadership at various levels. Again, understanding, knowledge, skills, attitude, aptitude and devotion are prerequisites of administration.

**9. Monitoring & Evaluation:** The ability to monitor and evaluate the duties of hospital personnel, various ongoing programmes

and activities and overall effectiveness on delivery of health care services is one of the major competencies the administrator has to develop. Evaluation also focuses on employee-clientele relationship and interpersonal behavior. In fact, continuous, ongoing, self-evaluation of the hospital leads to better quality assurance. Again administrators have to balance the conflicting requirement of looking after the hospital interests with social obligations.

**10. Other factors:** Besides above, hospital administrators also exercise their wisdom over financial matters through cost control, budgeting, dealing with new technology also judicious investment of hospital funds.

I am of strong view, that more and more clinical psychologists should come forward to participate in hospital administration/ management. This will give professionals a platform to gradually become the part of policy making functionary and to be able to learn executions of various administrative functions of the organization. The professionals in the capacity of hospital administrator / manager will have more say in creating and evolving better job perspective including better physical infrastructure, salary structures, more posts besides getting more opportunity to serve the community better. The course curriculum of the trainees should also include modern management skills and public administration or help that professionals to identify their possible additional role in the area of hospital administration/ management. We should not forget that any profession can't grow in isolation rather should be well integrated with the core organizational and administration.

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## Comprehensive Neuropsychological Rehabilitation to Improve the Quality of Life of Stroke Patients Suffering from Aphasia.

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### Abstract

Aphasia is the most striking cognitive sequels of strokes & attempts to rehabilitate patients have been undertaken for many years. Neuropsychological rehabilitation (NR) reduces the cognitive, emotional, psychosocial & behavioural deficits caused by an insult to the brain. Therefore, a Comprehensive NR (CNR) with aphasia therapy was designed and aimed to improve the language functioning of patients suffering from stroke. **Methodology:** On an OPD level, 5 cases of post stroke aphasia after 8 months to 1.5 years of stroke with education > 10 years, age 37 to 65 years were included. ABA design was used where neuropsychological assessment with Indian Aphasia Battery (IAB) assessing 5 domains. The CNR comprised of NR along with Aphasia Therapy. NR Sessions lasted for 4-8 weeks. **Results:** Wilcoxon sign rank test reveals that the neuropsychological assessment post CNR shows a marked improvement in the total IAB scores & Acoustic Problems. The other domains also show the effectiveness of the CNR with aphasia therapy which are clinically, but not statistically significant due to the small sample. **Conclusion:** Therefore, a larger sample size is needed to prove the effectiveness of this programme. A CNR with aphasia therapy can help in improving the language & quality of life of patients suffering from stroke.

**Key Words:** Aphasia, Neuropsychological Rehabilitation, Stroke, Neuropsychology

### INTRODUCTION

Stroke is the rapid loss of brain function due to disturbance in the blood supply to the brain. In India, stroke contributes 41% of deaths & 72% of disability adjusted life years amongst the non-communicable diseases (ICMR, 2004). It is estimated that the number of strokes will increase from 1,081,480 in 2000 to 1,667,372 in 2015 (Shah & Mathur, 2006). Aphasia is one of the most striking cognitive sequels of strokes & other cerebral lesions, & attempts to rehabilitate aphasic patients have been undertaken for many years. It is a language disorder that results from damage to the parts of brain that contain language. It causes problems with any or all of the following: reading, writing, listening, speaking. Neuropsychological rehabilitation (NR) reduces the cognitive, emotional, psychosocial, & behavioural deficits caused by an insult to the brain. It has to become an integral component of stroke rehabilitation strategy. Centered on a goal-

planning approach, it's a partnership of survivors of brain injury, their families, & professional staff who negotiate & select goals to be achieved. There is widespread recognition that cognition, emotion, and psychosocial functioning are interlinked, & all should be targeted in rehabilitation forming the basis of a holistic approach (Wilson, 2008). It aims at increasing independence, problem solving, attention, memory, language skills and decreasing supervision, future hospitalizations, further injuries & dependence on caregivers & payers.

Studies have shown that neuropsychological rehabilitation plays a crucial role in improving the cognitive & basic functioning in these patients. Pandey et al. (2009) observed the effect of cognitive rehabilitation in the stroke patients showing a significant improvement, in cognitive status after 9 month from the baseline value in both cases & controls. Regardless of the specific approach or area of intervention, cognitive

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rehabilitation services should be directed at achieving changes that improve each person's function in areas that are relevant to their everyday lives. In addition to specific cognitive deficits, physical and emotional disturbances as well as social support affect functional recovery. Comprehensive & holistic cognitive rehabilitation programs are necessary to improve daily life function in stroke patients (Alladi, 2002). From the findings reviewed on the impact of neuropsychological deficits on functional stroke outcomes it is clear that some aspects of neuropsychological functioning (e.g., presence of neglect, aphasia, anosognosia; & verbal memory and attention deficits) show promise as a means of predicting post stroke functional outcomes. This suggests that these areas of neuropsychological functioning may be targeted for rehabilitative efforts (Barker-Collo & Feigin, 2006). A study done to see the effectiveness of cognitive skill remediation in Acute Stroke Patients with the purpose to determine whether a cognitive skills remediation program could help acute stroke patients regain important thinking skills (Carter et al., 1983). Verbal comprehension correlated with overall ADL improvement, and overall cognitive skills improvement correlated with overall ADL improvement (Carter et al., 1988).

The lacunae after review of national and international studies showcase that there is very limited work and study done on comprehensive neuropsychological rehabilitation in aphasia following stroke. The incidence level of stroke & the neuropsychological deficits related to it are very high in our country. That is why it is very important to holistically deal with stroke & its accompanying impairments. There is a need to develop a more comprehensive neuropsychological rehabilitation programme which will help in overcoming the neuropsychological deficits associated with aphasia following stroke. As work done in other countries cannot be adapted as such in the Indian context, the requirement to deal with this area is urgent. It's also important to develop

neuropsychological rehabilitation program for illiterates along with the literate population. A comprehensive neuropsychological rehabilitation with aphasia therapy is the need of the hour for our country for overcoming the neuropsychological deficits following stroke which will in turn help in improving the overall quality of life & psychosocial wellbeing of the stroke survivors of the country.

Therefore, a comprehensive neuropsychological rehabilitation (CNR) with aphasia therapy is needed to help the patients suffering from post-stroke aphasia to improve daily life function in stroke patients.

#### **METHOD**

The aim was to study the effectiveness of Comprehensive Neuropsychological Rehabilitation (CNR) for improving the Language & Quality of Life of patients with post-stroke aphasia.

#### **Sample Characteristics:**

The sample constituted of 5 patients (on an OPD level):

- Age Range: 37 to 65 years
- Gender: Both Males & Females
- Any Education level
- Language: Both Hindi and/or English
- Handedness: Right

#### **Inclusion Criteria:**

1. Patients suffering ischemic or haemorrhagic stroke diagnosed by National Institute of Neurological Disorders and Stroke (NINDS) (1999) along with language problems.
2. All consenting patients
3. Care giver (taking up the role of home based therapist) is available who has frequent contact with the subject (e.g. an average of 10 hours per week or more), and can accompany the subject to all clinic visits for the duration of the rehabilitation program.

#### **Exclusion Criteria:**

1. Any medical condition limiting life expectancy

2. Any major neurological disorder affecting cognition
3. Any major psychiatric disorder
4. Use of psychoactive drugs
5. Active participation in other stroke recovery trials testing experimental intervention about cognition.

The effectiveness of the CNR was seen by the change in scores of the neuropsychological assessment both pre & post CNR. A-B-A design was used where A is the pre assessment, B is rehabilitation and A is the post assessment. The patients were assessed before & after the CNR where neuropsychological assessment was done by Indian Aphasia Battery (IAB) assessing all language areas, from perceptual (auditory, visual, & gestural), processing functions (comprehension, analysis, problem-solving) to response modalities (writing, articulation, manipulation) for specific prognosis. It has 5 domains namely, acoustic problems, speech & language problems, simple mathematical problems, visual & reading problems, perceptuo-motor & writing problems (Nehra & Pershad, 2012). In addition, the patients were asked to rate the quality of life on a subjective 10 point likert scale before & after the CNR.

The CNR with aphasia therapy comprised of NR which included cognitive retraining for memory, executive functioning & attention with basic & functional skill retraining. 4 to 8 weeks of CNR with aphasia therapy, were based upon the goal setting (SMART goals) approach. It ensures that goals are:- S - Specific, M - Measurable, A-Attainable, R - Realistic / Resourced, and T - Timely & Time handed. This provided a structure for the brain-injured person & allowed both the survivors & therapist to monitor progress to see improvements (McMillan & Sparks, 1999). Neuropsychological Rehabilitation involved Basic Skill Retraining, Functional Skill Retraining, Cognitive Rehabilitation for attention & concentration, memory, & executive functioning, Response Inhibition, Supportive Family & Individual Therapy. Basic Skill &

Functional Skill Retraining has its origins in rehabilitation. Physical & Occupational therapists often use this approach to retrain patients. These treatment goals are tailored to enhance the individual's ability to function as independently as possible in the least restrictive settings. The end result of the therapy must be to improve the quality of life & real life skills (Wilson, 2002). Cognitive Rehabilitation aimed at retraining the cognitive abilities like attention & concentration, executive functioning & memory. Retraining of attention & concentration included symbol cancellation tasks focussed on sustained, selective, alternating & divided attention. Retraining of Executive functioning will include self-awareness, goal setting, self-inhibition, planning & organization, self-monitoring, & flexible problem solving with tasks such as solving mazes. Memory retraining involves orientation, encoding, storage, consolidation & recall with tasks where the patient had to free recall the list of words presented by the therapist & or caregiver (Wilson, 2002).

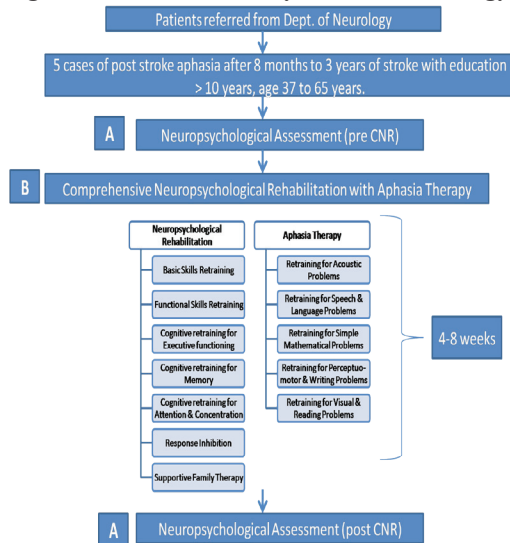
The Aphasia Therapy aimed at improving the speech & language problems which the patient is suffering. It included tasks like following commands, tongue & lip exercises, exercises for preparing the muscles for speech, words of increasing difficulty, time telling exercises, telling the names of family members, and so on (Stryker, 1975). The aphasia therapy was designed which focussed on retraining of acoustic problems, speech & language problems, simple mathematical problems, visual & reading problems, perceptuo-motor & writing problems with tasks like following commands, tongue muscles and mouth exercises, telling the time, making phone calls, words of increasing difficulty, and jumbled sentences.

The retraining tasks were designed in increasing order of difficulty for the stroke survivors and a new module was introduced after attaining the flooring effect. A pilot tryout on healthy normal individuals was carried out for selecting the items of the rehabilitation



modules in increasing order of difficulty. A fixed approach was used i.e. all the stroke survivors who are a part of the CNR will undergo the same rehabilitation modules. Individual & family counselling were a part of the CNR throughout to motivate & counsel the patients & and the caregivers. The duration of the CNR was dependent upon the improvement in the patients. (See Figure 1)

**Figure 1: A Brief Summary of the Methodology:**



**RESULTS**

**Table 1 : Statistical Analysis of Neuropsychological Assessment Pre & Post CNR**

Domains	Pre	B	Post	P value
	Median(range)		Median(range)	
Acoustic Problems (AP)	13 (1.9-90.5)	Comprehensive NR (CNR) with aphasia therapy	5 (0.00-52.8)	0.04*
Speech & language problems (SLD)	63.10(0-80.5)		8.00 (0.00-4.6)	0.14
Simple mathematical problems (SMP)	28.00(0-100)		0.00 (0-4)	0.06
Visual & Reading problems (VRD)	43.00(2-100)		6.80 (.00.9)	0.22
Perceptuo-motor & writing problems (PMWP)	38.00(0-51.1)		11.00(0-31.1)	0.06
Global Aphasia Quotient (Total IAB)	47.77 (.7-77)		6.60 (0-48)	0.04*

\*Significant at 0.05 level

Table 1 shows the statistical analysis of the neuropsychological assessment done before and after the comprehensive neuropsychological rehabilitation with aphasia therapy. Non Parametric test i.e. a Wilcoxon sign rank test was used for the statistical analysis. The results reveal statistically significant results on acoustic problems (p= 0.04\*) and on the total of all the domains of IAB i.e. the global aphasia quotient (p=0.04\*). Though the statistical analysis for other domains doesn't reveal statistically significant results but are of clinical importance as the change in the median when compared with pre & post test scores is a lot. For simple mathematical problems (p=0.06) and perceptuo-motor & writing problems (p=0.06) the change in the test scores is also close to the level of statistical significance.

**Figure 2: Graphical Representation of the change in Median of Neuropsychological Assessment Scores Pre-Post CNR**

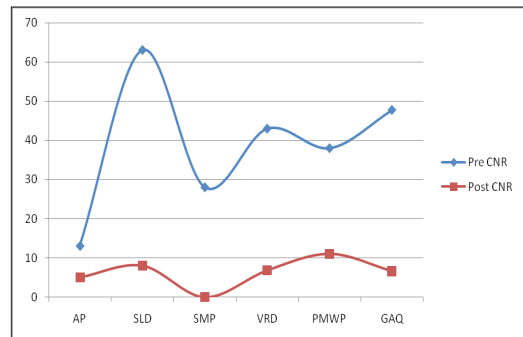


Figure 2 represents the change in the median of the neuropsychological assessment pre & post CNR with aphasia therapy. The neuropsychological assessment done on IAB before the CNR with aphasia therapy is indicative of high test scores showing greater percentage of impairment whereas the post CNR with aphasia therapy scores show less percentage of impairment after the rehabilitation.

**Table 2: Individual Pre & Post Neuropsychological Assessment Scores**

Case	Date Of Onset	Date of CNR	No. of Sessions	A. Neuropsychological Assessment (Pre)		A. Neuropsychological Assessment (Post)	
				Domains	% of Impairment	% of Impairment	
1	17-08-2010	26-08-2013	6	Acoustic Problems (AP)	45.2	Comprehensive Neuropsychological Rehabilitation with Aphasia Therapy (CNR)	28.3
				Speech & Language Problems (SLD)	63.1		51.4
				Simple Mathematical Problems (SMP)	52		24
				Visual & Reading Problems (VRD)	100		63.6
				Perceptuo-motor & Writing Problems (PMWD)	44.4		31.1
				Global Aphasia Quotient (Total IAB)	61.4		44
2	06-06-2012	25-07-2013	4	Acoustic Problems (AP)	13	4	
				Speech & Language Problems (SLD)	7	8	
				Simple Mathematical Problems (SMP)	4	0	
				Visual & Reading Problems (VRD)	11	6.8	
				Perceptuo-motor & Writing Problems (PMWD)	22	11	
				Global Aphasia Quotient (Total IAB)	11.48	6.6	
3	01-04-2012	26-06-2013	4	Acoustic Problems (AP)	1.88	0	
				Speech & Language Problems (SLD)	0	0	
				Simple Mathematical Problems (SMP)	0	0	
				Visual & Reading Problems (VRD)	2.22	0	
				Perceptuo-motor & Writing Problems (PMWD)	0	0	
				Global Aphasia Quotient (Total IAB)	0.74	0	
4	05-04-2012	19-10-2012	8	Acoustic Problems (AP)	8	5.6	
				Speech & Language Problems (SLD)	73	4.8	
				Simple Mathematical Problems (SMP)	28	0	
				Visual & Reading Problems (VRD)	43	6.8	
				Perceptuo-motor & Writing Problems (PMWD)	38	6.6	
				Global Aphasia Quotient (Total IAB)	47.77	5.18	
5	13-09-2013	27-09-2013	3	Acoustic Problems (AP)	90.5	52.83	
				Speech & Language Problems (SLD)	80.5	64.56	
				Simple Mathematical Problems (SMP)	100	64	
				Visual & Reading Problems (VRD)	65.9	90.9	
				Perceptuo-motor & Writing Problems (PMWD)	51.1	31.11	
				Global Aphasia Quotient (Total IAB)	77	47.59	

NOTE: Compare findings: Higher the test scores, more the level of impairment. 0-10% indicative of minimal or no impairment.

**Case 1:**

Mr. R K, a B S F jawan aged 37 years, male, 10th pass who was diagnosed with an ischemic stroke in the MCA territory on 17th August 2010 (NINDS criteria, 1999). After 3 years post stroke, patient had come on 26th August 2013 with presenting problems of speech & language deficits, memory & attention deficits, feelings of sadness, increased anger and irritability for the CNR with aphasia therapy. Before the CNR, the neuropsychological assessment on IAB showed 45.2 % impairment in AP, 63.1% impairment in SLD, 52% impairment in SMP, 44.4 % impairment in PMWP, 100 % impairment in VRD and 61.4 % impairment on the Global Aphasia Quotient (GAQ) indicative of moderate impairment in language functioning. On the visual analogue scale the patient reported severe impairment in quality of life (QOL) After 6 sessions of CNR with aphasia therapy, the patient showed marked improvement with reduced impairment in AP (28.3%), SLD (51.4%), SMP (24%), PMWP (31.1%), VRD (63.6%) and GAQ (44%) which is indicative of mild to moderate impairment in language functioning. On the visual analogue scale the patient reported mild to moderate impairment.

**Case 2:**

Mr. MH, a businessman, male, graduate, aged 48 years diagnosed with left MCA territory ischemic stroke on 6th June 2012 (NINDS criteria, 1999) with presenting problems of speech & language, major deficits in attention & concentration, difficulty in handling cash, writing difficulties, slight memory deficits, increased irritability and slow informational processes such as decision making and comprehension problems. The CNR with aphasia therapy was started after 1 year of stroke on 25th July 2013 where the pre CNR test scores on IAB reveal an impairment of 13% on AP, 7% on SLD, 4% on SMP, 22% on PMWP, 11% on VRD and the 11.48% on GAQ indicative of mildly impaired language functioning. The visual analogue scale showed moderate impairment in QOL. After 4 sessions of CNR with aphasia therapy,

the patient showed marked improvement with the reduced impairment in the test scores of IAB. 4% impairment in AP, 8% in SLD, 0% in SMP, 11% in PMWP, 6.8% in VRD and 6.6% impairment in GAQ indicative of no to mildly impaired language functioning. On the visual analogue scale the patient reported no impairment in QOL from moderate impairment in QOL before the CNR.

**Case 3:**

Mr.RKD, a retired government official, male, aged 65 years; post graduate had a stroke on 1st April 2012 (NINDS criteria, 1999) with presenting subjective problems of speech difficulties, memory & attention deficits, depression, increased irritability and anger & difficulty in writing. The CNR with aphasia therapy was started on 26th August 2013 i.e. post 1 year of stroke. The pre assessment test scores revealed an impairment of 1.88% on AP, 0% on SLD, SMP & PMWP, 2.22% on VRD and 0.74 % on GAQ which is indicative of no impairment in language functioning. The visual analogue scale revealed moderately impaired QOL. The CNR with aphasia therapy for this patient targeted on response inhibition tasks such as colouring, activity scheduling, relaxation therapy, individual and family therapy, retraining of perceptuo-motor & writing problems, symbol cancellation tasks, mazes, recall from lists and so on. With no dysfunctioning in language, the major focus of the rehabilitation was on rehabilitation of the psycho-social deficits the patient was facing majorly post-stroke depression which was a major cause behind the moderately impaired QOL and memory deficits. Studies suggest that remission of post stroke depression over the first few months after stroke is associated with greater recovery in ADL function than continued depression. A positive effect on the rehabilitation outcome of stroke patients is seen if post-stroke depression is handled (Chemerinski et.al, 2001). After 4 sessions of CNR with aphasia therapy, the test scores reveal 0% impairment in all the domains and no

impairment in the QOL on the visual analogue scale.

The above 3 cases highlight the importance and effectiveness of delayed NR post injury even after 1 to 3 years from the date of ictus. Review is supportive of improved functioning even after delayed rehabilitation post injury (Bowen et.al, 2001; Lincoln et.al, 2000).

**Case 4:**

Mr. RN, a tour guide, aged 45 years, male, graduate diagnosed with an ischemic stroke on 5th April 2012 (NINDS criteria, 1999) with presenting problems of speech difficulties, not able to comprehend, attention problems & increased irritability. The patient came for CNR with aphasia therapy on 19th October 2012 i.e. 7 months post stroke. On pre assessment test scores, 8% impairment in AP, 73% in SLD, 28% in SMP, 38% in PMWP, 43 % in VRD and 47.77% in the GAQ which is indicative of moderately impaired language functioning. On the visual analogue scale, severe impairment in QOL was seen. After 8 sessions of CNR with aphasia therapy, the patient showed marked improvement with the reduction in impairment to 5.16% in AP, 4.8 % in SLD, 0% in SMP, 6.6 % in PMWP, 6.8 % in VRD and 5.18% in GAQ which is indicative of no or minimal impairment. On the visual analogue the patient reported no impairment in the QOL.

