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Psychotherapy, as such is broadly defined to include any therapeutic intervention that is designed and meticulously planned to reduce distress or maladaptive behaviour or improve and enhance adaptive functioning that uses such means as counselling, and/or structured and other designated psychosocial interventions. The goals of therapy consist of improving adjustment and functioning in both intrapersonal and interpersonal spheres and reducing maladaptive behaviours and various psychological and often physical complaints.

In psychotherapy, the means by which the goals are achieved are primarily interpersonal contact; for most of treatment this consists of verbal interaction. But talk of child therapy, the means can include talking, playing, rewarding new behaviours, or rehearsing activities with the child. Also, the persons who carry out these actions can be therapists, parents, teachers, and peers. Again, a variety of therapeutic aids such as puppets, games, stories, paintings, drawings and videos may be used as the means through which treatment goals are pursued (Kazdin & Weisz, 2010).

Child psychotherapy is different than any other type of adult-child relationship. Here, a trained mental health professional uses clinical skills to help a child to find the answers to the problems he or she encounters. Many a times, psychotherapists consider teaching the child to label emotions, self-soothing and calming skills, and other necessary tools to more effectively handle life experiences. Yet, child psychotherapy is more than skill building. What is most important is the therapist’s ability to create a conducive environment and safe setting where it is within the clinical relationship that treatment unfolds. The therapist facilitates the child to find his or her own answers to existing symptoms, without simply providing direct possible answers. Again, therapists who can hold the space to supportively help children search and explore for his or her own answers are the most respectful of the child’s unique existence. Those who can also help children reprocess horrific and traumatic events to become healthy and happy provide an invaluable service to the most vulnerable people. Yet child psychotherapy does not unfold in a vacuum.

When parent and teachers need assistance with more significant issues, psychotherapist collaborate various important incidents in relation to the child which possibly might have given rise to the present consultation. The basics are common symptom clusters that therapists encounters in child psychotherapy. Affective dysregulation in children is evident in sleeping, eating, bowel and bladder control, and in behaviors at home and school. It is in these daily experiences that adults often learn that something in child’s life has gone awry. Interventions focus on these basic functions are part of a comprehensive approach that includes parenting, educational issues, specific issues related to emotional regulation and various issues that expands beyond a clinical diagnosis.

Again, it is next to impossible to work with a child in psychotherapy without considering the possible contributions of the parents and caregivers to the child’s current symptoms. The success, and/or lack thereof, in psychotherapy cannot be from the treatment alone. The child environment and caregivers play the most significant role in child sustained health and happiness. For many children, the lack of
appropriate care is the core issue. Children who are in foster care or are homeless or represent broken homes may not have any appropriate adults in their life. In these situations, the therapist may be the only consistent adult in the child’s life. In this case psychotherapy extends to advocacy for the child.

Further, when there are parents/caregivers in the child’s life, there are various approaches to the adults’ role in child psychotherapy. Therapists vary on how involved the parent is in the actual treatment process. Some therapists do not include the parent in session, but only consult with them. Other therapists collaborate with parents and some even have the parents as cotherapists. In some cases, the therapist may suspect that the child is at risk from the parents. Intervening with children in families where the parents are the source of abuse or neglect is complicated. In those cases, the therapist is in double bind – should the therapist work with the parents because he or she is the one who cares for the child outside the clinical setup, or report the parent and take a risk that the child will not return to therapy?

In therapeutic sessions, the therapist can model appropriate interventions while also helping the parents to better understand the child. The child therapist should try to involve parents in psychotherapy as much as possible for two primary reasons: (a) the parent is the one who is with the child and controlling the child’s world; and (b) a child can not often effect change in environment without the parents. Creating a working alliance with parents is not always easy, but therapist can have the greatest impact on the child’s life by including them (Tapia, RA 2012).

In research on child and adolescent mental health and illness, the boundaries between ethical issues—that is, the application of philosophically derived moral principles to questions of right and wrong – versus legal issues – that is, question of what is or is not lawful – are often blurred (Hoagwood & Cavaleri, 2010). Again, research on psychosocial treatments for children and adolescents may involve divulging sensitive information about a child or family that may not have been previously revealed to others or that could be harmful if discovered. Ethical considerations about recruitment and consent can provide important safeguards against the revelation of confidential information, but additional protections are needed to ensure that information remain confidential (Fisher, 1996).

There is nothing more priceless than helping children to achieve a healthy future. Of course, the planet is filled with trauma and sufferings, and yet each second a new life brings renewed hope. Each life offers another chance to improve the future. Because many children may experience attachment trauma, abuse, and neglect, and other various trauma, developing the best therapeutic strategies to help children is a necessity.

REFERENCES
Children constitute nearly half the population of India and half of them are girls. Yet psychosocial development of children in general and girls in particular has received scant attention from the Education, Health and Welfare Sectors. The policy documents in India such as National Policy for Children (1974), Integrated Child Development Services (ICDS 1972), Integrated Education for Disabled Children (IEDC 1988), National Health Policy (1993), The National Mental Health Programme for India (1984), National Policy on Education (1986) and Child Labour (Prohibition and Regulation Act 1986) and finally the Right to Education Bill (RTE 2010) that aims to provide universal and quality education for all, emphasize the promotion of healthy psychosocial development and primary, secondary and tertiary prevention of disabilities and mental health problems of children. Despite the progressive policy documents translation of these policies into reality at the grass roots level have hardly been carried out. For these reasons, sensitization regarding physical and psychosocial development, healthy or otherwise to all those adults who deal with children in the course of their work needs to be carried out. There is a need to evolve strategies for delivery of mental health services in rural and the urban areas, by utilizing already available resources in the community.

The first is an experiential account of my work in the rural areas working with school teachers, anganawadi workers and primary health care personnel. The second is my work in the Bangalore city of running a child guidance centre with trained lay volunteers.