**Case 5:**

Mr. PS, a teacher, male, aged 46 years, post graduate diagnosed with a left MCA territory ischemic stroke on 13th September 2013 (NINDS criteria, 1999) with presenting problems of major speech and language problems, not able to comprehend, speak memory & attention deficits, increased irritability & anger, difficulty in reading & writing. The CNR with aphasia therapy was started on 27th September 2013 (immediately after stroke). The pre assessment test scores on IAB reveals an impairment of 90.5 % in AP, 80.5% in SLD, 100% in SMP, 51.1% in PMPW, 65.9 % in VRD and 77% in GAQ indicative of severe impairment in language

functioning. On the visual analogue scale, severe impairment in QOL was reported. After 3 sessions of CNR with aphasia therapy, there was a marked improvement in test scores with reduced impairment to 52.83% in AP, 64.56% in SLD, 64% in SMP, 31.11% in PMWP, 90.9% in VRD and 47.59 % in GAQ which is indicative of moderately impaired language functioning. On the visual analogue scale also improvement was seen with mildly impaired QOL.

The above two cases (Case 4 & 5) of early NR highlight the importance of early rehabilitation which helps in better and early recovery of the patient along with the spontaneous recovery period (Paolucci et.al,2000; Prigatano, 2000; Cramer, 2008). Early NR post stroke helps in better prognosis and quality of life of the patients.

It's necessary to deal with the language problems along with the cognitive deficits the patient suffers from after stroke. Hence, this paper analyzes the importance of a comprehensive neuropsychological rehabilitation along with aphasia therapy not just cognitive rehabilitation of post stroke patients. Holistic & comprehensive neuropsychological rehabilitation aimed at improving the language function and quality of life help in better recovery of the patients. Therefore, it is the need of the hour to reduce the language dysfunctioning along with the cognitive deficits in the patients suffering from post-stroke aphasia for improving their quality of life.

## **DISCUSSION**

The aim of the present study was to see the effectiveness of a Comprehensive Neuropsychological Rehabilitation with Aphasia Therapy for patients suffering from post-stroke aphasia on an OPD level. For this purpose 5 patients suffering from post stroke aphasia were taken for the rehabilitation program on an OPD level. The consent from all the patients was obtained. The improvement in the patients can be seen in the results above. The change in the median of the neuropsychological test

scores (see Table 1 & Figure 2) shows clinically significant results from pre to post CNR, thus, showing its effectiveness on patients suffering from post-stroke aphasia. The results as seen in table 1 show that the change in the median from pre to post CNR in the acoustic problems & on the global aphasia quotient i.e. on the total of all the domains of IAB are statistically significant. Though, the other domains simple mathematical problems and perceptuo-motor & writing problems fall close to the level of statistical significance and therefore are of clinical importance. Speech & language problems, visual & reading problems are also clinically significant as the change in the median from pre to post CNR with aphasia therapy is a lot. It can be said that the effectiveness of the CNR with aphasia therapy is seen by the marked reduction in the percentage of impairment after the CNR with aphasia therapy & also improvement in the quality of life on a visual analogue scale of a 5 point likert scale where 0 is no impairment and 5 is severe impairment. Single case results are discussed below highlighting the duration & method of the CNR with aphasia therapy & its effectiveness:

## **Limitations and Future Directions:**

A larger sample size is needed to generalize the results. Other factors such as vascular dementia also need to be taken care of. Randomized controlled clinical trials could also be helpful in proving its efficacy by having early and delayed intervention groups. Use of music therapy could also aid in better recovery of the patients.

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## **Prevalence of Behavioural Problems in School Going Children of Tezpur City, Assam**

**Maitrayee Dutta<sup>1</sup>, Masroor Jahan<sup>2</sup>, and Ranjan Kumar<sup>3</sup>**

### **ABSTRACT**

A cross-sectional study on school students was carried out to find out prevalence and pattern of behavioural problems in school going children of Tezpur City, Assam. Students were drawn from classes KG to VI from 9 English medium schools of Tezpur, Assam, India. One Thousands Five Hundred Fourteen school children assessed using Revised Behaviour Problem Checklist (Quay & Peterson, 1980) which was to be completed by the class teachers to explore the prevalence and patterns of behavioural problems in school going children. A total of 480 (30.8%) children were found having behavioural problem. Prevalence of various disorders ranged between 7.90 to 16.78%. Highest prevalence was found on Anxiety withdrawal followed by Socialized aggression, Attention problems-immaturity, Conduct disorder, Psychotic behaviour and Motor tension-excess.

**Key words:** Behavioural Problem, Prevalence, Epidemiology

### **Introduction**

Behavioural problems are among the most prevalent chronic health conditions of childhood and often have serious negative consequences for a child's academic achievement and social development. About half of all lifetime mental disorders begin before the age of 14 years (Patel, 2007).

In India, children and adolescents constitute 40%- 44% of over 1.21 billion people (2011 census). The prevalence studies of behavioural problems in children usually include attention deficit hyperactivity disorder, anxiety, depression, learning problem, conduct disorder, eating disorder, autism and schizophrenia. According to World Health Organization (2001), in India, 15% of children have serious emotional disturbance. According to ICMR 2001 report, overall prevalence of mental and behavioural disorder in Indian children was 12.8%. In India, epidemiological studies have identified diverse rate of prevalence of behavioural problems in school based studies which ranged from 9.7% (Jiloha & Murphy, 1981) to 43.1% (Vardhini, 1983). Srinath et al. (2005) found 12.5 % prevalence rate of psychiatric problems in the 4

to 16 year old children. Tirkey & Jahan (2007) found 5.17% behavioural problem in school going children in a cross sectional explorative study. Prakash et al. (2008) found that 42 % of children scored above the cut off score on childhood behaviour check list. Similar finding was observed in a school based cross-sectional study conducted on 1150 adolescents in 12 to 18 year age group in grades 7 to 12 in 10 schools (co-educational). Results show that prevalence of behavioural and emotional problems in adolescents was 30%; girls exceeding boys in all age groups (Pathak et al., 2011). On the other hand, Sarkar et al. (2012) found that prevalence of depressive disorder was 3.13%. In a recent study Khairkar et al. (2013) found overall prevalence of psychiatric disorders as 20.8 % in hospital prevalence of child and adolescent psychiatric disorders from central India.

Various studies have been conducted in urban area and local areas in India. Findings show that problem behavior is higher in urban areas (Sethi et al., 1967) in comparison to rural areas (Sethi et al., 1972; Nandi et al., 1975). Prevalence studies conducted in India and abroad context showed similar variability.

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Waddell et al. (2007) reported that international prevalence rate also vary for child and adolescent mental disorders between 10%-20%, with similar types of disorders seen across cultures.

Identification of mental health problems of children is very important so that actual nature and severity of problem can be understood at early age. Very few epidemiological studies have been done in the North Eastern part of India. Hence, prevalence studies are important of initiate the school mental health programme in this region.

## **MATERIAL & METHODS**

### **Sample:**

This cross-sectional study was carried out in the urban area of Tezpur. To exclude biasness in the sample, total nine schools were selected by lottery method and respondents of this study were class teachers. Information was collected from the respective class teacher because class teacher can closely observe child's behaviour for a long time. Since children spend a significant portion of their awaking hours in schools, teacher can give a detail description of child behaviour in the school set-up. In this it was not possible practically to collect information from the parents because sample was large, hence, information was collected only from teachers in school. Sample of this study was selected from the English medium school of Tezpur city and respondents were class teachers of respective classes. There were total fifteen English medium schools in the city area of Tezpur. Students are coming not only from Tezpur, but also from neighbouring areas of this place. Study was conducted in total nine schools. Students of both sex between 5 years and 12 years, from class KG to VI standard were included in this study. Total number of children was 1558 and information was taken for 1514 children who fulfilled following inclusion and exclusion criteria. Children those who attending special school, history suggestive of major psychiatric disorder and substance dependence,

children having consistently poor academic record and children with diagnosis of mental retardation were excluded. Table 1 shows that out of 1514 children 897 (59.25%) were boys and 617 (40.75%) were girls. Their age ranged between 5 to 12 years. Majority of them were Hindu (87.05%) and belonged to urban locality (70.4%). Most of children were 1st (32.36%) or 2nd born child (34.14%).

### **Tools:**

**Socio-demographic Data Sheet:** It was prepared to collect socio-demographic details of children. It contained information about socio-demographic variables like sex, age, education, religion, locality, birth-order.

**Revised Behaviour Problem Checklist (Quay & Peterson, 1980).** The RBPC is the revised version of the Behaviour Problem Checklist that was published in 1977 by Herbert Quay and Donald R Peterson. This checklist is used for school children, children from kinder garden to high-school and approximately corresponds to the age 5-16 years. There are 89 items that are rated on 3 point scale with response, not a problem, mild problem, severe problem. The items of RBPC are scored on 6 scales derived from factor analysis in clinical sample, which are labeled as conduct disorder, socialized aggression, attention problems-immaturity, anxiety-withdrawal, psychotic behaviour and motor tension-excess. The test-retest reliability of RBPC across a 2 month interval ranged 0.68 to 0.95.

### **Procedure:**

Principals of the selected schools were contacted and permission was sought to undertake the study in their schools. A group meeting was conducted with all the class teachers from class KG to VI and Revised Behaviour Problem Checklist was discussed in detail. The class teacher observed the child closely for one week and responded on Behaviour Problem Checklist. Socio-demographic information was recorded on Socio-demographic Data Sheet.



**Statistical Analysis:**

The data was statistically analyzed with the help of SPSS V.10. Data was described in terms of number and percentage.

**RESULTS**

**Table 1. Showing Socio-demographic Characteristics of Children.**

Variable		N	Percentage
Sex	Boy	897	59.20
	Girl	617	40.80
Age (in years)	5	332	21.93
	6	165	10.90
	7	209	13.80
	8	222	14.70
	9	151	10.00
	10	172	11.40
	11	123	8.10
	12	140	9.26
Religion	Hindu	1318	87.05
	Muslim	124	8.20
	Christian	70	4.63
	Others	2	0.12
Locality	Rural	448	29.60
	Urban	1066	70.40
Grade	KG	246	16.25
	I	254	16.78
	II	211	13.94
	III	238	15.72
	IV	217	14.33
	V	197	14.01
	VI	157	10.07
Birth-order	1 <sup>st</sup> born	490	32.40
	2 <sup>nd</sup>	517	34.10
	3 <sup>rd</sup>	129	8.50
	4 <sup>th</sup>	33	2.30
	5 <sup>th</sup>	11	0.70
	6 <sup>th</sup>	5	0.30
	Only child	329	21.70

**Table 2: Showing Prevalence of Disorder**

Disorder	No Problem		Problem	
	N	%	N	%
Conduct disorder	1362	89.96	152	10.04
Socialized aggression	1293	85.40	221	14.39
Attention problem	1294	85.46	220	14.53
Anxiety withdrawal	1260	83.22	254	16.77
Psychotic behaviour	1391	91.87	123	8.12
Motor tension excess	1394	92.07	120	7.92

To assess the prevalence and severity of disorder Revised Behavior Problem Checklist was administered. The severity of problem behavior was categorized into “No problem”, “Mild Problem” and “Severe problem” on the basis of the score given in the manual of the checklist. Result of prevalence is given in the Table 2. The prevalence of various disorders ranged between 7.92 to 16.77%. Highest prevalence was found in Anxiety withdrawal (16.77%) followed by Attention problem (14.53%), Socialized aggression (14.39%), Conduct disorder (10.04%), Psychotic behavior (8.12%) and finally Motor tension excess (7.92%).

Severity of disorder is given in Table 3. Highest severity of disorder was in Socialized aggression (4.30%) followed by Anxiety withdrawal (2.60%), Attention problem (2.50%), Conduct disorder (2.37%), Motor tension excess (1.58%) and Psychotic behaviour (1.32%). In mild level Anxiety withdrawal (14.13%) was found to be most followed by Attention problem (12.02%) and Socialized aggression (10.30%).

**Table 3: Showing Severity of Disorder**

Disorder	No problem		Mild problem		Severe problem	
	N	%	N	%	N	%
Conduct disorder	1362	89.96	116	7.66	36	2.37
Socialized aggression	1293	85.40	156	10.30	65	4.30
Attention problem	1294	85.47	182	12.02	38	2.50
Anxiety withdrawal	1260	83.22	214	14.13	40	2.60
Psychotic behavior	1391	91.87	103	6.80	20	1.32
Motor tension excess	1394	92.07	96	6.34	24	1.58

**Table 4: Showing Result of Stepwise Multiple Regression**

Behavioural Problem	Sig. Predictor	R	R Square	Adjusted R square	Std. error of estimate	Standard Beta Coefficient
Conduct Dis.	age	.149	.022	.022	.3912	.149
Socialized Aggression	Age	.104	.011	.010	.4866	.104
	Sex	.136	.018	.017	.4849	.087
Attention Problem	Sex	.070	.005	.004	.4369	.070
Anxiety Withdrawal	Sex	.176	.031	.030	.4506	.176
	Age	.185	.034	.033	.4501	.055
Psychotic Behaviour	Age	.051	.003	.002	.3344	.051
Motor Tension Excess	Age	.079	.006	.006	.3423	.079

Stepwise multiple regression was done to find out socio-demographic predictors of various disorder. Age, sex, locality and birth-order were entered for analysis. Table 4 shows that for Conduct disorder, age emerged significant predictor (Standard Beta coefficient .149). Age and sex emerged as predictors for Socialized Aggression (Standard Beta coefficient .104 and .087 respectively). For Attention Problem sex was significant predictor of prevalence (Standard Beta coefficient .707). For Anxiety Withdrawal significant predictor was found to be sex and age (Standard Beta coefficient .176 & -.055 respectively). For Psychotic Behaviour age was significant predictor (Standard Beta coefficient .051). Age (higher in children of older age group) was significant predictor for Motor tension excess (Standard Beta coefficient .079). Overall, findings suggest that age (higher in children of older age group) was predictive factor for Conduct Disorder, Socialized Aggression, Anxiety Withdrawal and Psychotic Behaviour. Sex (more in girls) was significant predictive for Attention Problem immaturity, Motor tension excess.

## DISCUSSION

This study was conducted in the urban schools of Tezpur city and nine schools were selected by lottery method for the study. Total 1514 children were included who were between are range 5 years and 12 years. . Out of 1514 children 897 (59.25%) were boys and 617 (40.75%) were girls. To find out behavioural problem among children Revised Behaviour Problem Checklist was administered. There were 6 scales in this checklist, namely, conduct disorder, Socialized aggression, Attention problems-immaturity, Anxiety-withdrawal, Psychotic behaviour and Motor tension-excess. to find out prevalence, disorder/ problems were categorized as 'No Problem' and 'problem', and for severity it was categorized as 'no problem', 'mild problem' and 'severe problem'.

Results show that prevalence rate of behaviour problems was 30.8% in school going

children. Prevalence of various disorders ranged between 7.92 to 16.78%. Highest prevalence was found on Anxiety withdrawal (16.78%) followed by Socialized aggression (14.60%), Attention problems-immaturity (14.50%), Conduct disorder (10.04%), psychotic behaviour (8.10%) and Motor tension-excess (7.90%). Similar results had been reported in many earlier studies (Vardhini, 1983; Prakash et al., 2004, 2008; Sarkhel et al., 2006; Khairkar et al., 2013).

Anxiety withdrawal (16.78%) was most prevalent disorder in this study. Tirky and Jahan (2007) also reported similar findings. Finding shows that anxiety withdrawal was more prevalent in girls. Socialized aggression (14.60%) was also found more in this study which is correlated with the previous study of Tirky and Jahan (2007).

On the basis of review of literature socio demographic variables, namely, sex, age, locality, birth order were selected and analysis was done to find out prevalence and severity of disorder according to these variables, sex and age emerged as predictive factor for behavioural problems. Boys scored more in the areas of conduct disorder, attention problems-immaturity, anxiety-withdrawal and motor tension-excess in severe level. In previous studies also boys showed behavioural problem in comparison to girls (Shenoy et al., 1996; Hiremath et al., 2008).

In the present study externalizing problems namely, conduct disorder (3.13%), attention problem-immaturity (3.23%), motor tension-excess (1.60%), socialized aggression (11.40% in mild level) were found more among boys. On the other hand, girls scored more in internalizing disorder (anxiety-withdrawal, 11.83%). In general, boys showed more externalizing problems and girls showed more internalizing problems (Zwaansuijk et al., 2003).

Age was significant predictive variable for behavioural problem in this study. Problem like conduct disorder, socialized aggression, attention problems-immaturity and anxiety-withdrawal were found in the age of 12years.

Higher prevalence in 12-13 years old children was reported in previous studies also (Luciana et al., 2008; Morita et al., 1993).

To summarize, prevalence of behavioural problem was found 30.8% in school going children. Most common disorders were socialized aggression, attention problem-immaturity, anxiety-withdrawal and conduct disorder.

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## **Adapting Cognitive Behaviour Therapy for India: Potential Barriers and Possible Solutions**

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### **Abstract**

Although Cognitive Behaviour Therapy (CBT) is a part of the training on several mental health training programmes and a course has been developed in Chennai there is a considerable unmet need for this therapy in Indian mental health services. This paper describes the context for developing CBT training course and feedback from trainees of the second wave of training as to what they believe are the likely barriers to developing this therapy in Indian mental health services. Fourteen participants in a week long CBT training programme were asked to complete a semi-structured questionnaire regarding likely barriers to developing this therapy. Participants identified the availability of supervision, the need for training which emphasised practical skills over theoretical knowledge and the need for wider institutional support at local, state and national level as likely barriers. Developing training courses and promoting CBT as a credible option in major presenting mental health problems in all these domains was seen as crucial in developing this model in India. It was concluded that Good links with UK training courses are currently being developed which will support Indian mental health workers to develop and adapt this model in the Indian context.

### **INTRODUCTION:**

In his Presidential address to the Indian Psychiatric Association Mohandas (2009) was clear that ‘the time is right to initiate skill development in Cognitive Behaviour Therapy and other non-pharmacological management strategies’ reflecting a growing interest in developing a skilled workforce capable of providing high quality evidence based psychological therapies within India.

Although there are high quality training programmes for Psychiatrists, Clinical Psychologists and Mental Health Nurses coverage of CBT on these is variable and there is only one newly established dedicated CBT training course in India run by the CARE Institute of Behaviour Sciences in Chennai which has trained a total of 24 people on an introductory 5 day training programme to be followed by a further 5 days of disorder specific teaching (detailed in Beck et al 2012 in press). There are clearly limited opportunities for in-depth training, supervision and continuing

professional development in CBT for interested mental health workers. This paper outlines the context for the provision of CBT in India, information about the newly established CBT training course and reports results of a semi-structured questionnaire completed by course participants into the likely barriers in developing this therapy in India.

### **Indian Mental Health Services in Context:**

Mohandas (2009) summarised the current state of services in India and demonstrated a considerable shortfall in the provision of mental health services in free to use public hospitals and summarised that the shortfall was unlikely to be made up by private mental healthcare.

Rates of mental health problems in Indian community samples are at least equivalent to those found in studies in the UK. For example Poongothai, Pradeepa, Geneshan and Mohan’s (2009) study looking at a sample of over 25,000 people found that 15.1% of the sample met clinical criteria for depression using a modified

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Public Health Questionnaire (16.3% of female, 13.9% of males). Higher rates of depression were identified amongst the poorest (19.3%) compared to wealthy (5.9%) the divorced (26.5%) and widowed (20%) compared to the married (15.4%).

Patients presenting with a wide variety of depressive and anxious features are likely to benefit from CBT as a first line of treatment and the experience in the UK is that developing appropriate services to meet these needs is cost effective in terms of reduced rates of absenteeism from work and reduced economic productivity (Layard et al.,2006).

### **Cognitive Behaviour Therapy in India:**

Kuruvilla's (2010) paper summarises publications relating to cognitive and behavioural therapies in the Indian Journal of Psychiatry. The first paper identified in this literature review was published in 1952 and titled 'Pavlov's influence on Psychiatry'. Kuruvilla reviewed 42 papers published between 1952 and 2009. Topics covered in these papers include sexual dysfunction, obsessive compulsive disorders, writers cramp, anxiety neurosis, tension headaches, trichotillomania, alcohol misuse and psychosis. Four papers, 7% of the total published, used behaviour therapy in the treatment of disorders of sexual preference, specifically male homosexuality which was illegal in India until 2009. The most recent paper was in 1983, suggesting that the pathologisation of homosexuality in Indian mental health settings has reduced in recent years. There was also a case report published in 1995 using behavioural approaches for a man with gender identity problems. The majority of the papers were of Behaviour Therapy rather than Cognitive Behaviour Therapy and the excessive use of aversive therapy techniques across all disorders is noted in the paper. Kuruvilla highlights the paucity of original research in CBT in India and concludes that 'even after 57 years of co-existence, the relationship between Behaviour Therapy and Indian Psychiatry remains a tenuous one.'

One landmark study published by Manjula

et al. (2009) was a high quality randomised control trial (RCT) of treatment for Panic Disorder. The study compared manualised CBT and BT interventions using a sample of 30 subjects who met ICD-10 criteria for Panic Disorder with or without depression. The sample included participants who spoke English and the local language of the state where the research was undertaken. An impressive range of measures was used to obtain information about the severity and impact of the panic plus cognitive appraisals associated with the disorder. Both groups demonstrated marked improvement at follow up however the CBT group showed significantly more improvement on most measures. This research demonstrates both that CBT can be used successfully to treat common presenting problems in an Indian mental health context and that there is the infrastructure and expertise to support rigorous research into CBT outcomes.

### **Developing Mental Health Service in Low and Middle Income Countries:**

As part of a series of several papers published in the Lancet addressing issues of developing mental health services in low and middle income countries Eaton et al. (2011) considered barriers to service development. The paper highlights the considerable gap in mental health services worldwide and frames service development in terms of 'scaling up' services to meet unmet needs. Scaling up refers to a process of increasing the number of people receiving a service, increasing the range of services offered and developing evidence based interventions. These new services must then be sustainable as a result of political leadership and support in terms of policy formation, implementation and financing. The paper emphasised the need for local policymakers and stakeholders to be involved in service development to as large an extent as possible. A survey of current mental health provision amongst low to middle income countries found that evidence based psychological interventions were almost



universally less accessible than pharmacological ones, a situation already highlighted by Mohandas in his Presidential Address .