A rural child service delivery model:
The approach to service delivery was two pronged. Namely:

a. Training of the grassroots level workers, namely Anganawadi workers, teachers, health workers and primary care physicians.

b. Multiple disability and mental health camps.

The aim was the sensitization of the workers in the three sectors, namely, Health, Education and Social Welfare sectors.

The objectives of prevention, early identification and intervention programme for the children with the mental health problems and disabled was carried out as described below:

i. Identification of children at risk through anganawadi workers, teachers and primary health care workers.

ii. These identified children below 16 years of age are provided counselling, were referred for treatment or other services as needed.

iii. Families and anganawadi workers were instructed on home based intervention and advised for referral when required.

iv. Teachers were sensitized and advised on integration of the disabled in the schools.

Thus the aim was to set up a network of the personnel in the Welfare (ICDS), Health (PHC health workers and physicians) and Education (teachers) sectors in an integrated manner to reach out and provide services for children with disabilities and mental health problems in rural Karnataka. It was carried out in HD. Kote Taluk, Mysore District, which is 250 KMs from Bangalore. This was done through training of
anganawadi workers, teachers, health workers and doctors (PHC), conducting multiple disability camps and providing medical and psychosocial rehabilitation.

The children population below the age of 6 years covered was 20608 of whom 189 teachers were in the anganawadis. The population above 6 years and below 16 years was covered by the school teachers is approximately 1500 children and these belong to one cluster i.e. B. Matkere. The programme of training covered 19 clusters in the H.D. Kote Taluk and all the anganawadi workers, health workers and the PHC doctors were given training in disabilities and mental health.

**Figural Representation:**

- Anganawadi Workers 189
- Health Workers 72
- Doctors 19
- BEO
- CRP
- 19 Clusters (Schools)

Details of No. of Anganawadis and children below 6 years in H.D. Kote

| Circles | 9 |
| Areas   | 34 |
| Anganawadis | 189 |
| Below 3 yrs | 4689 |
| 3 to 6 years | 5882 |
| Survey children below 6 years (approximate) | 20608 |
| % of children attending Anganawadis | 51.3 |

A. Programme for the Anganawadi Workers (AWs):

The workshops of two days duration each was conducted for three groups of AWs (45 + 68 + 76, total N: 189). In the introductory sessions, each anganawadi worker introduced herself and gave the details of the names, Anganawadi area, number of years of their experience, number of children under their care (children below 3 years and children between 3 and 6 years), place for running anganawadis (School building, community hall, Myrada building, temple, helper’s home, rented house etc), their problems, activities they conduct, facilities and infrastructure available or not.

Information collected in the introductory session revealed that in H.D. Kote there were 189 Anganawadis. These were situated in 34 villages. And they were divided into 9 circles. Though there were supposed to be 9 supervisors for 189 Anganawadis, at the time of the study there was only one supervisor and other posts were vacant. Most of the anganawadi workers have been working from past 18 years. Their education level was SSLC. They had attended training programmes conducted through CDPO thrice until at that time each of 3 months, 15 days and 7 days. The training had been given on leprosy, survey of population, immunisation programmes, holding mother’s meetings, nutrition, vitamins and family planning. Some of the anganawadi workers belong to the same village where in the Anganawadi was located, whereas as many others lived within 10 Km and travelled by bus or walked to Anganawadi Kendras (3 Km).

They worked through 12 months in a year and had only around 10 days holiday in a year. Their routine work consisted of working with children in the morning and going for house visits in the afternoon. They fed children every afternoon. They weighted all children on the 20th of every month and thus kept a check on the weight and growth of children. Play activities were conducted with children twice a week.

They conducted survey of population, worked with pregnant women, conduct mother’s meeting, etc. Children identified with health problems were referred to hospital, most of them to Sargur Hospital which has 2 PHC doctors. On one day in a month they meet the CDPO and refer cases of disabilities for further consideration. In the last week of every month they would attend circle meetings.

Problems faced by them were lack of supplies of food and vessels to cook, shortage of registers, inadequate play materials, no buildings, low salary, etc. Salaries of AWs...
working in tribal area were not being paid. Problems observed among children were low or high activity, temper tantrums, stubbornness, beating others, difficulty in separating from the mothers and being irregular in attendance.

After introductory session, session related to normal development was conducted. During the session they were informed about biological, social, emotional and moral development. They were explained about child’s initial capacities, their interests in many activities, their grasping power, creative ability, imaginative ability etc. It was emphasized that play was very important for development. But children themselves can create their own play environment using naturally available materials. Children have to be allowed to play with naturally available materials and it could be observed that children are creative and imaginative. They were also informed not to criticise the children while they explain to their activities. Each child should be dealt uniquely as children have different temperaments.

Anganawadi workers were given an assignment wherein they had to observe each child’s general behaviour and activities. They were told to present a common object such as an empty match box, stones etc and see how the child plays and how imaginative and creative the child behaved. By the end of session they were told about different disabilities and identification of such disabilities in children. They were distributed the NIMHANS brief disability forms which they had to use for each identified disabled child in their area and they were directed to get back the completed forms for the next session.

By next session which used to be conducted after a gap of one-or-two months after the first session, the AWs seemed to be taking more active part and discussed lots of things they had observed and also clarified their doubts about different disabilities mental problems and behavioural problems in children. First of all the AWs described about their observation of children at play with naturally available materials like match box, stones, stand, leaves, broom stick, waste paper, chalk, sticks, threads rope etc. Through the assignment given the AWs themselves realized the child’s immense capacities, creativity, imitating abilities, imaginative abilities and innovative activities. A lot of time was spent in describing how to provide an environment to promote play and imagination. They were also explained about importance of their training and creating a conducive environment for their development. Thought the child develops normally training would enable the child to learn different skills. The infant would improve when care is given by the mother but later child learns also from others and hence training and creating atmosphere for child development is necessary.

The session was continued with the topic of childhood disorders and their management. They were explained about internalizing and externalizing disorders. Management of thumb sucking, under and hyper activity, temper tantrums, toilet training and stuttering were described. Important methods described were of distraction technique, time out, behavioural shaping by approximation etc. They were explained that each child had its own temperament and each child is different from the other child and both family members and AWs have to understand this. Children who are disruptive, difficult to manage and children who are quite and withdrawn need to be managed differently. They were informed about identifying mentally ill pregnant or nursing women and referring them for treatment. Importance of identifying the disabled and training them were described.

Many other topics and issues which came up during the sessions were discussed. Some of the important topics discussed were – traditional practices of bath and massage, breast feeding and their importance. Left handedness in children and issue of not forcing children to be right handed if they have a tendency to be left handed. In addition herbal medication, traditional misconceptions and practices were also discussed. When questioned about higher prevalence for orthopaedic problems in their community they themselves identified, the practice home delivery, poor nutrition, lack of immunization and consanguous marriages as some of the causes.
By the end of the last session and completed disability forms were taken back and they were informed to bring such children to the camps respectively held for different areas on informed different days. On 22/03/2002 due to not being informed the AWs failed to arrive for second session. Consequently the Research Officers personally went to Anganawadis to inform about the camp dates.

B. Training Programme for Teachers (B. Matkere Cluster):

i. Total number of 55 teachers attended. Two one-day workshops of six sessions. Teachers were described about normal child development, disorders of childhood –aetiology, features and management of disorders. Detailed description of specific learning disability and their management was mainly focused. Seizures – its features, misconceptions and their management was described. Adolescence – features, crisis and handling adolescents in schools were also described.

ii. They were informed about different disabilities in children, importance of early identification and intervention of disability. Brief screening disability forms were distributed to teachers for identification of disabled children and they were collected back in the consecutive session. Details regarding benefits of disability cards and details about multiple disability camp were rendered and participation of teachers as resource persons in identifying disabled was highlighted.

iii. Information was provided related to various facilities provided to children in their clusters (B. Matkere). Demonstration of management programme related to psychosocial stimulation was conducted.

iv. Importance of play activity for development of children and using story building for improvement of vocabulary in children were described in detail.

v. Information about linkage of services with primary health centres doctors, health workers and Anganawadi workers were given.

vi. Discussed about completing school health cards. The health cards if completed correctly will provide detailed information about children with disabilities.

vii. Discussed about alternatives to punishment method, management of difficult children, behavioural techniques for management of children, uses of star chart and imparting sex education to adolescents.

Highlights:

- Teachers can be sensitized to promotion of psychosocial development of children.
- They can be sensitized to the needs of children with disabilities and mental health problems and main streaming of these children.
- Through completing the school health cards they can identify and refer children to the appropriate agencies to seek help.
- Disability or mental health work cannot be carried out in isolation just among the teachers.
- They can participate in disability camps by bringing the identified disabled child to the camps and volunteers to help in controlling crowd, filling up of forms supplying meals, etc.
- Teachers have to be paid honorarium and travel expenses, in addition to meals provided for attending the training programmes and multiple disability camps.

C. Health Workers (HWs) Training Programme (13 Circles):

Two one-day workshops were conducted for 60 / 56 Health workers.

Activities carried out were:

i. Introductory sessions as a warm up exercise was carried out. During this session they introduced themselves, their names, the area they work in, about their work settings, their daily routine and problems they are facing.
ii. In H.D. Kote there are around 70 primary health workers. Female health workers are more than male health workers. One health worker caters to 3000 to 5000 population. They are helped by Dais and anganawadi workers in some activities.

iii. Their daily schedule – working hours are from 9.00 a.m. to 6.30 p.m. Field visits are carried out on 20 days in a month between 9.00 a.m. to 3.00 p.m. Apart from managing the primary health centers they work in areas related to children’s health, child nutrition, personal hygiene, immunization, survey of disabled, identifying iodine deficiencies, survey of pregnancy, mother’s health, family planning, preventive measures for spreading communicable diseases.

iv. Their personal problems include poor bus facilities, water scarcity, housing problems, having to travel to remote areas and caste biases interfering in providing and implementing activities.

v. A session on mental health was conducted. They were told about mental stress, tension and its relationship to physical illness, their importance in counselling patients and listening to their problems. Traditional oil massage and its importance were described. Seizures – its feature and management was described. Also in this session discussion about misconceptions, beliefs and practices was carried on.

vi. Disability forms were distributed and they were briefly explained about different disabilities and identification of disabled ones. The forms were to be used for identifying disabled child and completed forms were brought back in the next session as instructed.

vii. Reason for disability was discussed. HW’s reported that disability could be because of following reasons such as low birth weight, home delivery of complicated cases, inadequate timely treatment, premature delivery, early marriages and early pregnancy, poor nutrition, consanguous marriage, etc. They observed that disability figures were of down with the downward trend in the size of the family tending to be smaller. They also reported that according to their observation the prevalence of disabilities was less amongst the tribals when compared to non-tribals.

viii. Identification of psychosis in nursing mother and their importance for early referral was discussed.

Highlights:
- Health workers have good knowledge about maternal care.
- They have difficulties due to transport and other lack of facilities.
- The disability screening was merely duplication of what was done by AWS.
- They were supposed to complete some health cards in schools, but they may not do it.
- Perhaps principles of rehabilitations could be taught to them. But would they have the time?
- There was a story about a health worker who has retired and settled in Mysore. He was known for his commitment to the health care programmes. He used to hold camps in remote areas and go on elephant for taking the rations for providing meals for camp participants. An idea suggested was to have camps on market days. We had learnt a lot from this story.