In relation to CBT this could be seen as supporting the idea of developing training for both publicly and privately employed mental health practitioners in order to increase the diversity of therapies available in local settings and to increase the number of patients accessing those services. It also supports the idea of developing local research programmes to evaluate the impact of these therapies. There is clearly also a need at the level of State and National policymaking to ensure that CBT is well represented as a therapy model and that there is policy support for its provision.

There is good evidence that CBT can be developed to very impressive effect in the South Asian context. In research undertaken in Pakistan Rahman, Malik, Sikander, Roberts and Creed (2008) reported on an innovative randomised control trial where Lady Health Workers employed by the State Health Department were trained in CBT to treat postnatal depression. This study had a very large sample size (n = 463 intervention group, 440 control group) and compared CBT to generally supportive health visits. The intervention and control arms were delivered by 'Lady Health Workers', locally recruited and generally educate to High School (but not University) level. Both arms of the study involved home based interventions with the same rates of contact. The Health Workers in the intervention arm had 2 days of intensive training plus a 1 day follow up training session some months later. The study showed that those patients who had CBT had 50% lower rates of depression but also that there were improvements in physical markers of infant health including take up of immunisation, higher rates of breastfeeding and more time spent playing with infants. The researchers reported that the half-day per month group supervision offered as part of the trial was an important

factor in maintaining a high quality and effective intervention. Due to the geographical remoteness of many of the therapists had supervision provided by telephone. This study demonstrates that considerable clinical gains can be made by relatively junior staff with minimal training providing there is adequate supervision available.

### **Curriculum of the Current Training Programme:**

The training course is a joint initiative developed by the CARE Institute of Behavioural Sciences in Chennai, the Greater Manchester Cognitive Therapy Training Centre / Manchester University and the Child and Adolescent Mental Health team of the Central Manchester Foundation NHS Trust in the United Kingdom.

The curriculum of the 5 day workshop introductory workshop comprised of:

#### **Day 1 and 2**

History of CBT and a trans-diagnostic overview of core principles of assessment, formulation and treatment strategies including behavioural and cognitive interventions, behavioural experiments, homework setting and session structure.

#### **Day 3**

The cognitive behaviour therapist as scientist practitioner (including the evidence base for CBT and the evaluation of research papers), the therapeutic relationship in CBT and a 90 minute workshop in establishing and using rigorous systems for peer supervision in CBT.

#### **Day 4 and 5**

##### **CBT for Depression.**

Future 5 day modules, each taught by fully accredited therapists from the UK will feature disorder specific interventions using the same framework of taught and experiential components enabling participants to either gain a Certificate in CBT (10 days taught component and the submission of a case report and log

demonstrating regular peer supervision) and Diploma in CBT (35 days taught component plus the submission of 2 case reports, short essay and supervision log). Those completing the Diploma will have sufficient taught hours to be eligible for accreditation by the British Association of Cognitive and Behavioural Psychotherapists (BABCP) as a Cognitive Behavioural Therapist however there remains an unmet need for regular in-depth supervision to meet standards which would support BABCP criteria for accreditation.

Curriculum planning was informed by BABCP Core Curriculum Reference Document (Hool, 2010), and developed in conjunction with the CARE Institute of Behavioural Science and staff at the Greater Manchester Cognitive Therapy Training Centre and the Central Manchester Foundation NHS Trust.

In developing the curriculum we were aware of challenges in adapting CBT for the context of presenting problems in Indian mental health settings. CBT was developed primarily in the USA and UK with services and research trials serving a predominantly white, English speaking clinical population. We were wary of uncritically importing ideas developed in this context to Indian mental health services. Curriculum development was informed by a paper on the future of CBT in India by Kuruvilla (2010) which raises issues such as ‘What methods are most suitable for an illiterate patient who is unable to keep daily records? How can we incorporate, integrate some of our cultural and religious concepts into the practice of CBT?’ We were also aware that as a linguistically mediated therapy concepts in English might not translate well into local languages, which were likely to be the medium of therapy for a considerable amount of cases seen by those on the training programme. We were aware that the answers to these questions were unlikely to come from UK based CBT trainers and were in fact most likely to be answered successfully by trainees newly

exposed to these ideas and facing the challenge of considering how to apply them locally. Once we had run the 1 day pilot and gained some initial feedback on the training format the 5 day course was designed to provide opportunities to explicitly address these issues. We used the Kolb (1984) learning cycle as the basis for designing this second stage of training. This cycle has 4 stages:

**Experience:** where a skill is practiced

**Observe:** what happened?

**Reflect:** making sense of what happened, relating it to previous experience and knowledge, generalising and abstracting principles

**Plan:** where the practical implications of the new knowledge is integrated and taken forward.

In order to support learning in this way the teaching format was based on initially introducing a core skill or concept in CBT and role playing using it in a clinical format with a trainee playing a patient and the tutor playing the therapist. Once this skill was introduced and demonstrated trainees took turns to role-playing with a peer with both taking turns to be the therapist (Experience). In pairs trainees were encouraged to consider what happened and how the technique fit with the presenting problems and patients they were role playing (Observe). Then as a group trainees discussed what had been observed, considered any issues with introducing that technique in the context of their clinical work and considered commonalities and difference in the issues raised (Reflect). Lastly trainees were encouraged to look at how they could take this learning forward into practice (Plan). This allowed and encouraged a discursive and collaborative approach to learning which emphasised that trainees had the expertise to implement these ideas in the local context. The trainer maintained a collaborative and socratic stance in discussions in order to facilitate this.

Over 5 days trainees got to observe 2 cases (one an anxious patient, one a depressed patient)



being role played by the trainer from assessment to formulation, treatment and relapse prevention work and had the opportunity to role-play as therapist doing the same process.

## METHODS

All participants in the introductory workshop completed a semi-structured questionnaire on the perceived barriers to developing CBT in India. This was analysed using Interpretative Phenomenological Analysis (IPA, Smith, 1996) a widely used research in the field of health psychology which is located epistemologically somewhere between the relativist approaches exemplified by discourse analysis and the essentialist social cognition approaches. It is a straightforward and useful tool to gain a working understanding of the views of study participants that acknowledges that there is a degree of interpretative activity on behalf of researchers but that some clues as to the underlying beliefs of participants can nonetheless be arrived at through rigorous scrutiny of written and verbal responses in semi-structured interviews or questionnaires. Participants also completed ratings of satisfaction with training and procedural knowledge tests reported elsewhere (Beck et al., in press).

## RESULTS

The participants were from a broad mixture of professional backgrounds but all were trained to at least Masters level. There were 12 respondents in total including consultant psychiatrists (n = 2), a physiotherapist (n = 1), clinical psychologists (n = 2), a clinical psychology lecturer (n = 1) and counsellors from psychology or social worker backgrounds trained to Masters level (n = 6).

**Table 1 : Summary of Responses to Semi-Structured Interview Questions**

<p><i>Are your managers aware of CBT? What could increase awareness locally?</i></p> <p>Half of the participants reported low levels of awareness of CBT in their locality. All participants reported that they planned to provide local training or introductory talks as a result of completing the training programme to enhance local awareness</p>
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***Is CBT Training Part Of Your Core Professional Training Programme?***

Only 2 participants (psychiatrists) reported that CBT had been covered on their core training and both reported that this training was very theoretically driven with little consideration of practical application in clinical populations.

***Would You Provide CBT Training in Your Workplace? What Would Help Support You In This?***

All participants were happy to do this. Identified support materials which would help included access to videos of CBT sessions (4 respondents), appropriate materials (4 respondents) and having more hands on experience of doing CBT with patients before offering training (6 respondents).

***What Are The Main Barriers to Developing CBT in India? What Possible Solutions Can You Identify?***

Ten respondents identified the main barrier as trainees accessing adequate supervision, it was reported by many respondents that where experts in CBT work in their locality it was very difficult to get them to agree to provide this. Five respondents reported that clinical psychology training courses needed to emphasise CBT as a core skill and to provide opportunities for trainees to see patients using this model and receive regular supervision as part of their training programme. Half of the respondents identified a lack of research into the efficacy of CBT in an Indian context. and thought that good quality research would drive the development of CBT in terms of building a therapist skills base and influencing national mental health policy. Two respondents reported that the training on CBT was unclear and confused on their core training and that needed to be national standards developed in terms of training. In total 6 respondents felt that a national association to promote CBT would provide a framework to begin to address a number of these issues.

This national association could work to increase the status of CBT (3 respondents), ensure minimum standards of training and supervision (4 respondents), provide clear professional affiliation (3 respondents) and ensure training and continuing professional development for supervisors and trainers.

Four respondents also believed that given the wide geographical spread of cognitive behavioural therapist the development of an online resource including lectures, worksheets, resources and a discussion forum would be helpful.

## **DISCUSSION**

Participants identified a number of barriers to developing CBT in India including the provision of high quality training and supervision, a local evidence base and political support for this programme.

These barriers are largely ones that can only partially be overcome by private sector health care providers responding to service user demands for this therapy as public awareness of the strong evidence base for its efficacy become better understood.

In order to systematically and rigorously begin to respond to the challenge of overcoming these challenges we believe that there is a clear need for the Indian Psychiatric Association and the Indian Association of Clinical Psychologists Indian Psychological Association to work together to establish an Indian Association of Cognitive Behaviour Therapists to advocate for funding for CBT at a State and National level. This will ensure that future Mental Health legislation passed by the central government recognises the need to fund training and research into this area and to ensure that there is a national body to work to develop high quality training, supervision and the maintenance of high standards for accredited therapists.

We are also aware of the shortfall in provision of trained mental health staff in India (Mohandas, 2009) and the need to develop CBT training for other professionals such as general nurses, community health workers and general doctors in the future however a programme of this scale would need considerable institutional support from state health services and a rigorous research programme to evaluate this.

There were a number of issues raised in the discussions which the teaching approach using the Kolb learning cycle facilitated. The philosophical precedents of CBT in Buddhist thought (developed in India approximately 2500 years ago) and Stoic philosophy (developed in Greece 2300 years ago) are well documented. Antecedents in other philosophical systems

is less well understood however participants were interested in relating CBT to both Hindu and Jain thought. The majority of participants in recent CBT training were of Hindu religious background. When we considered how a therapist might introduce the idea of anxiety and provide psycho-education about its origin there was considerable interest in using the conversation between the Warrior Prince Arjuna and his Charioteer Krishna. On the night before a great battle against his family Arjuna describes what trainees reported as clear symptoms of marked anxiety and rumination. Krishna in this role was described as ‘the first counsellor’ by trainees in the way he encouraged Arjuna to consider his core values and behave according to them on the day of the battle. Ideas embedded in Hindu thought relating to perceived reality as a construct of our thoughts was seen as one that could be readily incorporated into cognitive behavioural work. One participant who was of the Jain religious background pointed out the close link between the cognitive behavioural idea of engaging with thoughts as belief and not literal trust and developing a cognitive flexibility as one means of reducing distress with the Jain concept of Anekandvad. This idea, developed over 2000 years ago emphasises that truth is relative to the perspective (or *naya*) of the observer. Reality is therefore seen as a many sided construct that one can be trained to understand and engage with from different perspectives and knowledge statements can only over be made tentatively and by taking this into account. This approach has much in common with the way CBT encourages those in therapy to approach thoughts as just thoughts and not facts and not examine the evidence for and against those thoughts and to take other perspectives about given problematic situations. In discussion trainees thought that using cultural and religious examples would provide a way in to introducing CBT to members of particular religious communities.

There is then a clear unmet need for developing CBT in India, considerable

enthusiasm for this model amongst mental health professionals and approaches that can ensure that the model is adapted appropriately for the Indian context. There are also good institutional links developed between CARE Institute of Behaviour Science, The University of Chennai Psychology department and The University of Manchester to ensure that high standards of training are increasingly available.

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## Relapse among Persons with Alcohol Dependence Disorder : Does Assertiveness Matter?

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### Abstract

Relapse is very common among persons with alcohol dependence disorder and the correlates of relapse are diverse. Assertiveness is the ability to act in harmony with ones values and self esteem without hurting others and its relation to relapse requires exploration. The study aims to understand whether assertiveness could be one of the factors that is associated with alcohol dependence disorder. Fifty three males with alcohol dependence disorder, who were repeatedly relapsing and were attending various Deaddiction centers in Kollam and Thiruvananthapuram districts of Kerala State and a matched controlled group of 46 non alcoholic persons drawn from the same localities based on convenient sampling, in the age range of 18-54 were recruited for the study. Apart from the personal data schedule and alcohol history taking proforma for assessing various parameters related to drinking, Malayalam version of Rathus Assertiveness Schedule was used to assess assertiveness. The mean score of assertiveness of the experimental group was found to be 0.30 and that of the control group was 12.04 and the t value was 3.38, significant at .001 level. When the assertiveness score of the persons who are abstainers (n-18) and who are currently on relapse (n-35) were compared, no significant difference was obtained. No significant difference was obtained between assertiveness and other variables of age, religion, domicile, marital status and SES. Assertiveness appears to be one of the factors that is associated with relapse and therefore assertiveness training needs to be included as one of the key component of the relapse treatment programs as well as the de-addiction counseling programs.

**Key words:** Relapse, Alcohol Dependence Disorder, Assertiveness, Rathus Assertiveness Schedule.

### INTRODUCTION

One of the few areas of consensus in the field of alcoholism treatment is the recognition that alcoholism is a chronic condition with a high risk of relapse. Relapse is generally understood as a return to earlier pattern of substance or alcohol use, after a period of abstinence/improvement (Hemraj et al., 2000). Relapse can be defined as an unfolding process in which the resumption of alcohol use is the last event in a long sequence of maladaptive response to internal or external stressors/stimuli. Relapse poses a fundamental barrier to the treatment of addictive behaviours, especially alcoholism by representing the modal outcome of behavior change efforts (Brandon et al., 2007; Orleans, 2000; Polivy & Helman, 2002). Several decades of research had shown high relapse rates in various studies. Twelve

month relapse rates following alcohol or tobacco cessation attempts in studies conducted by Miller et al. (1996) and Brandon et al. (2007) ranged from 80-95%. Relapse studies from India also indicated varying relapse rates of 50-75% in alcohol and substance use disorders (Murthy et al., 2009; Singh et al., 2008; Hemraj et al., 2000; Abraham., 1995).

The predictors of relapse are numerous and various relapse prevention models are available (Brandon et al., 2007; Witkiewitz & Marlatt, 2005). The widely accepted models of relapse, both psychological and psychobiological, focus on person, situation or both. Miller et al. (1996) found that major predictors accounting for relapse were as follows: (1) The occurrence of negative life events; (2) Cognitive appraisal variables including self

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efficacy, alcohol expectancies, and motivation for change; (3) Clients coping resources; (4) Craving experiences and (5) Affective mood states. Mattoo et al, (2003), found that, alcohol dependent men reported a higher stress due to total, desirable and undesirable events in the past one year preceding alcohol use and it had significant association with relapse. Similar findings showed that a significant contribution of highly stressful events (independent of alcohol use history) to the risk of subsequent relapse (Sinha 2001; Sinha 2012; Brown et al.,1990). Furthermore, negative mood and stress were associated with increased craving, and high levels of urges to use alcohol which predicted relapse (Cooney et al., 1997).

Mattoo et al. (2009) observed the relapsees having a positive family history of substance use, higher number of previous relapses, appeared to be using maladaptive coping strategies, were exposed to a higher total number of 'high risk' situations and have experienced a higher number of undesirable life events. On the other hand, those who used more number of adaptive coping strategies and who had higher self-efficacy remained abstinent. In a recent study among remitted alcohol dependents, it was found that respondents, who were divorcees in the year preceding the baseline assessment, were over two times more likely to have relapsed 3 years later, compared to non-divorcees in a twelve month period (Pilowsky et al., 2013).

The last two decades of relapse prevention research focused on cognitive behavioural aspects and developing coping skill strategies to tackle relapse. More recent development of reformulation of Marlatt's cognitive behavioural model gives greater emphasis on dynamic relapse process (Witkiewitz & Marlatt, 2005).

Including relapse prevention behavioural components like cues, peer group pressure, social support, in the treatment programs (Manickam, Haritha & Srinivasan, 1994; Manickam, 1997) could not effectively manage relapse rates. This point to the role of other variables leading to relapse. Santon (2005) emphasised the role

of interpersonal factors in relapse prevention. Persons with alcohol dependence generally are intolerant, less patient and at times indifferent to the feelings of others (Manickam, 1999). Instead of having meaningful communication they end up in expression of aggression and dissatisfaction on others. This causes stress and frustration on sensitive persons especially those who were abusing alcohol earlier and it may end with a lapse or relapse (Manickam, Haritha & Srinivasan, 1994), which raises the importance and role of assertiveness in alcohol dependent persons.

Assertive behavior was defined as, "*.....a behavior which enables a person to act in his own best interests, to stand up for himself without undue anxiety, to express his honest feeling comfortably, or to exercise his own rights without denying the rights of others*" (Alberty & Emmons, 1974). Assertiveness usually implies that one is willing to stand up for one's own rights. In one of the earliest studies, Miller (1977) compared persons with psychiatric disorder and who was dependent on alcohol with those who were non-dependent on alcohol on self reported assertiveness and behavioural assertiveness. While those who were dependent on alcohol reported themselves to be more assertive than non-dependent persons, both groups did not differ on non assertive behavioural tests measuring negative assertion (expression of anger or irritation). However, persons who were dependent on alcohol performed significantly better than non-alcoholics on positive assertiveness (expression of positive feelings or complimentary remarks). On the other hand Hamilton et al. (1979) found no difference in assertive behavior among men who were dependent on alcohol and those who were not dependent. Among alcohol dependent women. Hensing (2003), found a positive association with low assertiveness and alcohol dependence along with high episodic drinking. Higher levels of assertiveness have been found to be associated with adolescent substance use (Epstein et al., 2000). Rathus (1973) developed



an assertiveness schedule which is found to be psychometrically reliable and valid (Rathus & Nevid, 1977; Nevid, & Rathus, 1979) and modified versions are available (McCormick, Hahn, & Walkey, 1984)

Though several studies have been carried out the findings are inconclusive in establishing the relationship between assertiveness and alcoholism. Moreover, none of the published studies from India or abroad have explored the relationship between assertiveness and relapse among persons with alcohol dependence disorder.

The aim of the study was to explore the relationship between assertiveness and relapse in alcohol dependence syndrome. It was also intended to compare the assertiveness of alcohol dependents with that of the healthy control group. A comparison of assertiveness between repeated relapsees and non relapsees and the relationship with various socio-demographic variables were also studied. The specific objectives were - 1) To explore the relationship between assertiveness among persons with alcohol dependence disorder who were repeatedly relapsing, who are dependent and healthy controls. 2). To compare the assertiveness of persons who were repeated relapsees and non relapsees and 3). To compare socio-demographic variables and its relationship with assertiveness among persons with alcohol dependence who were repeated relapsees and non relapsees

## **METHOD**

### **Sample:**

The sample consisted of 3 groups.

### **Group I- Repeated Relapsees:**

The sample consisted of 35 male (mean age, 40 ) persons diagnosed as having alcohol dependence disorder (syndrome), as per ICD 10 criteria, who were repeatedly relapsing and were attending one of the five de-addiction centres in Kollam and Thiruvananthapuram districts of Kerala State.

### **Group II - Non Relapsees:**

The sample consisted of 18 male (mean age 39.17) persons diagnosed as alcohol

dependence disorder (syndrome), as per ICD-10 criteria, but were currently abstinent, and were undergoing de-addiction treatment and did not have any history of past treatment. In both the groups, those persons who had given written informed consent and those who did not have co-morbid psychiatric disorders, major physical illnesses were included.

### **Group III-Healthy Control Group:**

This group consisted of 46 non alcoholic persons drawn from the same localities based on convenient sampling. Their mean age was 40.22 years and they were in the age range of 18-54 and were also matched in terms of gender, education and socio-economic status. Those who had history of psychiatric disorder, substance abuse, major physical illnesses, and those who did not give written informed consent were excluded from the study.

The socio-demographic variables of age, education, occupation, marital status, religion, domicile, family type and socio-economic status are provided in table 1.

## **MEASURES**

### **1. Personal Data Schedule:**

A semi-structured proforma was designed to collect information about socio-demographic and clinical characteristics, and other related variables.

### **2. Rathus Assertiveness Schedule - RAS (Malayalam Version; Rathus, 1973):**

Rathus Assertiveness Schedule consists of 30 items including 16 inverted items and is scored with a Likert type Scale. Each item is scored from -3 to +3 except 0. +3 means 'just like my character, it is very much true' and -3 means 'unlike my character, it is not completely true'. Respondents are requested to select the most applicable reaction in each situation. This scale is evaluated with the total scores of all items after having reversed the scores of the inverted items. The scale ranges from -90 (least assertive) to +90 (most assertive). The original test has a high reliability of 0.77, indicating high internal consistency (Rathus,1973).The scale has been

translated into different languages (Suzuki et al., 2007). For developing the Malayalam version of the scale, all statements of ‘Rathus Assertiveness Schedule’ were translated to Malayalam by two persons proficient in English and Malayalam language, and then back translated into English by two different translators. After discussion with experts, appropriate modification was made where ever differences occurred with consensus. The Malayalam version of RAS was administered to all the three groups.

**Procedure:**

Prior permission for conducting the study was taken from the administrative authorities of de-addiction centres. Written informed consent for the study was obtained individually from all participants. After collecting the socio-demographic and clinical details using Personal Data Schedule, Rathus Assertiveness Schedule was administered. For those who had difficulty in reading the items, the statements were read out and the responses were recorded. The data was collected from the each person in one session and it took about 45 to 60 minutes. Similarly data from healthy control group was collected individually from the different localities.

**RESULTS AND DISCUSSION**

The socio-demographic variables are shown in Table 1. The mean age of the three groups were 40.77, 39.17 and 40.22 respectively. Majority of the participants of the Group I had education below 10<sup>th</sup> standard whereas majority of the Group III were educated above 10<sup>th</sup> standard. However for the Group II, it was equal in number in both the educational groups. Majority of the participants in all the three groups were employed. But the participants employed in private sector were more among the Group III, whereas majority in the Group I and Group II were self-employed. However, the number of unemployed participants was negligible in all the three groups. The distribution of participants in the three domicile groups was more or less equal, with more number of participants hailing from rural area. The majority of the participants

in the three groups were married, though in Group III, there were more number of unmarried participants. The participants belonged to the three religious groups and it is proportionate to the representative population in Kerala state. The majority of the participants in Group II and Group III hailed from nuclear family whereas in Group I, majority was from joint family. The 34 participants belonged to the middle and low socio economic group and the number of participants belonging to high socioeconomic class was negligible. However, none of these socio demographic variables except religion and marital status were found to be significant and the groups were comparable.

**Table-1: Socio-demographic Variables of theParticipants**

Variables		Repeated Relapsees Group I (N-35)	Non-Relapsees (Group -II) (N-18)	Healthy Control Group (Group-III) (N-46)	X <sup>2</sup>
<b>Age ( Mean)</b>		40.77	39.17	40.22	
<b>Education</b>	Below 10 <sup>th</sup> std.	26 (74.3%)	09 (50%)	20 (43.5%)	1.71 df,1
	Above 10 <sup>th</sup> std.	09 (25.7%)	09 (50%)	26 (56.5%)	
<b>Occupation</b>	Govt.*	02 ( 5.7%)	03 (16.7%)	09 (19.6%)	0.16 df, 1
	Private*	12 (34.3%)	04 (22.2%)	17 (37.0%)	
	Pub Sector	03 (08.6%)	00 (00)	07 (15.2%)	
	Self Employed	15 (42.6%)	10(55.5%)	09 (19.6%)	
	Retired	01 (02.9%)	01 (5.6%)	01 (2.2%)	
	No Job	02 (05.7%)	00 (00)	03 (6.52%)	
<b>Marital status</b>	Married	29 (82.9%)	17 (94.4%)	30 (65.2%)	1.46** df, 3
	Unmarried	04 (11.4%)	01 (5.6%)	15 (32.6%)	
	Widow/ Widower	00 (0)	00 (00)	00 (00)	
	Divorcee/ Separated	02 (05.7%)	00 (00)	01 (2.2%)	
<b>Religion</b>	Hindu*	26 (74.3%)	13 (72.2%)	26 (56.5%)	14.09*** df, 1
	Christian*	08 (22.9%)	03 (16.7%)	16 (34.8%)	
	Muslim	01 (02.9%)	02 (11.1%)	04 (8.7%)	
<b>Domicile</b>	Rural*	15 (42.8%)	09 (50.0%)	21 (45.7%)	0.01 df, 1
	Suburban	10 (28.6%)	04 (22.2%)	11 (23.9%)	
	Urban*	10 (28.6%)	05 (27.8%)	14 (30.4%)	
<b>Family type</b>	Nuclear*	16 (45.7%)	10 (55.5%)	30 (65.2%)	2.67 df, 1
	Joint*	17 (48.6%)	08 (44.4%)	15 (32.6%)	
	Extended	02 (05.7%)	00 (00)	01 (2.2%)	
<b>SES</b>	High	01 (02.9%)	01 (5.6%)	00 (00)	0.01 df, 1
	Middle*	12 (34.3%)	09 (50.0%)	27 (58.9%)	
	Low*	22 (62.9%)	08 (44.4%)	19 (41.3%)	

\*Considered for computation of X<sup>2</sup> \*\*significant at 0.01 level, \*\*\*significant at 0.001 level

The comparison of assertiveness score based on socio-demographic variables like age, education, occupation, religion, domicile, family

type, SES (Socio-Economic Status) are shown in table.2. There was no significant difference in the assertiveness scores of the young and elder group of participants. Though the assertiveness score of the educated was higher than those who had less education, it did not show any significant difference. The assertiveness score of those employed in Private sector was found to be higher than those in Government service, but was not significant. Comparing the variable of religion and family type it did not show any significant difference in the assertiveness. Participants from Urban area was found to be more assertive than those from the rural area and those from middle socio economic level was found to be more assertive than those from low socio-economic status, but both the values were not significant.

**Table-2: Socio-demographic Variables and Assertiveness Scores**

Type of variable	N	Mean	SD	t-value
Age 18-40	57	5.97	18.28	0.13
41-54	42	5.48	18.12	
Education >10 <sup>th</sup> std	55	3.34	16.73	-1.49
<10 <sup>th</sup> std	44	8.77	19.51	
Occupation Govt.	49	3.38	17.43	-1.13
Private	49	7.46	18.35	
Religion Hindu	64	5.87	17.85	0.45
Christian	28	4.03	19.14	
Domicile Rural	49	3.87	17.83	-1.02
Urban	50	7.60	18.40	
Family Type Nuclear	56	5.14	16.60	-3.28
Joint	40	6.32	18.50	
SES Middle	49	8.14	19.84	1.30
Low	50	3.42	16.13	

\*\*significant at 0.001 level,\*0.01 level

The mean scores of assertiveness of the Group -I (Repeated Relapsees Group), Group-II(Non Relapsees Group) and Group – III ( Healthy Control) was found to be 0.86 - 0.78 and 12.04 respectively. One way ANOVA was done and the F-value was found to be 5.71 and it is significant at 0.01 level.

**Table-3: Comparison of Assertiveness of the Three Groups.**

Group	N	Mean	SD	t Value
Repeated Relapses and Non Relapses (Group I and II)	53	0.30	14.17	3.38**
Healthy Control ( Group III)	46	12.04	20.21	

Repeated Relapses ( Group I)	35	0.86	13.74	2.81*
Healthy Control ( Group III)	46	12.04	20.21	
Non Relapses ( Group II)	18	-0.78	15.31	2.43*
Healthy Control ( Group III)	46	12.04	20.21	
Repeated Relapses ( Group I)	35	0.857	13.74	0.40
Non Relapses ( Group II)	18	-0.78	15.31	

\*\*significant at 0.001 level,\*0.01 level

When the assertiveness scores of Group I and Group II were combined and compared with the Group III, significant difference was found, implicating that the dependent persons were less assertive than the healthy control group (Table 3). Similar result was found when Group I was compared between Group III and when Group II was compared with Group III showing that the repeated relapsees as well as the non relapsees were less assertive than the healthy control group. On the other hand there was no significant difference (0.395) was found between Group I and Group II, which indicates that both the groups are not different in their level of assertiveness.

The problem of relapse is one of the puzzling dilemmas in the treatment of alcohol dependent disorder and substance abuse. On most occasions, alcohol dependent persons fail in effective communication of their feelings and thoughts, leading to frustration and stress and its maladaptive coping can lead to alcoholism or substance abuse. Since no significant relation was found between assertiveness and demographic variables like age, religion, occupation, domicile, marital status and socio-economic status, it can be concluded that assertiveness could be one of the factors that is related to persons dependent on alcohol.

The present findings are in contrast to the earlier study of Miller (1977), who reported that persons with alcohol dependence were more assertive than those who were not dependent on alcohol. Miller (1977) also showed that both the groups were equally non-assertive on

behavioural tests measuring negative assertion. In addition, the alcohol dependent group did significantly better than non dependent group on positive assertiveness. But the role expectations have changed over the time and one is not sure whether the same findings could be replicated now, after a gap of almost three and a half decade. However, in support of the present findings, Epstein (2000) found a negative association with assertiveness in adolescent substance abuse.

Findings of the current study have more significance, because no studies in India or abroad explored the relationship between assertiveness and relapse among people with alcohol dependence disorder. The possibility of non-assertiveness leading to alcohol dependence and repeated relapse suggests the role of assertiveness training, which should be included as one of the key component of the relapse treatment programmes. This is supported by the findings of Freedberg and Johnson (1978) and Cooley & Wierzbicki (1987), who observed that adding assertiveness training to inpatient treatment significantly improved treatment outcome.

Relapse among treated alcoholics is such a common occurrence (Brandon et al., 2007). In the past two decades, research was focused on factors related to post treatment alcohol consumption. As a result, several models of treatment were developed in order to prevent the relapse process. Many multi-model approaches were formulated and their efficacies were proved, but still relapse could not be managed effectively. Since relapse occurs as a result of multiple factors, the interaction of assertiveness skill with various other domains may influence the success of relapse treatment. The present findings suggest the need for incorporating assertiveness skill training as a strong component of the integrative treatment approaches.

The fact that the present study is confined to a small sample limits the scope of generalizing the findings to the larger population. Improving upon the sampling technique, by recruiting sample from one of the cities where people from all the

different districts of the state are represented could yield more meaningful data. Exploration of other variables that could influence assertiveness may also lead to better understanding of dependence and the relapse process.

Findings of the present study suggest the need for including assertiveness skills training as part of the relapse prevention programs. Future studies may also focus on evaluating the assertiveness of adolescence who are experimenting with alcohol and those who are not, in order to establish the role of assertiveness in causing dependence on alcohol. Probably providing assertiveness training to adolescence who are experimenting with alcohol use may prevent them from getting dependent on alcohol.

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## Factors Influencing Hopelessness in College Students

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### Abstract

The aim of this study was to understand the factors influencing hopelessness in college students. Three hundred and forty eight (348) male and female undergraduate students from various colleges of Delhi were selected through purposive sampling. The major tools used in the study were a Personal Data Sheet, Beck's Hopelessness Scale (BHS), Personality Diagnostic Questionnaire - 4<sup>th</sup> version (PDQ-4), ICPS Family Functioning Scale (ICPS-FFS) and Quality of community Life questionnaire (QOCL). SPSS 17 software was used for statistical analysis. The results revealed that there are significant correlations between hopelessness and personality disturbance, hopelessness and family functioning, hopelessness and peers relations and hopelessness and quality of community life. All the above factors except quality of community were found to be significant predictors of hopelessness.

**Key Words:** Hopelessness, Personality, Family functioning, Peer relations, Quality of Community life

### INTRODUCTION

Hopelessness is the expectation that highly desired outcomes will not occur or that highly aversive outcomes will occur and that one cannot change this situation. (Abramson et al., 2002). It is the experience of despair or extreme pessimism about the future (Beck et al, 1979), and has been identified as a key risk factor that predicts suicide ideation in young adults. For example, up to 66% of college women and 52% of men reported feeling hopeless at least once during 2006 (ACHA, 2007). Beck's cognitive theory (1967) emphasizes the role of hopelessness in depression and suicidal behaviour. It posits that negative way of thinking guides one's perceptions, interpretations, and memory for personally relevant experiences, thereby resulting in a negatively based worldview and leading to depression. The relation of hopelessness to levels of depression and suicidal intent has been explored both psychometrically and clinically. Literature is replete with hopelessness as a significant predictor of suicidal ideation and completed suicide. However, few studies have attempted to understand the predictors or associated factors of hopelessness. Answers regarding what brings about hopelessness in

the first place are often unclear and have been a source of debate.

The Human Ecological theory (Bronfenbrenner, 1979) provides a multidisciplinary approach to understanding human behavior and incorporates the individual, environment as well as the social system. This model has been used earlier to understand alcoholism and suicidal behaviour in adolescents. The ecological environment "is conceived topologically as a nested arrangement of concentric circles, each contained within the next." (Bronfenbrenner, 1979). The first level of the ecological environment is the *organism* or youth (Garbariono et al, 1985). At this level the demographic and psychological qualities of the individual are taken into consideration. The individual does not operate within a vacuum; instead he/she is a member of several *Microsystems* or immediate settings such as the family, peer group, college and work. Difficulties in any of the Microsystems are to have an impact on the individual. The next level of the ecosystem is the *exosystem* that is comprised of the settings that indirectly influence the youth. Finally, the *macrosystem* includes the broad institutional or ideological patterns of the culture or the subculture. Elements of the macrosystem

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include economic, social, educational, medical, legal and political systems that indirectly influence the student. The Human ecological theory has not been used to study hopelessness in the youth and an understanding of each of the levels with respect to hopelessness can provide insights into preventive and curative strategies.

The first level (the person) includes various aspects however reviewed literature reveals the presence of personality disturbance/disorder for the prediction of hopelessness. Personality disturbances represent aberrations of behaviour which superficially at least, seem to be continuous with features that in the normal range describe healthy individuality. In other words, they seem for the most part to be exaggerations of normal personality or temperamental variation. (Claridge & Davis, 2003). When personality disturbances are diagnosed they are called Personality Disorder. Most of the research of personality disorder and hopelessness has been conducted on Borderline Personality Disorder (Bhar et al., 2008; Mc Quillan et al., 2005). Hardly any study talks about the relationship between a personality disturbance (whether diagnosed or not) and hopelessness.

The second level of the human ecological model talks about the immediate environment surrounding the individual. One area that is linked to psychosocial adjustment and well-being amongst the youth is family functioning (Shek, 1997). Family plays a very important role especially in positive development, identity formation and self-concept. In the Indian collectivist context the family has a major role to play in the individual's adjustment and positive mental health; however, there have been few studies attempting to understand the relationship between hopelessness in an individual and his/her perceived family functioning.

Satisfaction with peers is yet another area which needs to be looked into with respect to the presence of hopelessness. The effects of social support on mental health have been studied relatively extensively using young adult samples. Overall, research has found a

strong connection between social support and better mental health and has specified factors, such as perceived closeness to a best friend (King & Terrance, 2008), and social cohesion (Fagg et al, 2008), as driving components of this relationship. Lack of social support from family and friends is an important correlate of hopelessness & suicide ideation for adolescents, adults, and college students (Harris & Molock, 2000; Stravynski & Boyer, 2001).

Most of the studies with respect to hopelessness in young adults are pertaining to individual or interpersonal factors. Community factors and the impact it may have on the levels of hopelessness on college students have received little attention. However, Community plays an important role in human experience and well-being because of its role as the setting and the mechanism of empirical contact between the individual and society (Wilkinson, 1991).

## **METHOD**

This study was undertaken to understand the factors influencing hopelessness in college students. The objectives were to assess relationship between hopelessness and individual personality disturbances, family functioning, satisfaction with peers, and quality of community life.

### **Sample:**

The sample for this study comprised of 348 college students (72 males and 276 females). Those students were included who were pursuing graduation in any discipline and were in the age group of 18-22 years.

### **Measures:**

The present study was carried out with the following tools-

#### **Personal Data Sheet:**

Personal Data sheet includes socio-demographic details and other personal details about the participant related to the study.

#### **Beck's Hopelessness Scale (BHS; Beck et al, 1974):**

The BHS is a 20-item scale designed by

Beck, Weissman, Lester & Trexler (1974). It measures negative attitudes about the future as perceived by adults. Particular utility of the BHS is its function as an indirect indicator of suicidal risk in respondents or in individuals who have made suicide attempts. The cut-offs were 0-3 minimal or no hopelessness, 4-8 mild hopelessness, 9-14 moderate hopelessness and 15-20 severe hopelessness.

**Personality Diagnostic Questionnaire – 4TH Edition (PDQ - 4; Hylar, 1994):**

The Personality Diagnostic Questionnaire-4th Edition (PDQ-4) is a 100 item, self-administered, true/false questionnaire that yields personality diagnosis consistent with the DSM-IV diagnostic criteria for the axis II disorders. It takes approximately 20-30 minutes to complete. The Total PDQ-4 score is an index of overall personality disturbance.

**ICPS Family Functioning Scale (ICPS FFS), (Noller, 2001):**

This is a 30-item instrument designed to measure interactional styles within the family. The letters ICPS in the instruments title stand for the three sub-scales of Intimacy, Conflict and Parenting Style. Items are responded to on a 6- point Likert- type scale ranging from *totally agree* to *totally disagree*.

**Quality of Community Life Questionnaire ( Q O C L; ICMR, 2005 ):**

This is a 33- item questionnaire designed to measure the satisfaction of an individual in the community. Items are responded to on a 3- point Likert type scale ranging from *not really* to *very much*. The questionnaire has 11 subscales from which 8 have been taken for the purpose of this study. Those included are: Relationship with peers, Support of relatives, Support of family, Support of neighbours, Medical & other facilities, Social discrimination. Social contacts and Law & order problems. Each dimension consists of 3 questions and the sum of the 3 statements yields the score on a particular dimension.

**Procedure:**

The research proposal was presented to and approved by the Department of Clinical Psychology, IHBAS, the M.Phil committee as well as the ethical committee. Thereafter, the principal researcher obtained approval from various college principals by sending them permission letters and/or talking over the phone. Those colleges were contacted which were running full time undergraduate programs. Most of the principals expressed their willingness to participate and school teachers consequently assisted in the process of data collection. On a pre- decided date and time questionnaires were administered to students in groups of 15-20 in their classrooms. The students were provided with a brief introduction about the study, the researchers as well as the mental health services provided by IHBAS. Thereafter, the questionnaires were handed out one by one after a written informed consent was taken by each participant. Data was collected for a total of 360 students across different colleges of Delhi. However, data of 348 students was ultimately used for the study.

**Statistical Analysis:**

After the completion of data collection, analysis was carried out after entering the data in the SPSS software and screening for incomplete questionnaires and inaccuracies. Thereafter, demographic characteristics of the sample were calculated and basic descriptive statistics, such as the mean and standard deviation, were collected to provide a description of the sample characteristics. Thereafter, parametric as well as non-parametric correlations were run before obtaining linear and logistic regression equation. Finally simple crosstabs and ANOVA were computed to support the data obtained.

**RESULTS**

**Participant Characteristics:**

The mean age of the participants was 19.36 years and the sample consisted of 79% females and 21% males. A majority of them belonged to the middle socio-economic status (62%). All

the students were unmarried and the majority belonged to the nuclear family setup (73%). 54% of the students were pursuing science courses.

To assess the relationship between each variable and hopelessness ANOVA was computed across different categories of hopelessness (Table 1) and product moment correlation was computed (Table 2). To understand the combined effect of all the variables on hopelessness multiple linear regressions was carried out. (Table 3)

**Table 1: Means, SDs and ANOVA for different Variables across Levels of Hopelessness:**

Variables	No Hopelessness (N= 123) Mean & SD	Mild Hopelessness (N= 148) Mean & SD	Moderate & Severe Hopelessness N=77	F- value
Personality Disturbance	38.78±13.3	47±11.8	55±12.4	34.74**
Intimacy in Family	62.45±7.3	59.46±9.5	56±11	9.92**
Conflict in Family	28.86±8.5	33±7.5	36.2±8.8	17.96**
Parenting Style	40.26±5	37.3±6.1	35.4±7.2	15.13**
Satisfaction with Peers	6.8±1	6.55±1	6.25±1.2	5.8**
Quality of Community Life	47.5±5.4	45.5±4.8	43±5.8	14**

\*\*Significant at .01 level

**Table 2: Correlation among different Variables of Study:**

Table 2: Relationship among different variables ( Inter-correlations among all variables)

	Hopelessness	Personality disturbance	Family Intimacy	Family Conflict	Parenting Style	Satisfaction with Peers	QOCL
Hopelessness	1	.461**	-.271**	.326**	-.328**	-.222**	-.327**

\*\*Correlation is significant at the 0.01 level (2-tailed).

**Table 3: Linear Regression with Hopelessness as Dependent Variable**

Independent variables in the equation	B	SEB	Beta Coeff.	R square	Significance in equation
Perceived Conflict in Family	.084	.023	.506	.773	**
Personality disturbance	0.101	.019	.450	.773	**
Perceived Intimacy in Family	0.052	.036	-.578	.773	**
Parenting Style	-0.093	.012	.771	.773	**
Satisfaction with Peers	-0.261	.140	-.281	.773	*

\* Significant at .05 level \*\*Significant at .01 level

**DISCUSSION**

The final sample consisted of 348 undergraduate students belonging to urban domicile. A total of 64.4% of the college sample was experiencing some amount of hopelessness. It was seen that girls were more hopeless (80%) than boys (55%). This finding is consistent with Reinherz et al. (1995) as well as Hirsch et al. (2007), who found higher rates of hopelessness in girls than boys.

**Hopelessness and Personality Disturbance:**

The mean for the group of students falling under the no hopelessness category was the lowest (M=38.78) and highest for the moderate and severe hopelessness group (M=55) with significant difference between the groups. Implying students who had higher levels of hopelessness had higher scores on personality disturbance and vice-versa (Table 1). Further, correlations using Pearsons product moment coefficient were computed (Table 2), in which moderate positive correlation (r = .46, p=.01) was seen between hopelessness and personality disturbance. The findings are consistent with a Swiss study on personality profiles of people with personality disorders. It was seen that hopelessness positively correlated with different personality disorders (Verardi et al., 2008). In other studies (Bhar et.al. 2008; Mc Quillan et.al. 2005) it was found that personality disorders, specifically borderline personality was highly correlated with hopelessness. Disturbance in the personality would usually entail difficulties in interpersonal relationships, difficulty seeing ones behaviour as a problem and an overall resistance to change (Warren & South, 2009). These features may result in blaming others for their own problems, difficulties in adjusting and less confiding relationships which can further lead to feelings of isolation and despair. Thus, an individual facing, emotional and interpersonal difficulties may be more predisposed towards developing hopelessness.

**Hopelessness and Perceived Family Functioning:**

Perceived family functioning was assessed through three domains namely: Intimacy within

family members, Conflict between family members and Parenting styles. The mean for intimacy ( $M= 62.45$ ) was the highest in the group of students who are not hopeless, implying that students who are not hopeless have higher perceived intimacy within the family. A negative correlation (Table 2) was found between family intimacy and hopelessness ( $r=0.3$   $p=.01$ ). This implies that two are inversely related; however the relationship is not strong enough. In previous studies it has been found that family cohesion and intimacy are correlated with lower levels of hopelessness and suicidal ideation in college students. (Olson,1999.) The findings of the current study suggest that during college students may be facing other challenges which he/she may have difficulty coping with, even if there is intimacy among the family members. However, family intimacy seems to be playing a buffering role against developing severe hopelessness. The students who are mild in hopelessness are probably deriving support from the family, which may be preventing them from becoming moderately/severely hopeless.