D. Training Programme for Primary Health Care (PHC) Doctors:

Three training programmes were conducted for the PHC 24 doctors. In the first session all the doctors introduced themselves, gave information related to their PHCs, their number of years of experience and problems they face. According to the information given there were 14 PHC and 5 Sub centres. One PHC catered to about 9000 children. 8 of the PHC doctors had been working for 9 years and rest for less than 5 years. Most of them felt like quitting the jobs.
The reasons given were poor housing, bad roads, inadequate transport system, no drinking water facilities and political interference are some of the problems. They reported that work condition would improve if basic amenities are provided without any political interference. The training programme during the first session focused on common medical and psychological problems in children. According to the doctors’ observation common problems noticed in children of H.D. Kote were of malnutrition, skin problems and respiratory problems. Dental problems had very high prevalence. Among psychiatric problems they have come across some cases of Attentional Deficit Hyperactive Disorder (ADHD), Mental Retardation (MR), those with speech problems and few with bed wetting. Referrals made elsewhere were not followed up. Those who were referred to Mysore did not go as they could not afford it. Supply of certain drugs was lacking. However antiepileptic drugs were being provided that year.

The second session focused on child mental health especially over activity, speech and languages problems, psychosomatic disorders and dissociative convulsive disorders. Child Mental Health manuals were distributed to the doctors.

By third session when disabilities were discussed, by that time many of the doctors were transferred.

The discussion was on how to establish a network of services, especially school mental health. The issues and suggestions that came up during the discussion were as follows:

**B. Summary of Four Camps:**

<table>
<thead>
<tr>
<th>Conditions</th>
<th>Screening No</th>
<th>ID Cards</th>
<th>Counselling</th>
<th>Other Aids</th>
<th>Referral</th>
</tr>
</thead>
<tbody>
<tr>
<td>Orthopaedic</td>
<td>114</td>
<td>68</td>
<td>32</td>
<td>11</td>
<td>1</td>
</tr>
<tr>
<td>Mental Retardation</td>
<td>117</td>
<td>90</td>
<td>33</td>
<td></td>
<td>5</td>
</tr>
<tr>
<td>Speech and Hearing</td>
<td>123</td>
<td></td>
<td>94</td>
<td></td>
<td></td>
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<tr>
<td>Eye / Blind</td>
<td>28</td>
<td>3</td>
<td>5</td>
<td>9</td>
<td>3</td>
</tr>
<tr>
<td>Seizures</td>
<td>25</td>
<td></td>
<td>9</td>
<td>6</td>
<td>14</td>
</tr>
<tr>
<td>SLD</td>
<td>7</td>
<td></td>
<td>5</td>
<td></td>
<td></td>
</tr>
<tr>
<td>General Weakness</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>415</td>
<td>161</td>
<td>178</td>
<td>26</td>
<td>88</td>
</tr>
</tbody>
</table>
Total number of conditions: 424

Four camps were held in H.D. Kote, Sargur, B. Mathkere and H.D. Kote and 220, 49, 82 and 35 children were screened by teams of 12, 10, 10 and 7 faculty members (from NIMHANS, Bangalore, AIISH, Mysore and General Hospital and PHC Staff, H.D. Kote).

Urban experiences in Child Mental Health service delivery:

Emerging out of decades of work with the teachers in the urban schools, it was found that there is a definite need for developing strategies for running child mental health services in the community. Running child guidance centres in the school settings seemed to be an ideal solution, while paucity of trained personnel to provide the training and supervision appeared to be a formidable task. What began as a small exercise in 2003 now appears to be one of the feasible models. The experiment grew out of my experience of training lay volunteers providing free counselling service at the Prasanna Counselling Centre in Bangalore for 13 years. In order to run a CGC, one needed trainee volunteers, supervisors and most importantly a clientele. Many a counselling training efforts have fallen on the wayside as practical hands-on experience was missing — while training remained at a theoretical level.

Our child guidance centre had adopted a three pronged approach to begin with.

a. Offering free mental health services directly to the children and their families on Saturday afternoons when they do not have schools.

b. Training of volunteers

i. Sensitization of volunteer workers in the areas of child mental health and child development through workshops in large groups

ii. Training and supervision of interested and committed volunteers with hands-on experience with children with problems.

c. Service provision by the trained volunteers.

Actual services being provided by the trainees. After one year’s completion of training – monitored continually by the professional supervisors – based on record keeping and actual work.

The programme was to be held every year, in view of the high dropout rates at each of the phases, especially as no money was paid or collected for the services and training. Now we are into the 9th year and following is the summary almost decade of work.

Table - 1

<table>
<thead>
<tr>
<th></th>
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<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Total Cases</td>
<td>92</td>
<td>95</td>
<td>131</td>
<td>179</td>
<td>249</td>
<td>300</td>
<td>149</td>
</tr>
<tr>
<td>Conduct Disorder</td>
<td>15</td>
<td>11</td>
<td>14</td>
<td>21</td>
<td>29</td>
<td>40</td>
<td>13</td>
</tr>
<tr>
<td>Emotional Disorder</td>
<td>10</td>
<td>8</td>
<td>25</td>
<td>21</td>
<td>27</td>
<td>33</td>
<td>11</td>
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<tr>
<td>Learning Disorder</td>
<td>46</td>
<td>55</td>
<td>69</td>
<td>94</td>
<td>127</td>
<td>138</td>
<td>73</td>
</tr>
<tr>
<td>ADHD</td>
<td>11</td>
<td>3</td>
<td>11</td>
<td>30</td>
<td>30</td>
<td>61</td>
<td>30</td>
</tr>
<tr>
<td>Mental Retardation</td>
<td>5</td>
<td>6</td>
<td>9</td>
<td>6</td>
<td>3</td>
<td>12</td>
<td>10</td>
</tr>
<tr>
<td>Speech Deficits</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>6</td>
<td>4</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Psychosomatic Disorder</td>
<td>0</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>2</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>School Refusal</td>
<td>3</td>
<td>4</td>
<td>3</td>
<td>2</td>
<td>10</td>
<td>5</td>
<td>6</td>
</tr>
<tr>
<td>Seizure Disorder</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>1</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Enuresis</td>
<td>2</td>
<td>7</td>
<td>2</td>
<td>3</td>
<td>15</td>
<td>5</td>
<td>5</td>
</tr>
<tr>
<td>Neurotic Disorders</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>1</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>Psychosis</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>1</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>O C D</td>
<td>0</td>
<td>0</td>
<td>1</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Dropouts</td>
<td>-</td>
<td>-</td>
<td>1</td>
<td>2</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
</tbody>
</table>

*Upto December 2011
Most of the cases came for 1-5 sessions while some came for more than 10 sessions. Almost all the children and their families were seen individually. Two experiments with group work were carried out with hyperkinetic children and children with specific learning disabilities. Hyperkinetic groups were conducted with some success adopting a holistic approach (Mala et al. of Kapur, 2011). While the STD Groups failed because of the heterogeneity of the nature of deficits.

First Phase

Feeder Programmes:

Annual six orientation workshops on Child Development and Mental Health were conducted usually between August and October over six Saturdays. The faculty from NIMHANS, St. John’s Medical College and St. Martha’s Hospital in Bangalore, consisting child psychiatrists and child psychologists formed the core team. The topics were normal child development, emotional disorder, learning disorder, hyperkinesis and conduct disorder. In addition drug management of childhood psychiatric disorders were discussed. Discussion by the audience was encouraged. Bio-data of all the participants were collected and reading material was supplied. Registration was done across the years. The fee for six workshops 2½ to 3 hours duration, all together was Rs.300 only. The attendance can be displayed as under:

<table>
<thead>
<tr>
<th>Year</th>
<th>Attendance</th>
<th>Year</th>
<th>Attendance</th>
</tr>
</thead>
<tbody>
<tr>
<td>2005</td>
<td>53</td>
<td>2009</td>
<td>39</td>
</tr>
<tr>
<td>2006</td>
<td>38</td>
<td>2010</td>
<td>24</td>
</tr>
<tr>
<td>2007</td>
<td>33</td>
<td>2011</td>
<td>62</td>
</tr>
<tr>
<td>2008</td>
<td>63</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

The timing of the six workshops was crucial, for attendance as these fell between school reopening and various festivals. Those candidates who attended four of the six sessions were given the participation certificates.

Second Phase of Training:

These people were offered the option of attending the counsellor training of the CGC – over a period of one year – with one hand experience with training and supervision. The programmes were continually held every Saturday afternoons from January to December each year. This training in counselling of around 30 to 40 sessions was completely free. Neither the in-house faculty nor the trainees had any monitory incentives.

The training consisted of lectures on how to take the case history using the Developmental Psychopathology Check List (DPCL). How administer Seguin Form Board and Ravens Progressive Matrices and NIMHANS Specific Learning Disability Index. This was followed by interviewing the parents and child, play and art work with children and some basic psychological techniques of counselling. This was followed by case presentation .......... the group of trainees individually. In the initial phase, till the above exposure was given, the trainee freshers were simply made to sit along the seniors and fill in their own DPCL records for the child being observed. Only when the faculty was sure of the competency, they were given independent case load. However ,it was requirement that all the cases were to be discussed with the faculty. The faculty initially was Dr. Malavika Kapur while Dr. Akhila and Ms. Geetha joined later.

Thus the pattern of training was that each year, the session most got the maximum independence and less supervision and the junior most were supervised by the faculty as well as the senior. The trainee counsellor dropout rates were high, but the yearly intake of freshers, enabled the CGC to be run smoothly. The general trend was that the maximum dropouts were in the first year. Some stayed for two years, some for three – and two have remained for the entire seven years. These two counsellors are now given the responsibility of running the CGC – with clinical inputs by the faculty.

The trainee attendance:

In addition to the 3 number faculty - in 2006-2007 there were 8, 2007 about 17, 2008 about 16, 2009 about 14 and in 2010 about 13 juniors and 10 seniors. 2011 about 15.
**Funding:**
The programme entirely non-funded. The Hindu Seva Prathisthan had given four rooms, a basement and a lecture hall to the Prasanna Counselling Centre between 6 PM and 9 PM – on every working day. The same facility is given free of cost between 1.30 and 5.30 PM on Saturday too for Child Guidance Centre. The centre charges no fees but accepts small donations that are put in the donation boxes if they wish. The workshop income is the other source after the workshop expenses are covered. The test materials were donated. Day to day expenses of copying materials etc is covered by the said amount.

**The case load in the Centre:**
Details of children coming to the clinic were entered in a log book, with a registered number. Each trainee maintains a file for each child, identified by the registered number in the log book. But file stays in the centre.

**The cases seen:**
- 2003 - July to December - 96 cases
- 2004 - January to December - 93 cases
- 2005 - January to December - 95 cases
- 2006 - January to December - 132 cases
- 2007 - January to December - 185 cases
- 2008 - January to December - 268 cases
- 2009 - January to December - 261 cases
- 2010 - January to December - 229 cases
- 2011 - January to March - 47 cases

**The CGC also ran additional programme:**
- i. Support to institutions. Abalashram and Nele – offering training and consultations.
- ii. Holding independent workshops on art work, family relations, parenting, effect of TV on children and so on.
- iii. Apart from the above several individuals and groups came as observers to the Centre.
- iv. Many of the counsellors also independently addressed groups, media etc.
- v. Group work with hyperkinetic children that was a success, while one with SLD was a failure.

However it must be stated that the CGC had not advertised its presence at all. The clients came with word of mouth information. The yearly intake being 200 and above with 2 to 3 sessions on average per child with maximum of 12 to 15 sessions per child the CGC cannot provide a quality care to more children. We still believe that small with free service remains is beautiful.

**Summary:**
The project provides models for efficient and low cost strategies for prevention and intervention for mental health and disabilities. The model makes use of available infrastructure in health, education and welfare sectors. It is replicable elsewhere not only in rural India but also in the other developing countries. It examines the feasibility of mainstreaming the disabled in schools. It promotes a ‘Single Window’ approach to reach the disabled in the community in terms of welfare measures. Community participation is encouraged.