The mean for conflict in family ( $M= 36.2$ ) was the highest in the moderate & severe hopelessness group, which implies that family conflict was highest in the group of students who had high hopelessness. Moderate correlation (Table 2) was seen between hopelessness and conflict at home ( $r = 0.4$ ,  $p=0.01$ ). These findings show that if a student perceives his family atmosphere to be conflictual, he/she is more likely to be hopeless. However, there are a significant percentage of students who do not perceive much family conflict and are mildly hopeless. This can be due to other factors which the student maybe experiencing outside the family. Personality factors, their interpersonal relations outside home and hassles of urban living can be some of the contributory factors. Fewer family conflicts may be acting as a buffer against developing severe hopelessness in college students. A moderate positive correlation was found between perceived family

conflict and hopelessness, which implies that they affect each other. In the linear regression equation (Table 3), perceived family conflict is a significant predictor of hopelessness ( $p=.01$ ). This finding is consistent with previous studies which have found that hopelessness in young adults was related to family dysfunction, family discord, poor family environment, family rigidity, family conflicts and poor adaptability (Esposito & Clum, 2003; Spirito et al., 2003). Studies also showed that low levels of family cohesion and support as well as high levels of parent- young adult conflict were positively related to hopelessness and depression. (Lee et al, 2006; Wong et al., 2002).

The mean for parenting style was the highest ( $M=40.26$ ) in the no hopelessness group, which mean that students brought up with a democratic parenting style were less likely to be hopeless. The correlation coefficient (Table 2) between hopelessness and parenting styles ( $r = -0.33$ ,  $p=.01$ ) is moderate. Parenting styles are experienced since childhood and they have an impact on the development of the child and his word view. It paves the way for him/her to develop self-efficacy and a sense of control and autonomy. The findings on this study reflect that students who have been brought up with a democratic parenting style are less likely to develop hopelessness and the students who have been brought up with an autocratic style of parenting are more likely to be hopeless. This can be because students who had democratic parenting would be expected to be more autonomous, developed decision making skills, be less dependent on others (Baumrind, 1991). These skills may protect the student from becoming easily frustrated and feel more confident in handling day to day hassles. In neglectful, autocratic and permissive parenting styles, research shows a link to increased levels of hopelessness, depression, low self-esteem, and substance abuse in comparison to their peers reared by authoritative parents (Baumrind, 1991; Berg-Nielsen et al., 2003).



### **Hopelessness and Satisfaction with Peers:**

The highest mean for satisfaction with peers was in the not hopeless group ( $M=6.8$ ) and the lowest in the moderate and severe group of hopelessness ( $M=6.25$ ). This implies that the students who were not experiencing hopelessness had more satisfied peer relations as compared to those who were experiencing hopelessness. The correlation of satisfaction with peers (Table 2) with hopelessness was negative ( $r = -0.22$ ) and significant. Relying on assistance from peers during the college years has been shown to be important for successful transition and a protective factor against hopelessness and suicide (Westefeld et al., 2006). Support from peers, or close friendships, has been recognized as an important factor for college students in reducing feelings of hopelessness and has been documented as a predictor of adjustment for first year college students (Greening & Stoppelbein, 2002; Tao et al., 2000). It is that psychosocial stage (Intimacy v/s isolation) when young adults, according to Erikson, need and want intimacy; they need to make deep personal commitments to others. If they are unable to do so, they may become isolated and self-absorbed. (Erikson, 1968). This variable finds a place in the linear regression of (Table 3), where it is among the strongest predictor of hopelessness for college students ( $p < .05$ ).

### **Hopelessness and Quality of Community Life (QOCL):**

As can be seen (Table 1) there is a significant difference between the means across the levels of hopelessness in QOCL. This implies that the students who were not experiencing hopelessness had a better quality of community life as compared to those who were experiencing hopelessness. The correlation of QOCL (Table 2) with hopelessness is negative ( $r = -0.33$ ,  $p = 0.01$ ). QOCL is subjective evaluations individuals make of their community (for example neighbours, peers, recreational opportunities, medical & other facilities. (Myers, 1985). Community is said to indirectly affect the individual. College students start becoming more aware of their

surroundings once they are out of the house, and have to fend for themselves devoid of the shelter which they may be used to in childhood at home. These findings suggest that the quality of community life and hopelessness share an inverse relationship in the college student sample. This implies that the neighbourhood, law & order, corruption, medical facilities have an impact on the psyche of the student. Since, most of the sample belonged to the urban setup, the day to day difficulties of urban living like traffic, crowding, high rise buildings, scarcity of basic resources like water, electricity may be playing a role in the higher levels of hopelessness. However, it was seen that quality of community is not a significant predictor of hopelessness in the linear regression models (Table 3). It is expected that family and friends may mediate the community effects on students' quality of life. Thus, the effect is more at an indirect level and it doesn't qualify as strong predictor of hopelessness in this study.

### **Combined Effect of Variables to Hopelessness:**

Previous attempts have been made to predict hopelessness in college students, most of the studies have linked lack of support from family and peers as important variables in predicting hopelessness (e.g. Yilmaz et al., 2008). In another study by Connor & Cassidy (2005) it was seen that university students with hopelessness have personality defects, less social supports, immature coping style and frequent or heavy intensity negative incident. In the present study, Satisfaction with peers has the maximum impact on hopelessness, followed by personality disturbance, followed by parenting style, which implies that a student whose parents adopt a democratic style of parenting was less likely to be hopeless. Intimacy in the family seems to be the lowest predictor of hopelessness among all the variables.

The present study findings imply that while working with college students satisfaction with peers have to be seen with prime importance. The findings also highlight the

role of social skills training in college students especially focusing on increasing their chances of satisfaction with peers, thereby decreasing experience of hopelessness. The findings suggest that personality of the person has to get more importance than that of parents' and family's role in their life when working with college students. The present study findings have reiterated the existing findings in the literature, but have reported a different order of relative importance of studied factors. The findings need replication in different settings with larger sample sizes to reaffirm the relative role of factors studied.

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## **Neuropsychological Pattern of Performance and its Implication for Rehabilitation in Schizophrenia- A Hospital Based Study**

**Rupesh Kumar Chaudhry<sup>1</sup>, Pankaj Kumar<sup>2</sup> and Bholeshwar Prasad Mishra<sup>3</sup>**

### **ABSTARCT**

The Present study was aimed to understand the Neuropsychological Pattern performance and its implication for rehabilitation in Schizophrenia. The study was conducted at Dayanand Medical College & Hospital, Ludhiana, India. A total of 30 known schizophrenic patients (diagnosed as per the ICD-10 criteria), both indoor as well as out-door, were evaluated for their intellectual and memory functioning using verbal intelligence test (Indian version which has four subtests i.e. Information, Digit span, Arithmetic and comprehension), Alexander's Pass- along test (to see the executive function) and PGI Memory Test. The morning doses of the psychotropic drugs were withheld at the time of evaluation. Patients with any other medical disorders and with active substance abuse were excluded from the study. The result of the study reflects that females were having more deficit on attention and concentration parameter in comparison to males. On Executive function parameter significant deficit was noticed in majority of the patients irrespective of the sex. Regarding the memory functioning of these subjects, remote memory and delayed recall appeared highly affected areas irrespective of the sex. Schizophrenic patients show significant deficits in their neuropsychological functioning though the pattern differs gender wise. This shows that combining pharmacological treatment with behavioural approaches might represent the best chance for improving general functioning and quality of life of schizophrenic patients.

**Key words-** Schizophrenia, Neuropsychological, Pattern performance

### **INTRODUCTION**

Cognitive deficits are now considered a central feature of schizophrenia. Impairments in some domains are reported before the emergence of the hallmark positive symptoms of the illness (Davidson et al., 1999; Cornblatt et al., 1999) and moderate to severe impairments across most cognitive domains are detectable at the time of the first episode (Bilder et al., 2000; Savkin et al., 1994). It appears stable from emergence of the first episode until middle age (Rund, 1998). Longitudinal studies have confirmed that most deficits are trait abnormalities, persistent and stable over time (Heaton et al., 2001). Today researchers, investigators and forensic specialists alike are aware that schizophrenia is a neuro-cognitive disorder. Many have also become aware that the cognitive deficits in Schizophrenia are more enduring than the psychotic symptoms

and are responsible for the failure of the patients to improve in psychological functioning even when their psychotic symptoms are in remission. Poor learning and retention of verbal information is hallmark cognitive impairment in schizophrenia. Bilder and colleagues (2002) found mild to moderate deficits in attention, verbal fluency, working memory, and processing speed with superimposed severe deficits in declarative verbal memory and executive functioning. Patient with schizophrenia have, as a group, lower intelligence quotient scores than the general population. The difference is evident prior to the first episode of psychosis, with patient on the schizophrenia spectrum showing poorer performance on general IQ and non-verbal reasoning in particular (Reichenberg et al., 2006). Overall it has been established that the cognitive deficits are not generalized in

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nature but are in specific domains of attention, verbal and face memory, information processing and executive functions. The present study is aimed to understand the pattern of the neuropsychological functioning of known schizophrenic patients.

**METHOD**

The study was conducted at Dayanand Medical College & Hospital, Ludhiana, India. A total of 30 known schizophrenic patients (diagnosed as per the ICD-10 criteria), both indoor as well as out-door, were evaluated for their intellectual and memory functioning using Verbal intelligence scale (Indian version which has four subtests i.e. Information, Digit span, Arithmetic and comprehension), Alexander’s Pass- along test (to see the executive function) and PGI memory test. The morning doses of the psychotropic drugs were withheld at the time of evaluation. Patients with any other medical disorders and with active substance abuse were excluded from the study.

**RESULTS**

Table I Shows the sample of the present study was homogenously distributed in terms of Gender, Age and Educational Level

**Table I:- Demographic Variables of Subjects(n=30)**

Age (in years)	Male (N= 15)	Female (N=15)
< 20	03	04
21-40	10	09
> 41	02	02
Educational Level		
Upto Matric	10	12
Matric- Graduation	03	02
> Graduation	02	01

**Table II: Verbal and Non Verbal Intellectual Functioning of Subjects.**

	MILD {50-70}		MODERATE {35-49}		SEVERE {20-34}		NORMAL		TOTAL (IN %)	
	M	F	M	F	M	F	M	F	M	F
INFORMATION	05	02	01	01	01	01	08	11	46.67	26.67
COMPREHENSION	06	10	00	00	01	02	08	03	80.00	46.67
ARITHMETIC	06	03	02	01	02	00	05	11	66.67	26.67
DIGIT SPAN	02	04	01	03	01	02	11	06	26.67	60.00
PERFORMANCE I.Q.	13	10	00	00	01	02	01	03	93.33	80.00

Table II shows verbal and non-verbal intellectual functioning of the subject on Verbal

intelligence test and Alexander pass along test. The male subjects (46.67%) were showing more deficit on information subtest of VAIS (Verbal Adult Intelligence Scale) than females (26.67%). On comprehension subtest 80% males were showing significant deficit in comparison to females (46.67%). On Arithmetic subscale males were showing significantly higher deficit (67.67%) whereas 26.67% females were showing deficit on this parameter. On attention and concentration parameter i.e. digit span test, 60% females were showing significant deficit in comparison to 26.67% of males. On Executive function parameter (Alexander Pass- Along Test), significant deficit was noticed in majority of the patients irrespective of the sex but males were showing a higher percentage (93.33%) than females (80%).

Table III Shows the memory functioning of the subjects.

**Table-III: Memory Functioning of the Subjects (N=30)**

PGI MEMORY SCALE	Normal		MILD		SEVERE		Total (in %)	
	M	F	M	F	M	F	M	F
1. REMOTE MEMORY	03	03	06	07	06	05	80.00	80.00
2. RECENT MEMORY	08	11	04	03	03	01	46.67	26.67
3. MENTAL BALANCE	02	06	04	03	09	06	86.67	60.00
4. ATTENTION AND CONCENTRATION	07	04	02	05	06	06	53.33	73.33
5. DELAYED RECALL	02	02	09	08	04	05	86.67	86.67
6. IMMEDIATE RECALL	03	05	08	07	04	03	80.00	66.67
7. VERBAL RETENTION OF SIMILAR PAIRS	03	04	06	05	06	06	80.00	73.33
8. VERBAL RETENTION OF DISSIMILAR PAIRS	04	03	03	02	08	10	73.33	80.00
9. VISUAL RETENTION	04	05	02	03	09	07	73.33	66.67
10. RECOGNITION	07	06	03	04	05	05	53.33	60.00

Remote memory and Delayed Recall subtest appears highly affected area irrespective of the sex (80%, & 86.67% respectively). Mental balance was affected more in males (80 %) as compared to females (60%). Immediate recall was more affected in males (80 %) as compared to females (66.67 %). Attention and concentration was more affected in females (77.33 %) as compared to males (53.33 %).

**DISCUSSION**

Though we treat schizophrenic patients but they relapse, feel difficulty to compete with



their peers and generally feels left behind. A holistic psychobiological plan is required to help such patients. Keeping above notion in mind the present study was planned to understand pattern of the neuropsychological functioning of known schizophrenic patients. Verbal and non-verbal intellectual functioning of the subjects, the males were showing more deficit on information subtest of VAIS (Verbal Adult Intelligence Scale) than females. This is a very interesting finding because mostly males are working and moving out and have more information than females but in schizophrenic patients, they may go out and try to work but they are not able to process information around them due to their illness, but schizophrenic female patients are able to process this information. This is also supported by many studies that schizophrenic patients not only have lower IQ prior to and at first episode, but decline in IQ after the diagnosis. But these studies are not specifying the pattern of deficit in intellectual functioning of schizophrenia (Reichenberg et al., 2006. Seidman et al., 2006)

On comprehension subtest males were showing significant deficit in comparison to females. This shows that the general comprehension parameter is affected more in male schizophrenics. None of the study in literature highlighted this fact. Other researchers have also noted that schizophrenia exhibit impaired word, sentence and paragraph comprehension and particularly performed poor on functional reading comprehension subtest. The authors contended that “real life” functional reading comprehension may in fact be even poorer in their population (La Pointe & Horner, 1979).

On attention and concentration parameter i.e. digit span test females were showing significant deficit in comparison to males. Capsi et al. (2003) also explained that attention impairments are typically present and of moderate severity.

On Executive function parameter

(Alexander Pass Along Test), significant deficit was noticed in majority of the patients irrespective of the sex but males were showing a higher percentage than females. This is in consistent with findings of other researches who have found that there is gross impairment in the executive functioning (Goldberg et al., 1990; Bustini et al., 1999)

The overall picture shows that females are having more defects on attention and concentration, parameters which shows indication of more negative symptoms in females in comparison to males in majority of schizophrenic patients. The majority of schizophrenic patients showing deficits in comprehension and arithmetic ability which may be due to schizophrenic symptomatology where patient is lost in their inner world and not receiving the environmental stimulus. This is unique finding where clear cut difference in pattern of performance in male and female schizophrenic patients was seen. Though the executive functions in both the sexes were poor but the reason of deficit in executive function is different which shows clear cut gender difference in neuropsychological pattern of performance in such patients. These results are supported by findings of other researchers which found mild to moderate deficit in attention, verbal fluency, working memory and executive functioning (Bilder, 2002; Harvey et al., 1990).

Regarding the memory functioning of the subjects, remote memory and Delayed Recall subtest appears highly affected area irrespective of the sex. Other researchers have also reported that impaired ability to encode and retain verbally presented information is one of the consistent findings and these deficits tend to be more severe than other cognitive ability domains (Saykin et al., 1991; 1994). Mental balance and immediate recall were found dysfunctional exclusively in male schizophrenic patients in comparison to females whereas attention and concentration and verbal retention of dissimilar pairs was found dysfunctional exclusively in female

patients in comparison to males. This pattern performance shows a significant relationship in pattern of performance of schizophrenic patients where male patients showing dysfunction due to poor comprehension and lack of immediate recall whereas females are having major problems in their attention and concentration. Other researchers have also reported that in schizophrenic patients there is poor storage of verbal information (Kerns et al., 1999) as well as inefficient retrieval of information from semantic networks (Aloia et. al., 1996; Goldberg et. al., 1998). Deficits in verbal fluency are associated with poor interpersonal functioning (Addington & Addington, 2000) and deficiencies in verbal memory and vigilance may prevent patients from attaining optimal adaptation, community functions and hence may act as rate limiting factors in terms of rehabilitation (Green 1996; Remfer et al., 2003). These evidences strongly supports the view that cognitive impairment in schizophrenia is directly related to social deficits and functional.

## CONCLUSION

Schizophrenic patients show significant deficits in their neuropsychological functioning though the pattern was gender wise different. Recall and executive functions of Schizophrenic patients were very poor irrespective of their sex. This shows that combining pharmacological treatment with behavioural approaches which includes training on computerized tasks similar to existing cognitive tests, teaching new learning strategies and training on novel task; and/or performing tasks respectively, might represent the best chance for improving or normalizing cognition in schizophrenia

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## Executive Functions in Medicated Vs Drug Naïve Patients with Obsessive Compulsive Disorder

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### ABSTRACT

Several studies have found that OCD subjects have selective neuropsychological deficits in executive functioning (e.g. set shifting ability, response inhibition, and decision making), non-verbal (e.g., visual) memory, and visuospatial and visuo-constructional skills. Many studies found no deficits in non-verbal memory, set-shifting, response inhibition, decision making and planning functions. Findings of neuropsychological studies of OCD are inconsistent. There is limited research on executive functioning in medication-naïve, never treated OCD patients and no study compared drug naïve and medicated OCD with that of normal controls. In this study, we assessed 25 drug naïve, 25 medicated OCD patients and 25 normal participants matched for age, gender, and years of education on the executive tests-SWM, SRM, and SOC. Results revealed that there was no significant difference between drug naïve OCD and on medication OCD group on executive function tests. Both drug naïve OCD and on medication OCD group performed significantly poor on executive function in comparison to normal controls. It is concluded that medicated Vs drug naïve patients of OCD performed at a comparable level on executive function tests: SWM, SRM, and SOC. There were no effects of medication on executive function tasks in OCD.

**Key words:** Executive Function, Medication, Obsessive- Compulsive Disorder

### INTRODUCTION

Obsessive-compulsive disorder (OCD) is a psychiatric condition characterized by intrusive unwanted thoughts and/or repetitive and stereotyped behaviors severe enough to interfere with a person's ability to function on a daily basis (American Psychiatric Association, 1994). Executive functions refer to a constellation of 'higher order' functions such as inhibition, set shifting, planning and organization, and working memory. A large number of neuropsychological studies in patients with obsessive-compulsive disorder (OCD) have examined the neurobiology of OCD. Executive dysfunction is among the most consistent findings in medical literature on this topic (Greisberg & McKay, 2003; McKay et al., 2004). This finding suggests that dysfunctional frontal-cortical brain circuits are involved in the pathogenesis of OCD.

Obsessive-compulsive disorder (OCD) is associated with impairments in multiple neuropsychological domains but findings of neuropsychological studies of OCD are inconsistent. One potential reason for poor replication is the confounding influence of medications. Several studies have found that OCD subjects have selective neuropsychological deficits in executive functioning (e.g. set shifting ability, response inhibition, and decision making), non-verbal (e.g., visual) memory, and visuospatial and visuo-constructional skills (Savage, 1998; Greisberg & McKay, 2003; Kuelz et al., 2004; Chamberlain et al., 2005; Olley et al., 2007). In addition, recent research has also identified planning deficits in OCD patients and their unaffected relatives (Nedeljkovic et al., 2009; Cavedini et al., 2010). Many studies found no deficits in non-

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verbal memory (Viswanath et al., 2009) set-shifting (Kuelz et al., 2004) response inhibition (Moritz et al., 2002), decision making (Nielen et al., 2002), fluency (Christensen et al., 1992; Schmidtke et al., 1998) and planning functions (Schmidtke et al., 1998).

There is limited research on neuropsychological performance in medication-naïve, never treated OCD patients. There are only two studies on neuropsychological performance of drug naïve or unmedicated OCD (Mataix-Cols et al., 2002; Krishna et al., 2011). Mataix-Cols et al. (2002) studied 52 OCD patients (28 medicated, 16 medication-free and 8 medication - naïve), who were assessed on neuropsychological measures of general intelligence, attention, verbal and non-verbal working memory, declarative and procedural learning, visuo-constructive skills, and executive functions. This study did not find any differences between unmedicated and medicated groups. However, the majority of patients in the study were medication-free, rather than medication- naïve. The study also did not employ individually matched healthy controls. An Indian study, Krishna et al. (2011) found that 31 medication-naïve OCD patients did not significantly differ from healthy controls on most neuropsychological tests including executive function tests [Controlled Oral Word Association Test (COWA), Design Fluency Test, WMS—Letter Number Sequencing, WMS — Spatial Span, Wisconsin card sorting test (WCST), Iowa Gambling Task (IGT), Object Alternation Test (OAT), Stroop Color Word Interference Test, Tower of London Test (TOL), and Trail Making Test (TMT)] except performance on the TOL. On the TOL, patients performed somewhat poorly on the highest goal hierarchy indicating potential planning difficulty. While Purcell et al. (1998) found that OCD patients (whether on or off medication) were impaired on a task that assesses visual memory and executive functioning [the Spatial Working Memory (SWM) task] and on another executive function task [the Stockings of

Cambridge (SOC)] during motor initiation and execution. In India Trivedi et al. (2008) found that OCD patients (on medication) performed poorly on all the neurocognitive parameters (Wisconsin Card Sorting Test, Spatial Working Memory, and Continuous Performance Test) as compared to controls.

Serotonin reuptake inhibitors (SRI) are the most commonly prescribed medications used to treat OCD (Fineberg & Craig, 2008). It is known that manipulation of serotonergic system can influence cognitive functioning (Meneses, 1999). In a systematic review which compared mean effect sizes of group differences on neuropsychological performance between medicated and unmedicated OCD patients, it was found that SRIs impair speed of information and Wisconsin Card Sorting Test (WCST) performance in OCD patients (Kuelz et al., 2004). However, this study did not account for the possibility that medicated patients could be more severely ill than unmedicated patients, which may have accounted for the findings. A study which examined symptomatic improvement and neuropsychological performance in 25 OCD patients following treatment with sertraline found that there was improvement in cognitive performance which did not correlate with the level of symptomatic improvement (Borkowska et al., 2002). The authors have suggested that this improvement may be secondary to dopaminergic effects of SRIs rather than serotonergic effects.