(The funding by the Directorate of the Welfare of the disabled Department of Women and Child Development and support of the National Institute of Mental Health and Neurosciences are acknowledged).
PSYCHOTHERAPY AND COUNSELLING IN THE MILITARY ENVIRONMENT: ISSUES AND FUTURE CHALLENGES

Catherine Joseph

ABSTRACT

The goal of the military services is to enforce the policies and treaties of their countries by the use of combat power or the threat of use of that power. Mental health support services are provided to ensure that military personnel and their family members are psychologically equipped to respond effectively to combat stressors as well as other occupational and family stressors associated with military service. Initially, the goal of mental health services in the military was selection and placement resulting in a good person-job match (Steege & Fritscher, 1991). Later, additional services for military personnel and their families emerged. These services can be categorized into three overlapping areas: (a) services for military personnel; (b) mission-related services and (c) services for families. Recognizing the impact of both the micro-context and macro-context in resolving soldiers’ problems is fundamental to successful individual counselling and psychotherapy with military personnel. Other forms of services that are used are group counselling and psychotherapy, and psychoeducational counselling related to stress management, suicide and other gender awareness and anger management. Mission related activities include command consultations, combat stress debriefings, command-directed referrals, and casualty support services. A number of services for military families are also considered essential (Fenell & Weinhold, 2003). This paper discusses issues which make psychological services in the military environment different from that for civilian populations and the future challenges in this sphere which face the military, specifically in the context of the Indian Armed Forces.

Keywords: Military personnel, Mission related services, Mental health services, Psychological therapy

The field of military psychology is defined neither by a common set of techniques ...nor by a common set of problems ...but rather by the area or context of application - the military (Driskell & Olmstead, 1989). The American Psychological Association’s (APA) Division 19 was one of the first specialty divisions established in 1946. In the years leading up to World War (WW) I, American psychologists had become interested in the mental measurement work of Binet in France. There was a problem of selecting millions of US civilians into the armed services that brought the tools of psychologists to the military environment and created the discipline of military psychology in the US. At the start of the war, a group of psychologists headed by APA president Dr Robert M Yerkes met to discuss how psychology could assist in the war effort. The successful program of mental testing of recruits with the Army Alpha and Beta examinations, which resulted in the placement of new soldiers into military jobs and officer training, is identified as the genesis of military psychology. It also served as the subsequent model for group intelligence testing for both military and civilian applications. Psychologists also addressed many other military issues and some notable examples include EG Boring, LM Terman, EL Thorndike, JB Watson and RS Woodworth were truly the first military psychologists. Military psychology born in the WW I and matured in WW II. The major areas of work and study in military psychology are personnel selection and classification, training, human factors engineering, combat environment and other stressors, leadership and team effectiveness, individual and group behaviour, special subjects and situations and lastly, clinical.
Military clinical psychologists are either commissioned officers or civilian psychologists who provide mental health services and counselling for active duty personnel and their families within the unique military environment. They conduct psychological testing and assess for general fitness for duty and for highly sensitive jobs requiring security clearances. They also manage problems addressing specific issues such as substance abuse, family related problems, stress reduction and promotion of psychological health and well-being. Their jobs may involve providing consultation to military commanders on improving both the performance and mental health of individuals and the organizational effectiveness and readiness of military units. They work in a broader range of settings as compared to other psychologists such as in research and educational facilities, medical centers, hospitals and clinics, military schools and bases. They may be required to partake in national and international deployments or work in operational and policy offices.

The goal of the military services is to enforce the policies of their countries by the use of combat power or the threat of use of that power. The military is most successful when the threat of using power is sufficient to achieve national aims and ensures that military personnel are safe. Still, those who serve must be prepared to face an enemy force in combat and emerge victorious, with minimal casualties to their own military personnel (Fenell & Weinhold, 2003). One of the challenges for military counselling clinical psychologists is having to deal with clients who are under the military act and are required to die for their country on one hand and on the other, are to kill the enemy - a set of people unknown to them - which sometimes could even incur psychological costs (Grossman, 2001).

One of the important ways that the military ensures this is to provide quality support services including mental health services. Support services are critical, as they permit military personnel to focus on the combat mission while being assured that support is available for them and for their families. Mental health support services are developed and provided to ensure that military personnel and their family members are psychologically equipped to respond effectively to combat stressors as well as other occupational and family stressors associated with military service (Steege & Fritscher, 1991).

After military psychologists developed the Army Alpha and Beta psychological tests, in 1919 they were given increased responsibilities including refining selection techniques, making recommendations on training procedures to maximize learning of trainees, working with psychiatric patients and developing procedures to improve combat effectiveness and the morale of troops (Mangelsdorff & Gal, 1991). These were the seeds sown for the emergence of the military mental health services. Based on the important contributions of psychology to building an effective force in World War I, the science of human behaviour assessment and treatment was recognized as an important military support function and earned a place in the organizational structure of the military service (Steege & Fritscher, 1991).

With the demobilization that followed the end of World War I, the behavioural sciences role in the military languished. As the prospect of involvement in the second war in Europe became more probable, the United States military was prompted to form a mental health team to revise the Army Alpha and Beta tests. The result was the Army General Classification Test (AGCT) and a series of specialized aptitude, physical, and psychomotor tests that were important to predicting performance of pilots, intelligence gathering personnel and others with specialized missions. More than 12 million personnel were tested during World War II (Mangelsdorff & Gal, 1991). The dramatic increase in the use of the behavioural sciences in World War II led to new roles for mental health professionals.
Different Psychological Service Requirements for Military Personnel and Their Families:

Initially, the goal of mental health services in the military was selection and placement resulting in a good person-job match (Steege & Fritscher, 1991). Later, additional services for military personnel and their families emerged. In modern military, numerous behavioural sciences services have been added to those already mentioned here. For the purposes of discussion these services have been categorized into three overlapping areas: (a) services for military personnel; (b) mission-related services; and (c) services for families (Fenell & Weinhold, 2003).