To clearly understand the effects of medication on executive functioning, we need to compare the executive function in medication-naïve, never-treated OCD patients with that of medicated OCD and normal controls. The aim of our study is to compare the executive function profile among 25 drug naïve, 25 medicated OCD patients and 25 normal controls and to relate various demographic data and clinical data with executive function profile of patients with drug naïve and medicated OCD patients. The present study used a battery of neuropsychological tests sensitive to frontal lobe dysfunction. They are: SOC, SWM, and SRM, thought to represent



distinct aspects of executive functioning (decision making, planning ability, problem solving ability, working memory). Previous research has used test to measure executive function like Trail-Making Test, Stroop Test, Tower of Hanoi, Weigl's Sorting Test, Word Fluency Test, WCST, Object Alternation Test, Wechsler Memory Scale, Learning Test (RAVLT), Tactual Performance Test (TPT). Only a few study measured executive function by using tests from CANTAB like SWM, SOC, and SRM. There is limited research on executive functioning in medication-naïve, never treated OCD patients and no study compared drug naïve and medicated OCD with that of normal controls. So the present study is done.

## **MATERIALS AND METHOD**

### **Sample:**

This is a hospital-based cross sectional study done at Central Institute of Psychiatry, Ranchi. The sample comprised of 25 drug naïve and 25 medicated OCD patients and 25 normal participants. These individuals fulfilled the criteria for obsessive compulsive disorders according to DCR of ICD- 10 (WHO, 1992). Patients should be both drug naïve and on treatment and mild to moderate level of depression and anxiety were not in exclusion criteria. Patients with any co-morbid psychiatric disorder and any significant neurological disorder, head injury, epilepsy, major physical illness, and using any substance were excluded from the study.

### **Tools:**

#### **Socio-Demographic and Clinical Data Sheet:**

A socio-demographic and clinical data sheet was specifically designed for the study to record relevant details of each case. The semi-structured Performa contained socio-demographic characteristics and the clinical characteristics.

#### **General Health Questionnaire -12 (Goldberg & Williams, 1988):**

It was developed by Goldberg and Williams (1988). It is used to screen psychiatric morbidity

in the subjects and it consists of twelve items.

#### **Yale Brown Obsessive Compulsive Scale (Goodman et al., 1989):**

It was developed by Goodman et al. (1989); it is a rating scale and found to be valid and reliable tool for measuring the severity of obsession and compulsion. A score of 0-7 is sub-clinical; 8-15 is mild; 16-23 is moderate; 24-31 is severe; and 32-40 is extreme.

#### **Beck's Depression Inventory (Beck et al., 1961):**

It was developed by Beck et al. (1961). It is a subjective rating scale and is found to be valid and reliable tool for measuring the severity of depression. BDI has 21 items. The severity of depression is then determined when the scores are tallied as follows: 0-9: the person is not depressed; 10-18: mild to moderate depression; 19-29: moderate to severe depression; 30-63: severe depression.

#### **Hamilton Anxiety Scale (Hamilton, 1959):**

It was developed by Hamilton (1959). It is an observer rating scale and found to be valid and reliable tool for measuring the severity of anxiety. Each item is scored on a scale of 0 (not present) to 4 (severe), with a total score range of 0-56, where <17 indicates mild severity, 18-24 mild to moderate severity and 25-30 moderate to severe.

#### **Cambridge Neuropsychological Test Automated Battery (CANTAB, 1999):**

This battery was used to assess the Spatial Working Memory; subject's ability to retain spatial information and to manipulate remembered items in working memory. This test has two outcome measures: Between errors and Strategy. To assess the subject's ability to recognize the spatial locations of target stimuli. This test has one outcome measures i.e., percent correct and to measure the Stockings of Cambridge which is related to spatial planning and motor control test. This test has three outcome measures: Problem solved in minimum moves, Mean initial thinking time, Mean subsequent thinking time.

**Procedure:**

The patients with diagnosis of obsessive compulsive disorder according to ICD-10 DCR who satisfied the inclusion and exclusion criteria were taken up as patients group, and were taken from the Central Institute of Psychiatry, Kanke, Ranchi. The socio-demographic and clinical data were obtained and scales for measuring severity of symptoms namely, Yale- Brown obsessive compulsive scale, Beck’s depression inventory and Hamilton anxiety scale were administered. Then the specific tests for executive function namely, Spatial recognition memory test, Spatial working memory test, Stockings of Cambridge test were administered on the patients group.

The normal controls fulfilling the inclusion and exclusion criteria were assessed on socio-demographic data sheet. They were also assessed on General Health Questionnaire-12. Then the same executive function tests which were used for patients group were administered onto these subjects.

**Statistical Analysis:**

The collected data was statistically analyzed by using Statistical Package for Social Sciences (SPSS 16.0). To summarize the continuous and discrete variable percentages, mean and standard deviation of three groups (OCD receiving anti-obsessive drugs, OCD drug naïve, and normal control) were calculated. Means of two groups (OCD, and normal control) were compared by using independent sample t-test, for continuous variables and chi-square was used for categorical variables. ANOVA (F-ratio) was done to compare means of three groups (OCD on medication, OCD drug naïve, and normal control). Pearson correlation (r) was applied for continuous data and Point biserial correlation was applied for categorical data to see the relationship between executive function tests and socio-demographic and clinical variables. Pearson correlation (r) was also applied to see the relationship between executive function tests and screening test (Y-BOCS, BDI, HAM-A) for psychopathology.

**RESULTS**

Patients of OCD on medication group has mean age of 28.96 ± 6.16 years, mean education of 12.88±2.86 years, mean age of OCD drug naïve group is 28.76±7.03 and mean education of 12.28±1.84 years and control group has mean age of 26.68±5.44 and mean education of 13.36±1.75 years. There was no significant difference among OCD on medication, OCD drug-naïve and control groups in terms of age and education. Majority of participants of OCD groups were Hindu and belonged to low socio-economic status and rural background (Table-1).

**Table-1: Comparison of Socio-demographic Characteristics (continuous variables) among OCD on Medicated, OCD Drug Naïve and Control Groups.**

Variables	OCD on medicated Group (N=25) Mean ± SD	OCD drug naïve Group (N=25) Mean ± SD	Control group (N=25) Mean±SD	F-ratio (df=2,72)	P
Age(in years)	28.96 ±6.16	28.76±7.03	26.68±5.44	1.02	0.37
Education (in years)	12.88±2.86	12.28±1.84	13.36±1.75	1.50	0.23

Significant at \*p<0.05 \*\* p<0.01

The performance of drug naïve OCD, medicated OCD and normal controls were compared on SWM, SRM, and SOC. The analysis of variance (ANOVA) was performed for the comparison of three groups. The F-ratio has indicated that there is significant difference on SWM (between error and strategy), SRM (correct percent), SOC (mean subsequent thinking time and problem- solved in minimum moves). Post hoc analysis has revealed that both drug naïve OCD and on medication OCD groups were similar on SWM (between error), SRM (correct percent) and SOC (problem- solved in minimum moves). Both drug naïve OCD and on medication OCD groups performed significantly poor on SWM (between error), SRM (correct percent) and SOC (problem- solved in minimum moves) in comparison to normal controls. On SWM (strategy) and SOC (mean subsequent

thinking time) drug naïve OCD group performed significantly poor in comparison to control groups (Table -2).

**Table-2: Comparison of Scores of Spatial Working Memory (SWM), Spatial Recognition Memory (SRM), Stockings of Cambridge (SOC) among Drug- Naive OCD, Medicated OCD and Control Groups.**

Variables	OCD Drug Naive group (N=25) Mean ±SD (a)	OCD on Medication group (N=25) Mean ±SD (b)	Control Group (N=25) Mean ±SD (c)	F ratio (df=2, 72)	P	Post-hoc
Spatial Working Memory (between error)	50.88±19.44	46.76±20.89	33.00±19.75	5.46	0.006**	a & b>c
Spatial Working Memory (strategy)	38.56±4.61	37.36±3.62	35.00±3.35	5.40	0.007**	a>c
Spatial Recognition Memory (correct percent)	73.20±14.35	70.60±14.09	85.60±6.01	10.94	<0.001***	a & b <c
Stockings of Cambridge (mean initial thinking time)	6,821.29±5,000.39	4,978.90±4,677.68	5,510.43±4,154.17	1.05	0.355	-
Stockings of Cambridge (mean subsequent thinking time)	4,243.20±4,296.31	2,508.92±3,140.83	1,415.10±1,711.94	4.88	0.010**	a>c
Stockings of Cambridge (problem-solved in minimum moves)	6.20±1.44	5.92±1.58	7.52±1.42	8.31	<0.001***	a & b<c

Significant at \*p<0.05; \*\* p< 0.01; \*\*\*p<0.001

Correlation coefficient (r) between the tests of executive function and screening, socio-demographic and clinical variables of drug naïve OCD group was computed. It was found that age of the patient was negatively correlated with SRM correct percent. Age of onset was positively correlated with SOC mean subsequent thinking time. The Y-BOCS total score of OCD patients had significant negative correlation with SOC (problem solved in minimum moves) (p <.05).

OCD patients scores on BDI and HAM-A did not correlate with impaired performance on any measures of executive function, indicating that levels of depressive and anxiety symptoms did not influence the patients executive impairment. The age of patients was significantly negatively correlated with SRM (correct percent) (p <.05). The age of onset of illness had significant positive correlation with mean subsequent thinking time of SOC (p<.05) (Table 3).

**Table-3: Pearson’s Correlation between Executive Function Tests and Screening, Socio-demographic and Clinical Variables of Drug- Naive OCD Group (N=25).**

Variables	Age in yrs. (r)	Education in yrs. (r)	Duration of illness in yrs. (r)	Age of onset in yrs. (r)	Y-BOCS total (r)	BDI total (r)	HAM-A total (r)
SWM between error	0.37	-0.34	0.08	0.33	0.13	0.08	-0.18
SWM strategy	0.21	-0.12	-0.06	0.30	-0.10	-0.00	-0.14
SRM correct percent	-0.47*	0.07	-0.28	-0.27	0.16	0.05	-0.02
SOC mean initial thinking time	0.11	-0.07	0.20	-0.06	0.02	-0.10	0.13
SOC mean subsequent thinking time	0.40	-0.02	-0.06	0.42*	0.15	-0.15	0.07
SOC problem solved in minimum moves	-0.39	0.35	-0.34	-0.12	-0.45*	-0.21	-0.35

Significant at \*p<0.05

Correlation coefficient (r) were computed between the tests of executive function and screening, socio-demographic and clinical variables of OCD on medication group and no correlation was found between screening test, socio-demographic variable, clinical variable and the tests of executive function.

**Table-4: Pearson’s Correlation Between Executive Function Tests and Socio-Demographic and Clinical Variables of OCD on Medication Group (N=25).**

Variables	Age in yrs. (r)	Eucctiion in yrs. (r)	Dura-tion of illness in yrs. (r)	Age of onset in yrs. (r)	Durati on of treat-ment in yrs.(r)	Y-BOCS total (r)	BDI total (r)	HAM-A total (r)
SWM between error	0.21	-0.21	0.17	0.09	0.28	0.05	0.19	0.13
SWM strategy	0.27	-0.37	0.01	0.31	0.13	0.15	0.15	0.12
SRM correct percent	-0.10	0.26	-0.09	-0.03	-0.25	-0.08	-0.18	0.14
SOC mean initial thinking time	0.14	0.08	-0.01	0.17	-0.08	0.03	0.07	0.04
SOC mean subsequent thinking time	0.29	0.26	0.16	0.20	-0.11	0.16	0.24	0.01
SOC problem solved in minimum move	0.27	0.02	-0.04	-0.28	0.18	-0.06	-0.16	-0.33

**DISCUSSION**

The aim of our study is to compare the executive function profile among 25 drug naïve, 25 medicated OCD patients and 25 normal controls. The present study used a battery of neuropsychological tests sensitive to frontal lobe dysfunction. They are: SOC, SWM, and SRM, tests from CANTAB, thought to represent distinct aspects of executive functioning (decision making, planning ability, problem solving ability, working memory). So we compared the scores of tests of different component of executive function (planning ability, decision making ability, problem solving ability, and working memory) between medicated vs drug- naïve patients of OCD. The main finding of this study is that medicated vs drug- naïve patients of OCD performed at a

comparable level on executive function tests: SWM, SRM, and SOC. There were no effects of medication on executive function tasks of OCD groups. These findings are in agreement with neuropsychological studies in OCD that compared medicated and unmedicated subjects within their patient groups and found no differences in executive functioning (Purcell et al., 1998; Simpson et al., 2006; Martin et al., 2008). Patients with OCD on medication and drug naïve OCD group performed poorly on all the tests of executive function than normal control. It demonstrates that OCD patients have poor executive functions viz. deficits in decision making, planning ability, problem solving ability, working memory.

Among socio-demographic/clinical correlation of drug naïve OCD group age of the patient was negatively correlated with SRM correct percent. Srinivasan et al. (2005) found that increasing age was related to poorer performance on tasks of attention, executive function and memory, which has been pointed out to be the result of an ageing brain in patients. Age of onset was positively correlated with SOC mean subsequent thinking time. Similarly Roth et al. (2005) investigated whether patients with early (N=21) and late (N=17) onset OCD differ with respect to neuropsychological functioning and found that patients with early and late onset OCD differ in their pattern of neuropsychological functioning. The late onset OCD group obtained poorer scores on measures of executive function, auditory attention and verbal and visual memory than the early onset group. These findings suggest that early and late onset OCD may be the result of at least partially differing neurobiological mechanisms. Patients with early onset OCD only showed poorer memory for prose passages relative to healthy comparison subjects. The Y-BOCS total score of OCD patients had significant negative correlation with SOC (problem solved in minimum moves) (p <.05). Kitis et al (2007) also found that the severity of obsessive-compulsive symptoms was correlated to performance on

executive functions, verbal learning-memory and visuomotor tracking. There were significant correlations between severity of obsessive compulsive symptoms (YBOCS total scores) and Wisconsin Card Sorting Test (WCST) category ( $r=-0.45$ ), WCST perseverative error ( $r=0.51$ ), Rey Auditory Verbal Learning Test (RAVLT) total score ( $r=-0.48$ ) and Trail Making Test –A ( $r=0.43$ ) and B ( $r=0.59$ ) scores.

Overall, the present study suggests that there is no significant difference between OCD on medication and OCD drug naïve group on test of executive function. But both groups of OCD performed poorly than normal control groups on executive function test.

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## Representational Drawings of Children With Autism

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### ABSTRACT

In the present study, the representational drawings of autistic children, typically developing children and younger typically developing children were compared and scored for visual realism in terms of omission errors and commission errors for the discrete and contextually placed objects. For the purpose of assessing autism, Childhood Autism Rating Scale was administered. Results showed that children with mild autism expressed meaning in the drawings of discrete objects in the same manner as the typically developing groups. However, they were found to be impaired in the drawings of contextual objects. These findings were interpreted as evidence of an impaired conceptualization and weak central coherence in autism.

**Keywords:** Representational Drawing, Visual Realism, Intellectual Realism and Weak Central Coherence.

### INTRODUCTION

Representational drawing emerges in children at the age of 20 months when scribbling occurs (Cox, 1992). Drawing development in children occurs through a series of stages: (i) failed realism- where elements within the drawings are unrelated to each other; (ii) intellectual realism- in which children draw what they know about an object; and (iii) visual realism- in which the child draws what is actually seen (Luquet, 1913, 1927).

Researches have been done to ascertain the occurrence and transition from intellectual to visual realism in children with autism. Striking realistic drawing talent has been reported in a small percentage of individuals with 'savant syndrome', those individuals diagnosed with autism who exhibit a disproportionate ability in one domain e.g., music, mental calculation, realistic drawing (Rimland & Fein, 1988; Drake & Winner, 2011-2012). Drawings made by non-savant children with autism have been reported to show similar levels of visual realism as those produced by mental age-matched children, with some qualitative differences to the topics drawn and the representational drawing process (Booth

et al., 2008). The wider autistic population shows impairment of conceptual thinking as assessed by the sorting procedures and other tests of semantic generalization (Ropar & Peebles, 2007).

Two opposing theories have been proposed to account for the strong visuo-spatial performance often seen in high-functioning individuals with autism. According to the weak central coherence account, individuals with autism show a local processing bias with a superior grasp of the local details of a visual display but fail to grasp global aspects of the display (Happé & Frith, 2006). According to the enhanced perceptual functioning account, individuals with autism have superior local processing as well as intact global processing (Motttron & Burack, 2001). The drawing development in children with autism has failed to uncover any evidence that they make a precocious transition from intellectual to visual realism (Charman & Baron-Cohen, 1993).

The present study compared the representational drawings of autistic and non-autistic children in tasks presented either as discrete objects or contextually placed objects.

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In the former case, expressions of meaning were assessed by children's drawings of tasks with salient decorative details like a striped mug and a teapot with a pattern above its spout to make them unique. To ascertain how global meaning influences children's drawings, commission errors for the mug (no context) were compared with those elicited by the 'cup-and-saucer' condition and the 'cup-and-flowers' condition (context). For all the tasks, model was positioned such that its handle was occluded and its decorative information was on view.

## **METHOD**

### **Participants**

Children's participation in the study was subject to parental consent and passing a pre-test designed to ascertain whether they understood the concept of view specificity in pictures. All the typically developing children and younger typically developing children passed the pre-test while failures were recorded for three children with autism. Only those children with autism were taken who after passing the pre-test were able to draw simple figures in a session with the investigator. Following these exclusions, the final sample comprised 20 typically developing children, 20 children with autism and 20 younger typically developing children. The typically developing children comprised 16 boys and 4 girls, ranging in age from 8 years 6 months to 15 years 10 months ( $M=12:4\pm 24$ ). They were recruited from mainstream schools. The autistic group comprised 16 boys and 4 girls, ranging in age from 8 years 6 months to 15 years 10 months ( $M=12:4\pm 24$ ), recruited from autistic units. All the children had received their diagnosis of autism from experienced clinicians according to DSM-IV TR criteria (American Psychiatric Association, 2000). The younger typically developing group comprised sixteen boys and four girls, ranging in age from 4 years 2 months to 8 years 6 months ( $M:6:3\pm 18$ ).

### **Materials**

The materials used in the study were a

teddy bear, doll, striped mug, two teapots, a cup and saucer, and artificial flowers (tulips). The same tasks as used by Ford and Rees (2008) were used in the study. For the purpose of ascertaining the diagnosis and severity of autism, Childhood Autism Rating Scale was administered.

### **The Mug Task**

Each child sat at a table and was shown a striped mug and told, "This is what I drink my coffee from at play time". The researcher gave a stimulated demonstration of sipping from the mug and then handed it to the child to examine. The mug was then placed onto the table in front of the subject so that its handle was occluded. The investigator then said: "draw exactly what you can see. Draw how it looks to you from where you are sitting".

### **The Teapot Task**

Still sitting at the table, each child was shown two white teapots which were identical except different patterns above the spout. These patterns were drawn to the child's attention and it was explained that the teapot with the triangle belonged to the researcher, whereas the teapot with circle belonged to her friend. The child was then asked to recall which teapot belonged to which person. Next, one of the teapots was removed and the remaining teapot was placed on the table in a position so that its handle was occluded but the spout and the pattern were clearly visible. The child was then asked to "draw my teapot exactly as it looks to you from where you are sitting".

### **The Cup-and-Saucer Task**

The child was shown a cup and saucer and asked to examine them. The cup was placed on the saucer and was placed onto the table so that its handle was occluded. The investigator then said: "draw the cup exactly as it looks to you from where you are sitting".

### **The Cup-and-Flowers Task**

The child was shown a cup and some artificial flowers. The flowers were placed in the cup, which was then placed on the table

and turned, so that its handle was hidden from the view. Again, the child was asked by the investigator to “draw the cup exactly as it looks to you from where you are sitting”.

**Childhood Autism Rating Scale (CARS; Schopler, Reichler, & Renner, 1986).**

It consists of 15 items, scored on a 7-point Likert scale. It yields a total score which is useful as a continuous measure of the severity of autism as well as a trichotomous categorical diagnosis of not autism, mild/moderate autism, or severe autism.

**Procedure:**

For the pre-test, children were shown a teddy and a doll and were asked to select the photograph showing their present position. Successful performance on these tasks was followed by administration of the representational drawing tasks in which the children were shown a striped mug, two identical teapots but with different patterns, cup-and-saucers and cup-and-flowers, respectively and in each case the handle was hidden from the view. Childhood Autism Rating Scale was administered on the participants, despite the evaluations for autism done during their stay at autistic units. These tests were administered on participants with the purpose of ascertaining whether autistic children had mild, moderate, or severe autism. Only those children who had been assessed by the autistic units as having average intelligence were taken for the present study.

**RESULTS**

**Differences in CARS Scores among Groups:**

Table1 presents CARS scores for autistic, typically developing and younger children. A one-way ANOVA was significant  $F(2,57) = 7.77, p < .001$  and significant post hoc group differences were found such that the autistic group mean was significantly higher than the typically developing group, and the younger typically developing group. There appears to be relatively clear separation among the distributions, at least for the first two groups.

Autistic children had mild autism (CARS mean score 35.5) as assessed by the Childhood Autism Rating Scale.