Individual Counselling:

In their comprehensive overview of military psychology, Mangelsdorff and Gal (1991) acknowledge that military mental health services, while possessing unique elements, tend to parallel the profession in general. The area of individual counselling of military personnel certainly supports this position. The counselor working with an individual military client must have the same skills and abilities as an individual counsellor in civilian practice. The individual military counselor must have the ability to accurately hear the problem presented by the client and demonstrate to the client this accurate understanding (Rogers, 1957). In addition to these basic skills, the counsellor must understand the military context within which the client works (O’Hearn, 1991).

Understanding the military context parallels multicultural counselling in many ways (Mc Goldrick et al., 1992). Culturally competent counselors ensure that both the client and the client’s culture are considered in the helping process. The same is true for military counsellors. Military organizations, commander’s unique personalities and leadership style, varying duties and missions, all complicated by the client’s perception of these elements create unique "micro-contexts" of the military culture. Counselors must understand these "microcontexts" to be able to relate effectively with and to help their military clients. It is equally important that counsellors also recognize the "macro-context," a consistent comprehensive structure and set of values and regulations of the larger military organization. Recognizing the impact of both the micro-context and macro-context in resolving soldiers’ problems is fundamental to successful individual counselling with military personnel (Fenell & Weinhold, 2003).

Often, military personnel believe that seeking mental health services will damage their military careers. One of the main issues is the link between health and occupational status, both psychological and physical health is gauged effectively with and to help their military clients. It is equally important that counsellors also recognize the "macro-context," a consistent comprehensive structure and set of values and regulations of the larger military organization. Recognizing the impact of both the micro-context and macro-context in resolving soldiers’ problems is fundamental to successful individual counselling with military personnel (Fenell & Weinhold, 2003).

Some commanders believe that if an individual in the command has psychological problems, the commander should be notified, especially if the problem could affect the combat capability of the unit. Because commanders are responsible for all that their soldiers do and fail to do, commanders have a legitimate concern to understand any problems that could affect the military performance of their personnel. This creates an ethical problem for the military counselor. The best solution is for the counselor to talk with the client and obtain his or her permission to inform the commander about the problem. Of course, if permission is not obtained, confidentiality must be maintained in accordance with ethical guidelines (Corey et al., 1993). However, in some military professionals such as aviators, flight safety assumes a more important role than confidentiality because the client’s life may be at risk.
Clients sometimes tend to seek help from outside civil sources, which remains unknown to the military health specialists. The military, the world over are presently studying this issue and looking for ways to ensure that military personnel seeking counselling can do so with Service providers without threat to their careers. Whether the military culture will trust this new position in support of confidential provision of counselling services remains to be seen (Fenell & Weinhold, 2003). As a part of their suicide prevention program, the USA changed their policies to promote help seeking behaviour and protect personnel who seek help for their problems (Litts et al., 1999).

Once psychological help is sought or imposed, lack of disclosure is often a major difficulty and affects the counselor-client relationship of mutual trust. Military personnel’s, lives and professions are heavily influenced by others decisions and they may feel particularly vulnerable to the consequences of self-disclosure. Differing motivation results in either faking "good" or "bad"/malingering/reverse malingering depending on the motivation to continue in the same job, change their military job, or get release from service on medical/ psychological grounds (Joseph et al., 2005a). In such cases rapport building becomes extremely important and time required for counselling/psychotherapy may need to be longer in some cases. Disclosure is generally higher to civilian counselors and therapists who are able to build up trust and rapport well.

Being a selected population, certain personality characteristics of military personnel may differ from civilian populations. Our studies have indicated more of emotional inhibition in military personnel (Joseph & Roopa, 2001; Roopa & Joseph, 2004), possibly because of the authoritarian leadership styles and hierarchical organizational structure which lead to suppression of emotions. This tends to often result in extreme styles of either lack of communication or incessant verbalization. Counselors may thus in some cases need to use more directive methods, be more patient, empathic and reassuring and more importantly be very alert and discerning. There may also be some personality differences due to culture which the psychologist needs to be aware of. For instance our experience with Indian military aircrew suggests that they tend to give equal preference for both achievement and affiliative work needs, have lower internal locus of control and higher external locus of control compared to their western counterparts (Joseph et al., 2005b; Kochher & Joseph, 2006; Joseph & Ganesh, 2006). This could affect the counselor’s/therapist’s expectations in the psychotherapeutic setting. Certain principles of counselling/psychotherapy may be incongruous with occupational role e.g. in military fighter pilots, psychological defence mechanisms are a healthy requirement and therefore should not be broken down in therapy, if the person has to return to flying (Joseph & Kulkarni, 2003).

Progress in counselling/therapy sometimes needs to be endorsed with psychological assessment. Psychological assessment too, in this set up tends to have it’s own challenges. In psychological evaluation of aircrew and other military personnel in our laboratory, the internal validity scales of personality questionnaire tests were found to be elevated in over 55% of subjects, making results less reliable and therefore projective techniques are must in any evaluation (Joseph & Roopa, 2001; Joseph et al., 2005a; Roopa & Joseph, 2004).

Military personnel seeking individual counselling present the same types of concerns as their civilian peers. Frequent presenting concerns are depression, anxiety, difficulties with work demands, superiors, co-workers, discipline and behaviour problems. Depression is an especially high visible problem. Another frequently presenting problem is anxiety, especially among young personnel who have never been away from home. Individuals may feel isolated and unsure of their capabilities. Moreover, the firm discipline and directive approach taken in the military can exacerbate the anxiety. Counselling can help the individual work through the anxiety. Counselling combined with time and the new friendships are often all that is needed to alleviate the problem. If indepth counselling is required, a determination of the individual’s psychological fitness for continuing military service may be required.
Group Counselling:

A military client is normally seen first in individual counselling for an assessment, then continues in individual counselling until severe symptoms are moderated. Once the intensity of the effects of the presenting problem is reduced and the client gains some insight, he or she may be referred for group counselling where appropriate and ethical (Corey et al., 1993).