**Table 1. Childhood Autism Rating Scale Scores.**

	Autistic (N=20)	Typically developing (N=20)	Younger typically developing (N=20)	ANOVA statistics
M	35.5	15.7	16.6	$F(2,57) = 7.77, \text{Autistic} > \text{Younger Typically developing} > \text{typically developing}$
SD	2.45	1.75	1.15	
Range*	23.0-49.0	15.0-21.0	15.0-24.0	

\*The possible range of scores is 15-60

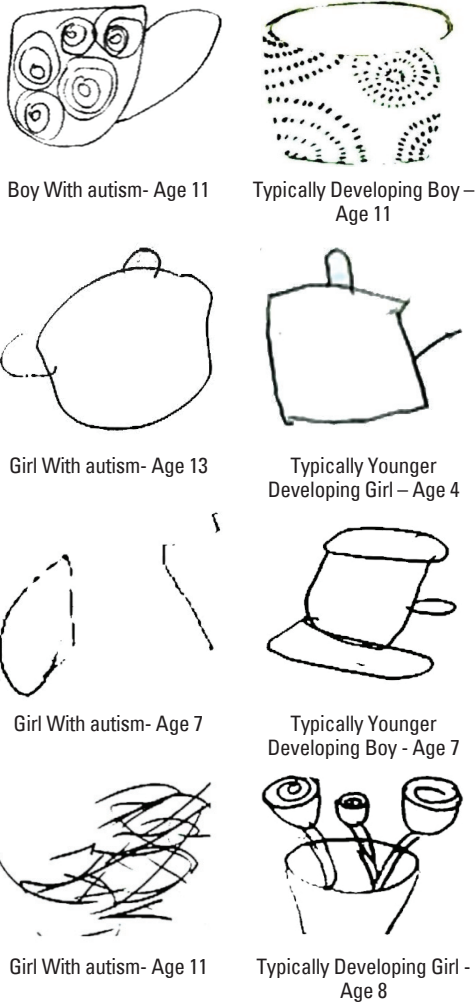
**Representational Drawing Tasks:**

In the representational drawing tasks, all the typically developing children, younger typically developing children and children with autism produced recognizable drawings. Examples of drawings are presented in Figure 1. The drawings were analyzed to compare the drawing skills of children with autism and typically developing groups.

Initially, the drawings were scored on a number of dimensions of visual realism. In addition to the primary dimensions of interest (namely, avoidance of commission errors for the occluded handles and omission errors for the visible decorative details), children’s drawings were scored for depicting the contextual attributes in the cup tasks (namely, the saucer and the flowers) and depicting the general features of the models with fine detail (e.g., by depicting the knob on the lid of the teapot or the rim of the mug). Children’s drawings were scored between 0 and 1, with a score of 1 for depicting the visual realism in terms of feature positioning of occluded handles (mug, teapot, cup-and-saucer and cup-and-flowers), decorative details (stripes of the mug and pattern of the teapot) and fine details (e.g., rim of mug/cups, knob, hole in the spout of teapot) .

Table 2 shows group means and standard deviations for each measure of visual realism. As seen in the table, autistic children, typically

developing and younger typically developing children depicted the occluded handles (mug, teapot, cup-and-saucer and cup-and-flowers) and the decorative details (stripes of the mug and pattern of the teapot) in their drawings. Thus, all the three groups showed commission errors for the occluded handles and the omission errors for the decorative details.



**Figure 1. Examples of Children's Drawings:**

Independent samples t tests that compared the group means on each of the measures of visual realism found no significant differences

between the groups (all p values > .05 two tail).

**Table 2 . Group Means and S D for each Measure of Visual Realism.**

	Handles	Stripes	Pattern	Saucer	Flowers	Fine detail
Autistic (N=20)	.42(.21)	.64(.52)	.31(.22)	.46(.22)	.68(.24)	.21(.20)
Typically developing (N=20)	.36(.35)	.69(.39)	.35(.46)	.42(.26)	.62(.31)	.14(.18)
Younger typically developing (N=20)	.41(.32)	.75(.44)	.45(.51)	.37(.29)	.66(.41)	.14(.18)

**Evidence of Conceptualization in Children's Drawings of Discrete Objects:**

Table 2 reveals that in all the groups, children omitted the decorative features of the discrete objects, particularly the pattern on the teapot. The pattern was excluded from the drawings of 52% of the typically developing children, 42% of the children with autism and 32% of the younger typically developing children. Children's omission errors for the decorative information suggest that their drawings were guided by genuine conceptualization.

**Evidence of Conceptualization in Children's Drawings of Contextually Situated Objects:**

Table 3 presents group means and standard deviations of visual realism for the occluded handle of each model (i.e., the proportion of participants who avoided a commission error). To determine the influence of global meaning on children's propensity for commission errors, results for the mug (no context) were compared with those of the cup-and-saucer and the cup-and-flowers (context) using Cochran Q comparisons. Among the children without autism, these comparisons revealed a reliable decline in the incidence of commission errors from the mug to the cup-and-saucer to the cup-and-flowers (typically developing: Cochran Q =12.52, df= 2, p < .01; younger typically developing children: Cochran Q = 4.52, df= 2, p < .05).



**Table 3 . Group Means and SD of Visual Realism for the Occluded Handle of Each Model:**

Mug	Teapot	Cup-and-saucer	Cup-and-Flowers	
Autistic (N=20)	.64(.41)	.56(.51)	.56(.51)	.61(.40)
Typically Developing N=20)	.21(.42)	.21(.42)	.41(.54)	.56(.52)
Younger typically developing (N=20)	.27(.47)	.32(.46)	.55(.52)	.65(.49)

**DISCUSSION**

The present study compared the representational drawings of autistic, typically developing children and younger typically developing children in simple drawing tasks. The findings of the study revealed that autistic children had mild autism as assessed by the Childhood Autism Rating Scale and produced representational drawings.

The results revealed that children showed lesser omission errors for the mug’s stripes than the teapot’s pattern in their drawings as the teapot’s representation was complex consisting of the handle, spout and lid. All the groups produced omission errors for the decorative details (pattern on the teapot, stripes of the mug). These findings suggest that children with autism were prone to an influence of meaning on their drawings. The results also point out that autistic children’s performance in the cup tasks stemmed from deficiencies of either executive skills or theory of mind.

It can be concluded that the children with autism perceived and expressed some meaning in the representational drawing tasks. The autistic and non-autistic children reacted similarly to isolated objects, though, only the children without autism showed impaired performance to depict an occluded handle when the model was placed in context, that is, cup-and-saucer and cup-and-flowers tasks. Such context impairment is the basis of the weak central coherence in autism. Research has also found deficits in autistic individuals in the processing of context for perceptual groupings( Brosnan , Scott, Fox, & Pye, 2004) , social cues (Ames & Jarrold,

2009) and face processing (Teunisse & Gelder, 2003) .

Studies of autism spectrum disorder individuals have reported the existence of ‘local processing biases’ as an explanation for their amazing ability to draw realistically(Mottron, Dawson, Soulieres, Hubert, & Burack,2006). However, contrary to it, children with autism in our study failed to show reduced commission errors and omission errors and heightened attention to fine details, as compared to the typically developing and the younger typically developing groups.

In summary, the present findings suggest that children with mild autism are capable of expressing meaning in their drawings but their ability to respond normally to contextual information is impaired in children without autism which is consistent with notions of weak central coherence in autism but further research is needed to rule out alternative explanations. The findings have implications for improving our understanding of the capacity of autistic children for conceptualization as well as providing some important insights into the reasons for exceptional artistic ability in some members of the autistic population. In order to validate our findings, further studies with larger sample size and children matched according to their mental age are needed to examine the representational drawings of autistic children.

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## **Does Self-Rating of Prospective Memory Correspond With the Performance on Objective Measures?**

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### **ABSTRACT**

Self-report measures are often used to assess prospective memory. However, there are equivocal findings about the correlation between self-report and objective measures of this memory system. Present study was conducted to see if the score of a self-report measure (Prospective and Retrospective Memory Questionnaire) correlates with scores derived from performance on prospective memory tasks. Findings reveal that the self-rating does not correlate with the level of performance on either event- or time-based prospective memory tasks. Findings have been discussed in the light of their practical implications.

### **INTRODUCTION**

An individual's perceived level of functioning in a cognitive domain can be ascertained by administration of self-report tools (e.g., questionnaires) related to that domain. However, the perceived level of functioning may or may not correspond with the actual level of functioning (Burdick, Endick & Goldberg, 2005; Herman, 1981; Janes, Casey, et al., 1995). In case of discrepancy, a self-report in comparison to objective performance can be either under- or over-estimation of own abilities. The false estimation of own abilities has wider implications. For example, if a person underestimates his ability it can lead to a false impression of impairment (in the absence of any such problem) or an exaggerated impression of impairment (if a problem exists at a milder level) (Burdick et al., 2005, Drysdale et al., 2004). Conversely, in case of overestimation the likelihood of a person with real impairment to be seen without any or less impairment increases.

Discrepancies between the findings of self-report and objective measures can be due to many factors. For instance, a self-report item can be affected by suggestibility effect leading to endorsement of an item which in reality is not 'true' for an individual. Likewise, questionnaires seek retrospective account of a given function and, therefore, chances of error increases.

Interestingly, it is not uncommon to infer status of a cognitive function in a clinical or non-clinical sample only on the basis of self-report measures (Rodgers et al, 2001). However, keeping in view the possibilities of discrepancies in perceived and actual levels of functioning, the likelihood of misleading conclusions based on the findings of self-report measures alone cannot be ruled out. One way of avoiding this error can be ascertaining the correlation of a self-report measure with objective measures of a construct.

Prospective memory (ProM) is an important cognitive domain having wider implications in everyday life. ProM refers to the ability to execute an intended action, without any explicit reminder, in future (McDaniel & Einstein, 2000). An example of ProM is forming an intention to switch-off oven in the kitchen after 10 minutes and the successful execution of this intention at the right juncture. ProM is commonly classified into event- and time-based types (Einstein & Mc Daniel, 1990). Event-based ProM refers to execution of an intention by interrupting an ongoing activity when an external cue appears. Time-based ProM refers to formation of an intention to execute an activity at a specific time in future and execution of that activity at the right juncture without an explicit reminder. Although both event- and time-based tasks involve performing an action by interrupting an ongoing

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activity, the time-based task is considered more difficult due to its independence from external cues (Shum, Valentine, & Cutmore, 1999).

A few everyday memory self report measures have items related to ProM. Important among them are Prospective and Retrospective Memory Questionnaire (PRMQ) (Smith, Della Sala, Logie, & Maylor, 2000), Everyday Memory Questionnaire (EMQ) (Sunderland, Harris & Baddeley, 1984) and Cognitive Failures Questionnaire (CFQ) (Broadbent, Cooper, Fitzgerald & Parkes, 1982). Among these CFQ has only two and EMQ has three ProM related items. PRMQ, one of the widely used tools, has eight ProM items.

Objective assessment of ProM is done with tasks having the stages of memorization, time interval and recall (Dalla, 1991). The first component consists of formation of an intention to be executed at a certain point in future. The time interval between the formation of intention and execution of action should exceed the short-term memory capacity, with or without interference. Finally, the recall and execution of the planned action should take place without any explicit instruction or request.

A widely used experimental paradigm, resembling real life conditions for the assessment of ProM, is the 'Einstein and McDaniel paradigm' in which an individual is busily engaged in a task and at the same time s/ he is instructed to perform an activity at certain junctures without explicit reminders (e.g., to press a response key on the computer whenever a certain target word appears during a short-term memory task; Einstein & McDaniel, 1990).

There are equivocal findings about the relationship between subjective and objective measures of ProM. Kliegel and Jager (2006) conducted a study on healthy community dwellers and found that the subjective assessment of ProM (as assessed by the PRMQ) correlated with objective performance on event- and time-based ProM tasks. However, in another study, correlations between the self-reports

and objective measures of both laboratory and naturalistic ProM were weak (Uttl & Kibreab, 2011). Likewise, Chan and colleagues (2008) failed to find significant correlations between the PRMQ scores and objective measures of ProM in schizophrenia as well as healthy control samples.

The self-report measures have been frequently used to assess ProM in various clinical and non-clinical samples (Ling, et al, 2003; Singer, 2005). However, the lack of clarity about the ability of these measures to assess the actual level of ProM casts doubts on generalizability of the findings. Therefore, more studies are needed to ascertain the direction of relationship between self-report and actual status of ProM in an individual.

Present study has been conducted to explore if a self-report measure score correlates with the scores derived from objective assessment of event- and time-based ProM.

## **METHOD**

### **Participants:**

Thirty-six volunteers (healthy community dwellers, age = 21.80±2.71 years, education = 13.17±1.46 years) participated in the study. All participants were right handed and had normal or corrected to normal visual acuity. They were informed about the study, except the real intent of ProM tasks as it would have affected their performance on the tasks. Participants were also informed about their rights as experimental participants. None of them were paid for participation. The study was conducted at the Central Institute of Psychiatry, Ranchi.

### **Material:**

#### **Event-based ProM task:**

A list of 75 general knowledge items was prepared which had five items with embedded ProM targets (items with the word 'state' as ProM target). The list was in a questionnaire form in which each item had four possible answers and the participants had to choose one correct answer. The questionnaire was

labeled “Discover India” as all the items were related to India. ProM targets were embedded in every 15<sup>th</sup> item. However, in order to prevent the subjects inferring the sequence of ProM target presentation (i.e., s/he has to execute the intended ProM activity on every 15<sup>th</sup> item), the items were not numbered. To reduce their anxiety, subjects were told that the general knowledge items were not meant for assessment of their intelligence or any such thing and that the experimenter was interested in just knowing their level of general awareness about India. Simple general knowledge items were included to keep the intervening task less cognitively demanding (e.g., “who was the first Prime Minister of India?”).

The items were presented on a computer screen. Participants were told that while working on the general knowledge items, from time to time they would see questions that would have the word ‘state’ and at that time, apart from answering the question, they had to tap the table once.

**Time-Based ProM Task:**

The time-based ProM tasks were embedded in a puzzle and reasoning task. The puzzle and reasoning task had items having four possible answers. The task was presented on a computer screen and in the upper-left corner of the screen a timer was on. The participants were supposed to solve those puzzle and reasoning items and select one answer for each item. Moreover, after solving each item, they were supposed to write (on a piece of paper) the number of the item and the chosen answer. As ProM task, every 5<sup>th</sup> minute they were supposed to tap the table once (having a window of one minute, thus tapping between 5<sup>th</sup> and 6<sup>th</sup> minutes, 10<sup>th</sup> and 11<sup>th</sup> minutes and so on). They were supposed to monitor the time with the help of the timer displayed on the computer screen. The reasoning task ran for around 28 minutes, thus, participants had a total of five possible time-based ProM trials.

**Prospective and Retrospective Memory Questionnaire (PRMQ):**

PRMQ (Smith, Della Sala, Logie & Maylor, 2000) was used as a self-report measure of ProM. The questionnaire has a total of 16 items – eight for retrospective and eight for prospective memory. The items are related to self-cued, environmentally cued, long-term and short-term ProM and retrospective memory.

**Procedure:**

Assessment was divided in two sessions. In the first session, the participants had to perform on the event-based ProM task and a few tests of another cognitive battery (findings of which have not been included in this study) and in the other session they had to perform on the time-based ProM task. The gap between the two sessions was one day. In the first session, the ProM task was always administered prior to the administration of other cognitive tasks. To control the effect of suggestibility due to responding on PRMQ items, half of the subjects responded on PRMQ in the first session and rest in the second session.

**RESULTS**

Table 1 presents mean scores of participants on objective and subjective ProM measures. Correlation analysis revealed that the PRMQ total score did not correlate with event-based ProM ( $r = .03, P>.05$ ) and time-based ProM ( $r = .01, P>.05$ ) objective assessment scores. Table 2 presents comparison of mean scores on subjective and objective measures of ProM of the group that responded on PRMQ in the first session with the group that responded on PRMQ in the second session. It shows that the order of PRMQ presentation did not have any effect on the performance on objective measures.

**Table 1 Participants’ Mean Score on Subjective and Objective ProM Measures**

Variables	M (SD)
Time-based ProM task performance	.58 (1.08)
Event-based ProM task performance	2.19 (1.68)
PRMQ ProM total score	18.19 (3.96)



**Table 2 Comparison of Mean Scores on Subjective and Objective Measures of ProM of the group that responded on PRMQ in the first session with the group that responded on PRMQ in the second session**

	PRMQ in the first session N = 18	PRMQ in the second session N = 18	t
PRMQ ProM total score	17.72 (3.98)	18.66 (3.94)	.715
Time-based ProM task performance	.50 (1.09)	.66 (1.08)	.458
Event-based ProM task performance	2.05 (1.86)	2.33 (1.53)	.488

**DISCUSSION**

Findings reveal that participants’ self-perception of ProM did not correlate with their performance on the objective measures. Furthermore, this lack of relationship was evident across both event- and time-based tasks. Even the order of presentation of PRMQ did not have any effect. Previous findings are equivocal about the relationship between self-report and objective measures of ProM (Kliegel & Jager, 2006; Chan et al., 2008; Uttl & Kibreab, 2011) and the findings of the present research are in consonance with the studies that negate correlation between these two measures.

Studies in context of other cognitive domains such as retrospective memory and motor functions, have reported lack of very modest correlation between self-report and objective measures (Burdick, Endick & Goldberg, 2005; Herman, 1981; Janes, Casey ; Huntsdale & Angus, 1999; Kempen, van Heuvelen; van den Brink, Kooijman, Klein; Houx, & Ormel, 1996). Present study highlights that ProM is not an exception.

In case of clinical populations the discrepancy between self-report and objective measures of memory has often been attributed to factors such as limited insight and forgetfulness in patients (Cohen, 1996; Herrmann, 1984 *As cited in* Crawford, Henry, Aileen. Ward. & Blake, 2006). However, the discrepancy observed in a non-clinical sample of the present study implies

that it is a universal phenomenon and is not limited to clinical populations. It is possible that self-reports of memory, in general, are prone to biasness.

Based on the present findings it is not possible to comment that participants’ perceived level of ProM, as evident from the responses on PRMQ, was better or worst than their level of performance on objective measures as the later were especially designed experimental tasks and lacked any normative data based cut-off. Therefore, it can not be inferred that the perceived level of ProM was over or under-estimation of ability. However, findings of the present study highlight the fact that commenting upon an individual’s or a group’s (clinical or otherwise) ProM ability based on self-report measures alone can be misleading.

This finding highlights the need to increase the accuracy of ProM self-report measures by establishment of their criterion-related validity while keeping objective measures as criterion. It is a fact that a clinician does not plan treatment or rehabilitation just on the basis of the perceived impairment; however, the usefulness of self-reports cannot be undermined as they reflect perception of a person which plays vital role in factors like treatment adherence and compliance (Burdick, Endick & Goldberg, 2005). Even some other factors such as easy administration and less sensitivity to non-response (Kempen, et al., 1996) encourage the use of self-report measures.

Limitations of the current study include the relatively small sample size (which decreases the power) and use of only one self-report measure. Also, though the experimental ProM tasks were based on an established paradigm (Einstein & Mc Daniel, 1990), yet the reliability and validity of these tasks cannot be commented on as they were especially designed tasks for the study. Another limitation of this study is that the nature of intervening tasks varied in event- and time-based conditions with the possibility of exerting varied levels of cognitive load and thus affecting the performance. However, with all these limitations the study highlights an important fact that the

findings based on self-report measures about one's ProM ability should be considered with caution. Future research are needed to explore those factors that create discrepancy in perceived and actual levels of ProM.

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### Case Report

## Use of Audio Feedback in Cognitive-Behavioural Treatment of Social Phobia:

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### ABSTRACT

Social Phobia involves the fear of social situation. Phobias are generally considered to be learned fears, acquired through direct conditioning, vicarious conditioning and the transmission of information or instructions. Conditioning is a form of learning during which new association develops between a stimulus and responses to that stimulus. The present case study of Mr S, 35 year old, married, male, working as a tailor, highlights the development of social phobia and use of audio feedback in cognitive behavioural treatment. Symptoms started after the comments by a relative about his appearance. He started avoiding others due to fear of comments. Slowly he started to avoid social gatherings as he would think that someone might again comment on his appearance. This fear generalized in other aspects of life as started causing occupational and interpersonal difficulties. To treat his problem twelve sessions of Cognitive Behaviour Therapy including audio feedback was used. Following cognitive behavioural management there was improvement in the symptoms and it was maintained over follow up.

**Keywords:** Audio feedback, Phobia, Conditioning, Exposure, Relaxation, Cognitive Therapy.

### INTRODUCTION

Social phobia or social anxiety disorder consists of a marked and persistent fear of social or performance situations (Clark & Wells, 1995). People with social phobia have an irrational fear of being watched, judged over valued. Social phobia involves the fear of social situations including situations that involves scrutiny or contact with others. Individual with social phobia typically fear embarrassing themselves in social situation such as social gathering, oral presentation or when meeting people. They may have specific fear about performing certain activities e.g. writing, eating or speaking in front of others, or they may experience a vague, nonspecific fear of embarrassing themselves (Butler, 1998). Phobias not only cause distress but disability also in the person. The anxiety and discomfort becomes so extreme that it interferes with daily functioning. It is one of most common psychological problem with up to 13% of the general populations experiencing symptoms at

some point in their life. With proper treatment symptoms can be managed and quality of life can greatly be improved evidence of the term social phobia reflects distinct condition in terms of course, treatment and patterns of comorbidity from specific phobia and agoraphobia. Conditioning plays an important role in development and maintenance of different types of phobia (Rachman, 1977).

Behavioural and Cognitive Behavioural psychotherapies are the treatments of choice for social phobia. Several authors have used graded exposure as a treatment of social phobias, both in-vivo as well as in-vitro (Ost, 1987). A typical treatment regimen involves relaxation training, coupled with visualization of the phobic stimulus followed by progressive desensitization through repeated controlled exposure to the cue. This regimen is generally followed by extension of the anxiety response. A cognitive Behavioural approach adds the dimension of managing the catastrophic thoughts

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associated with exposure to the situation (Clark & Wells, 1995). Individual with social phobia perceive their social performance poorer than do others (Mellings & Alden, 2000). Audio feedback has been used to treat this disorder so the self-perception of performance could be improved and further reduces anticipatory anxiety for a later performance (Clark, 2001; Heimberg, et. al., 1990). Audio feedback with cognitive preparation produce less negative ratings of auditory performance and more positive performance evaluations are associated with corresponding reductions of state anxiety (Hirsch et al., 2004).

### **CASE**

The patient Mr S, a 35 year old male, educated up to 12<sup>th</sup> standard, tailor by profession belongs to urban background and lower-middle socio economic status. He was apparently well 15 years back, once he was invited by his relative for the party and was criticized by his family members for not interacting well with others. Gradually he started feeling difficulty in interaction and meeting new people. He used to feel nervous around people, whom he worried would ridicule him for “saying stupid things” or committing social faux pas. He also reported terrified to speak before groups. He noticed that when he had to interact with others, his heart started racing, his mouth became dry and he felt sweaty. Attending parties/functions in the relations became difficult for him as he starts getting thoughts that he would say something very foolish or commit a terrible social gaffe that would cause people to laugh. As consequence of this, he had to skip social gatherings. At that time he and his family members didn't realize that heneeds treatment. Although after marriage patient realized that he should seek treatment as he was having difficulty in maintaining interpersonal relationship also.

### **FORMULATION**

His problem can be well understood through cognitive perspective of Social Phobia (Clark, 2001). On the basis of early experiences;

he developed a series of assumptions about himself and his social world. The assumptions were related with excessively high standards for social performance, e.g. I should always have something interesting to say. In addition to this, other assumptions were conditional beliefs concerning the consequences of performing in a certain ways e.g. if people get to know me they wouldn't like me. Assumptions were found out with unconditional negative beliefs about the self as well like: “I am unlikeable” and “I am boring”. Such assumptions lead him to appraise relevant social situations as dangerous, to predict that he will fail to achieve his desired level of performance and to interpret often benign or ambiguous social cues as sign of negative evaluation by others. Whenever he enters in a social situation, he perceives the situation as dangerous and become concerned that he may fail to make the desired impression on others. He would become anxious and his attention shifts from focusing outwardly on people around him to detailed observation and monitoring of himself, leading to an enhanced awareness of feared anxiety responses and disturbances in the processing of external information. He would use internal information such as, his own thought, feelings, and bodily sensations, including interoceptive information brought about by self-monitoring, in order to infer what other people think about him and thereby construct a negative impression of their public self, triggering anxiety responses. The anxiety triggers inappropriate responses which in turn create vicious circle among (i) somatic and behavioural symptoms becomes new sources of perceived danger; (ii) preoccupation with somatic responses and negative self-evaluation thoughts; and (iii) less friendly behaviour from others confirming the social phobic's fears. To manage such situations he used to engage in safety behaviours e.g. avoid eye to eye contact etc. Thus leads to maintaining the problems. Hence according to the Clark's model (Clark, 2001) CBT was planned and total 12 sessions were given.

## **INTERVENTION**

### **Psycho-education:**

During the initial sessions, the nature, cause, symptoms, prevalence, course, treatment, need and types of treatment (pharmacological and psychological) were explained in detail. Further formulation was explained. Treatment procedure, therapy goal, target symptoms were discussed. The rationale behind the treatment was explained. Initial few individual sessions were held then in later sessions, wife of the patient was also involved to explore patient's performance in terms of interpersonal relationship.

### **Anxiety Management:**

Jacobson Progressive Muscular Relaxation (JPMR) was started to manage the anxiety. In first three sessions he was taught in detail how to relax and then he was persuaded to practice it at home every day.

### **Manipulation of Self-Focused Attention and Safety Behaviours:**

Further sessions were planned to change his focus of attention and safety behaviours. Patient was asked to role play a feared interaction under two conditions. In one condition, he was asked to focus attention on monitoring himself and to use all of his safety behaviours while in other condition, he was asked to drop safety behaviours and focus his attention on the interaction and what is being said. After each role play he rated himself (using visual analogue scale) on how anxious he thought he appeared and how well he thought he performed. After this the rating was compared and patient could understand that his previous habitual self-focus and safety behaviours seemed to be associated with feeling more anxious. Rating of how anxious he thought he appeared and how well he thought he performed was closely followed the rating of how he felt indicated that he was using his

feelings and other interoceptive information to infer how he appeared to others.

### **Audio Feedback:**

As in earlier sessions it was established that patient was using interoceptive information to infer how he would appear to others. The plan of further therapy session was kept to obtain realistic information about how he actually appears. As he would think that he is not fluent and his voice is not impressive even others would have difficulty to understand what he is trying to say. Hence with the consent patient's role play conversation was recorded and he was asked to listen it. Thus audio feedback was given. He could notice that his self-impression was misleading him. Questioning revealed that the feelings influenced his perception in a negative direction. Further patient was asked to listen his voice as if he is listening a stranger's voice; it helped him to observe that actually he is not influent and incoherent whereas this is only his perception towards himself. His voice is really impressive. Speaking so slow is a kind of safety behaviour and hence can be dropped. Audio feedback was continued until he learnt to deal with anticipatory and post-event processing.

### **Shift of Attention and Interrogation of the Social Environment:**

The next plan for session was kept as to shift an external focus of attention and to drop his safety behaviours during social interactions and homework assignment. The rational of this is the content of self-awareness i.e. to infer how he appears to others is inaccurate and it is necessary to focus more on the interaction and others responses in order to obtain a more accurate impression of how one appears. The guiding principle of treatment is not habituation per se, rather a cognitive change framework in which exposure is explicitly used to test predictions the patient has about the danger in a particular situation. The patient was asked to initiate conversation with therapist and co-therapist.



Gradually patient was asked to talk others and the feedback was given him. Thus the homework assignment was given him in context of social situation according to hierarchy. He could find that he was able to continue conversation for a long without any hesitation.

#### **Dealing with Anticipatory and Post-Event Processing:**

Here patient was helped to identify the particular ways in which he thinks and behaves before and after feared social events. During sessions the list of few topics were made which were belong to patient's interest and asked to speak on the particular topic like: festival, method of entertainment. In between the conversation topic was changed and he was asked to speak on some other topic which was totally different from the topic on which conversation was going on. Hence patient could understand that due to feeling of not being prepared lead him to avoid the social gathering. Patient was asked to do this task as a behavioural experiment as well. Exposure was continued on imaginary level as well.

#### **Dealing with Assumption:**

As in earlier sessions the nature of negative thought was explained and patient could identify and recognize his negative beliefs and related assumptions. To modify the negative thoughts process he was taught to have alternate thought. Further his beliefs were challenged through cognitive restructuring. He was asked to keep a positive data log in which he could be seen as contradicting his negative self-belief.

#### **Maintenance:**

In further sessions his wife was called and his performance in interpersonal relationship was explored and therapy sessions explained. Patient asked to continue the same at home. Following treatment patient reported significant improvement on VAS. His social and occupational functioning was improved. Further he was called for follow up and the improvement was maintained.

## **DISCUSSION**

Social Phobia interferes with occupational and social functioning hence increases individual's distress (Veale, 2003). It may therefore become a disabling disorder leading to an ego-dystonic, social isolation, unstable employment, poor achievement and often financial dependence (Schneier et al., 1992). Treatment programme for social phobia generally share a number of common features including cognitive restructuring to alter appraisals of threat, exposure to reverse patterns of overt avoidance, and social skills training to improve social performance (Heimberg et al., 1990). Researchers suggested that anxiety could directly be reduced and performance enhanced (thereby indirectly reducing anxiety) if attentional resources were directly away from the mental representation of how the person appears to the audience and indicators of negative evaluation from the audience (Stopa, & Clark, 2000). Video and audio feedbacks help to alter the mental representation of appearance in a positive direction and modify the negative cognitions towards self (Rapee & Hayman, 1996). There are various models have been proposed among them in the present case the model given by Clark (2001) used. Further treatment was continued in a particular direction according to the requirement. Persons with social phobias engage in a variety of negatively biased cognitive processes in anticipation of feared social situations and these processes increase anxiety and avoidance. Audio feedback has been effectively changed his negative views for himself and helped in enhancing positive self-image. Audio feedback helped patient to view himself as if he is listening to other person, hence it helped him to recognize the irrational strategy which could be easily dropped (Clark, 2001). Daily thought record helped him to distinguish between situations, thoughts and feelings (ABC model). It also helped into identify inaccurate thinking, and develop more accurate appraisals (Tinch & Friedberg, 1996). In the present case thought diary helped a lot as

exposure based homework assignment helped in fear reduction. Use of real life exposure as an adjunct to the imaginal exposure, increase the efficacy of treatment. In management of present case, JPMR and cognitive technique were added to audio feedback and exposure. Earlier studies also indicated that these strategies enhance the efficacy to in vivo exposure in the treatment of fear reduction (Booth & Rachman, 1992). The study explores the use of audio feedback with cognitive techniques in managing a case of social phobia.

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### Case Report

## Metacognitive Training (MCT) in Facilitating Awareness of Metacognition and Delusion: A Case Study of Delusional Disorder

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### ABSTRACT

Delusional disorder is an uncommon psychiatric condition characterized by the development of either a single or a set of related delusion (WHO, 1992). There is increasing empirical support for the role of metacognition in the vulnerability and maintenance of psychotic experiences like delusional beliefs (Freeman et al., 2002; Morrison et al., 2005). This study is evaluating efficacy of metacognitive training facilitating in awareness of current state of metacognition and ameliorating cognitive biases with a case of delusional disorder. Findings of present case study suggest that metacognitive training has significant role in facilitating awareness of metacognition and reduction substantial symptoms of delusions of the patient.

**Keywords:** Metacognitive Training (MCT), Metacognitions, Delusions, Delusional Disorder.

### INTRODUCTION

George Winokur (1977) coined the term delusional disorder. The term delusion refers to false beliefs based on incorrect inference about external reality that persist despite the evidence to the contrary and these beliefs are not ordinarily accepted by other members of the person's culture or subculture (APA, 2000). On the other hand, metacognition is a multi faceted concept which comprises knowledge, processes and strategies that appraise monitor or control cognition (Flavell, 1979; Moses & Baird, 1999; Wells, 2000; Carcoran et al., 2008). The earlier studies have evaluated, that maladaptive metacognition is responsible for development and maintenance of psychological disorder (Mathews & Wells, 2000) in which delusional patients have been drawn lacking metacognitive awareness on metacognitive sub-components as evident to higher scores on the MCQ-30 subscale (Fraser, et al., 2006).

A new approach i.e. Metacognitive Training has been developed that indirectly targets psychotic symptoms by focusing on the underlying cognitive biases rather than the idiosyncratic delusions of the patient. Preliminary research into the efficacy of MCT has promising results (Lysaker et al., 2010; Moritz et al., 2010; Moritz et al., 2011). MCT exhibits significant improvements in their metacognitive components like delusion, distress, memory, social quality of life, insight of illness and diminishes jumping to conclusion (JTC) bias (Aghotor, et al., 2010; Moritz et al., 2011). However, there is less evidence of its use in a case study of delusional disorder. The present case study hypothesized the role of metacognitive training in enhancing current state of metacognition and ameliorating cognitive biases subserving delusions in a patient with delusional disorder.

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## **CASE REPORT**

### **Case History:**

The patient Mr. Kumar, 35 years old male, married, studied up to intermediate, Hindi speaking, by profession he is civil contractor, belonging to middle socioeconomic status, hailed from semi-urban area of Deoghar district of Jharkhand (India). Patient was brought to Ranchi Institute of Neuro-Psychiatry & Allied Sciences (RINPAS), Kanke, Ranchi, Jharkhand (India) with the chief complaints of perceiving unusual sensations & consistent large swelling on left leg from last 10-12 months, gradual reduction in the size of penis from last 4-5 months and feelings of being harmed by his colleague, low mood, restlessness, physical weakness last 3-4 months.

The patient's history revealed that, he was functioning well in his job as contractor before one year. Subsequently, in comparison to earlier he did not get enough contracts to remain his work. But, he had been working hard to get more contracts. In that period he noticed that he is experiencing unusual sensations in his body and after one week he reported contusion on left leg. The symptom was so distressing that he visited to general physicians and persistently requested the removal of the symptoms. However, physicians did not report any abnormality in their medical investigation and he advised rest. After few months he reported same somatic compliance along with that his size of penis is reducing. He went different medical clinics for that but couldn't get rid from his compliance and still persistent. Along with that, paranoid and persecutory behavior have been shown by patient that he is being harmed by his colleagues that they are trying to snap his reputation which he gained during the job as contractor and snapping his expected contracts, so that they are planning to harm and make him ill. Subsequently, due to

that he became restless and reported low mood most of the time.

At the time of admission in RINPAS, Kanke, Ranchi he was diagnosed as having delusional disorder according to ICD-10 (WHO, 1992) criteria in strongly resemblance of somatic and persecutory delusion with comorbid features of depression. There was no history suggestive of epilepsy, mental retardation, significant head injury, high fever, mood disorder, schizophrenia, first rank symptoms, earlier psychiatric history of family, vision or hearing impairment, organic pathology and substance taking history.

### **ASSESSMENT**

The patient was assessed three times on the core features of metacognition and delusion outcome. Assessment was done before the intervention, after the intervention and after one-month follow-up. The current state of metacognition was assessed by the using of metacognitive questionnaire (MCQ) -30 (Wells & Cartwright, 2004) which consist five distinct sub-scales i.e. positive beliefs about worry, negative beliefs about worry & danger, cognitive confidence, need to control thought and cognitive self-consciousness and Psychotic Symptom Rating Scale (PSYRATS) - Delusion (Haddock et al., 1999) was applied for the assessment of characteristics of delusions i.e. preoccupation, conviction, distress and interference.

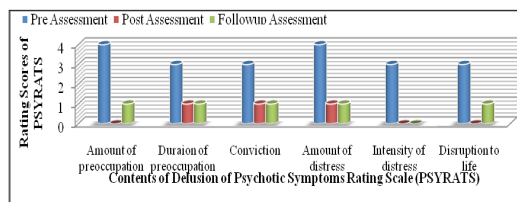
### **METACOGNITIVE TRAINING (MCT)**

MCT developed by Moritz and Woodward (2005, 2007) aims to bring the attention of patient and changing cognitive dysfunctions that may be causing and/or maintaining their delusional symptoms. The MCT consisted of 8 module sessions. Each module covered one of the following metacognitive deficits i.e. dysfunctional attributional styles, jumping to conclusion (JTC), theory of mind incorrigibility/

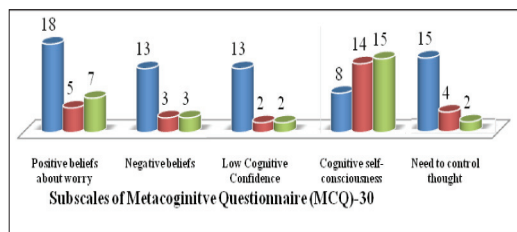
lack of flexibility, need for closure, overconfidence in errors and negative cognitive schemata. The duration of each session was approximately 45 to 60 minutes. After the baseline assessment metacognitive training was started. Initially the aspects of metacognition, delusions and training module were introduced to the patient and discussed how exaggerations of (normal) thinking biases lead to problems in daily life and sometimes may culminate in delusions. Each module started with that respective psychoeducation along with brief discussion of previous targeted domains of the module by everyday examples and illustration. The task was handed to the patient at the end of each session. The targeted delusion of the patient was addressed face-to-face in each session and was outlined each module to its theoretical rational in terms of targeted domains and basic tasks.

**RESULTS**

**Figure I: Distribution of Total Scores on the Psychotic Symptom Rating Scales (PSYRATS)**



**Figure II: Distribution of total scores on the Metacognitive Questionnaire (MCQ) -30**



Results presented on above two tables

show the difference on scores on pre and post assessment.

**DISCUSSION**

Metacognitive Training (MCT) is theoretically designed within the framework of group intervention program approaching to change the “cognitive infrastructure” of delusional ideation of the psychotic patients (Moritz et al., 2010). In contrast of that MCT has been applied as individualized training program in the present case study.

The self-serving cognitive biases and depressive attributional style were targeted through the Module I and VIII. The present case study reports that patient’s cognitive biases emerged through distressing situation of his job which further formed as delusions. Study of Moritz et al. (2010) also reports that delusions have been linked to the externalizing and personalizing attribution biases of the patient (Moritz et al., 2010). This module displayed self-serving biases as attribution of success to oneself and failure to other. Aim of module was to train patient that how different causes could have contributed to his delusional idea that “he is being harmed by his colleagues and they are planning to harm and make him ill”. During exercise it has been discussed how far situational and personal factors accounted for his conviction. In the baseline assessment it indicated strong conviction in belief between 50-99%, but after treatment and after one month follow up still had very low conviction in reality to beliefs i.e. less than 10%. Almost similar findings have been noticed in the study of Vitzhum et al. (2013). In addition, this module also helped to raise deep rooted low self esteem and low mood. The result of present case study shows that patient’s cognitive confidence and cognitive self-consciousness significantly improved after MCT and improvement was almost maintain



until one month follow up. A similar finding has been noticed in the study of Bentall et al. (2001). On the other hand, depressive features in forms of negative beliefs and high severity of distress was discussed with patients and the mood and self-esteem was reported improved as reported in result table.

Jumping to conclusion (JTC) and bias against disconfirmatory evidence (BADE) have been targeted by using module II, III and VII. It has been hypothesized that JTC and BADE have an important role in formation and maintenance or pronounced of the delusions (Freeman et al., 2008; an Van Dael et al., 2006, Woodward et al., 2006). The objective of this exercise is to search more information before judging, and to correct themselves, if disconfirmatory evidence is encountered. The result of present case study reported that amount and duration of preoccupation with delusion were high in severity on PSYRATS. During training it was discussed that it would be high errors probability if given less reliable judgment on presenting picture of MCT related to its advantages and disadvantages. Thus, patient was taught to take right judgments against an event and how to maintain an open attitude toward counter cognitive beliefs and alternative views. After completing these exercise biased cognitive beliefs have been changed in their contents of delusion on PSYRATS which is mentioned in result Table-I. Almost similar findings have been noticed in the study of Vitzhum et al. (2013) and different group sample study of delusions by Moritz et al. (2010).

Social cognition and theory of mind have been targeted by using module-IV and VI in which facial expression and other cues are discussed for their relevance to social reasoning. According to Brune (2005) deficits in social cognition or theory of mind (TOM) are frequently observed in paranoid psychotics. In

these exercise patient first discussed different cues for social cognition and their validity. Then patient asked to identify basic human emotions and assign them to facial information thereafter, presented correct solutions at the end of the session. This exercise helped the patient in improving disrupted life which was caused by biases beliefs, attenuated their level of conviction, cognitive confidence and cognitive self consciousness.

Overall, promising results of present study suggest applicability of metacognitive training on a case study of delusional disorder. The latest study of Giampaolo et al. (2012) and Vitzthum et al. (2013) also promotes almost similar findings on deluded patients.

## CONCLUSION

The present case study shows that there is an effective role of MCT to facilitating current state of metacognition and ameliorating cognitive biases in a patient with delusion disorder. This case study might be help further to change concept of MCT that which is basically developed for targeting the cognitive biases of schizophrenia, where delusions have been bizarre in nature and showed very encouraging and convincing results but its applicability yet need to be established in patients with delusional disorder.

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## **Review of RINPAS Family Relations Test: A Projective Test for Children (RINPAS FRT: PTC)**

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**Published by Psycho Matrix,  
New Delhi.**

RINPAS Family Relations Test is a Projective Test for Children. It aims to assess basic disturbance between a child and his environment. The child is affected by his family, peer group, school and neighbourhood. This test is based on six major qualities of strong families defined by Defrain et al, (2005). These qualities are appreciation and affection, commitment, positive communication, enjoyable time together and spiritual well-being. These are inter-connected with one and another and rest on underlying sense of positive emotional connection.

There are some check-list and objective paper pencil test to assess these above mentioned qualities of child's relationship with his family. While working with children instead of verbal component there should be a test where child can express their feelings easily. Sometimes painting, storytelling and play method is used. CAT and Draw-A-Person test have been used in Indian set-up. But we need some objective method. RINPAS Family Relation Test is a projective technique based on pictorial theme including crucial aspects of expression of feeling. It assesses both repressed and suppressed feeling of the child. This test has been based on Family Relations Test Children Version by Bene and Anthony (1957) and subsequent revisions. A study was conducted at RINPAS, to study its applicability and adaptation according to cultural differences.

RINPAS Family Relations Test has been prepared on the basis of rigorous research. Initially 90 items were constructed in which the valence of each item was either positive or negative which contained either mild or strong strength. Direction of items

was either outgoing or incoming. Figures of RINPAS have been sketched to give a concrete representation of the Indian family which ranges from grandparents to a newly born baby. Intentionally face of characters was omitted so that children can identify and associate with figures as self and family members. Initially 25 figures were made The final test has, 55 statement and 20 figures.

The reliability and validity of the test has been assessed. The test-retest Phi co-efficient of correlations (Siegal & Castellan, 1988) were above 0.05 level of significance except an item of maternal overindulgence and an item of mild negative feelings towards child. Content validity is also found to be above 0.05 level.

These tests consist of 55 items of statement written cards and 20 figures representing period ranging from grandparents to new born baby. It is easy to administer. The test administration may take 40-50 minutes. The child's cooperation can easily be obtained since the activity is like a game. The manual provides easily methods of scoring and interpretation. The test can be used in all set ups with child mental health facility. The test can be used with brief training and all levels of clinical experience. Test can be useful for clinical psychologists to assess family relationship in a structured manner. It has advantage over other tests as it can be used in urban and rural set up and all educational levels of the child. It also represents Indian family set up.

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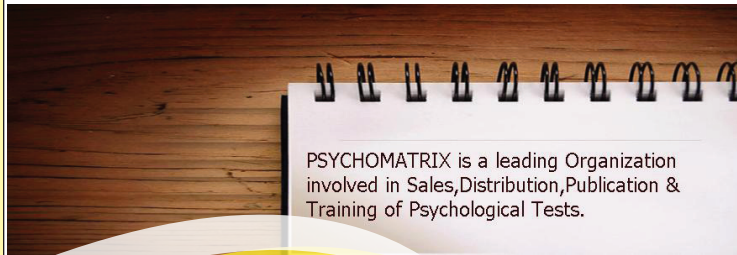
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