Many of the strengths of counselling groups are particularly applicable to soldiers. Within counselling groups, members can reenact the dynamics of their day-to-day world (Corey, 2000), and receive feedback on their thoughts, feelings, and behaviours from their peers in a safe environment. Because participants in these groups are members of the military culture, their feedback to one another can be particularly helpful. Group members can provide helpful insights about the difficulties and the necessary adjustments associated with military life. Group membership provides the soldiers with the opportunity to try new behaviours in the accepting group environment. Being in a group fosters a sense of belonging and cohesion (Corey, 2000). A sense of cohesion is essential to unit morale and esprit de corps (Cota et al, 1995) and often is carried from the group to the soldier’s military unit. The use of groups in military counselling can be extremely effective in returning soldiers to their units, with enhanced interpersonal and coping skills (Fenell & Weinhold, 2003).

Psychoeducational Counselling:

Military counselors provide extensive psychoeducational presentations to all levels of their organization (Rath & Norton, 1991). The presentations are structured to address the specific responsibilities of officers, noncommissioned officers (NCOs), and enlisted personnel. Keeping in mind that counselors make psychoeducational presentations on a variety of topics, major topical areas are: (a) suicide awareness, (b) stress management (c) anger management, and (d) other gender awareness. Our work on suicide prevention in the IAF indicates the efficiency with which programs can be carried out reflecting an advantage of the hierarchical organisational structure and benefits of using and training lay counselors (Joseph & Roopa, 2004).

Other Counselling and Therapy Needs of the Military:

Other counselling and therapy needs of the military categorised by Fenell (Fenell & Weinhold, 2003) include (a) mission-related counselling services which are provided in direct support of military operations. Command consultations are provided to assist military leaders in developing effective organizations capable of carrying out assigned missions. A command consultant is similar to a civilian organizational consultant (Lenz & Roberts, 1991). (b) Assessment and selection helps to identify the most appropriate candidates for specific training programs and military missions through psychological testing, interviews, and performance tests to select the best qualified personnel for missions such as those of military pilots, and personnel who work with classified information. (c) SERE psychological training i.e. survival, escape, resistance, and evasion. The resistance phase of the training typically includes a simulated capture by enemy personnel in which the students are put through an extremely stressful and demanding prisoner-of-war experience. This high-stress training is conducted by a professional cadre and is designed to inoculate personnel who are at risk for capture by the enemy and subsequent interrogation (Meichenbaum, 1985). (d) Combat stress debriefings which help process the activities that took place during a combat action or combat training accident. The debriefing allows participants to evaluate their individual behaviours and responses during the action, and to integrate them in ways that allow each person to return to full combat capability and may help to prevent post-traumatic stress disorder from affecting soldiers after their military deployment (Harvey, 2002). (e) Command-directed referrals for psychological evaluation and treatment may be ordered if necessarily if individuals decline to seek an evaluation and treatment. (f) Casualty support for service members and their families because they face the possibility that the deployed service member may not return (Vandesteeg, 2003).
In the US Armed Forces, when a service member dies, a family notification team is formed where the chaplain provides immediate psychological and spiritual support for the family of the deceased service member. Based on the family’s needs, the chaplain can arrange referral to appropriately trained civilian counselors for follow-on grief counselling. (g) Military families need services such as marital counselling, family therapy and other related family services targeted at improving family functioning. These are child counselling, individual counselling for the spouse, family life education, parent educational programs, and violence prevention. The school counselor’s role in counselling highly mobile military-connected children is important because military-connected students move three or four times more often than their civilian classmates. This high mobility rate often creates social, emotional, and academic stressors for them.

Future Challenges for the Indian Armed Forces

Military psychologists need to be inducted into the military forces, because counselors and psychotherapists are the need of the hour. As outlined by Joseph (2007) psychological support needs to be organized at three levels. The first level is peer support which is informal and on the spot. Secondly, some individuals in every unit must receive specific training in incident handling. They can act as individual and unit level stress risk assessors, advise their commanders and can conduct basic interventions. They should know when to bring in more specialized support from psychological support professionals. They can be embedded within the formation and can be officers from any branch (doctors/aircrew/engineers). However, their selection is very important and it should be based on required personal qualities such as being empathic, unbiased and just.

Psychologists, psychiatrists, social workers, sociologists and psychiatric nurses may be described as psychological support professionals; comprising the third level. They would advise military commanders on the well-being of the personnel. Psychological support should not be limited to individual mental health. Military psychologists involved in mental readiness should have a combination of clinical and occupational skills to advise military leaders regarding morale and other problems at the unit/station level. Since support professionals are very few in the Indian Armed Forces, help can be drawn from Defence Institute of Psychological Research, Delhi, National Institute of Mental Health and Neurosciences, Bangalore, Tata Institute of Social Sciences, Bombay or other private agencies. These professionals can be trained in the military scenario and since they have long tenures at their institutions, a pool of such support would always be available.

Secondly, issues of psychological support should be covered in education and training. Consensus should be reached on necessary topics of psycho-education in military education at all levels and in training on psychological support. Competencies for giving advice, conducting education, delivering treatment, carrying out assessments and interventions, and referring on, must be identified, made aware and explicit.

Thirdly, home-front psychological support needs to be planned and organized. Home-front support means providing education, information and advice, means of communication and offering psychological or social support. Home-front support should be organized and is clearly linked to operational readiness. Also a structured rehabilitation program for IAF personnel and their families must be planned, with further long-term support tailored to cater for their needs.

This paper introduces the subject of military psychology and the various roles of military psychologists which are determined mainly by the requirements of a milieu that is quite different from the civilian set-up. Mental health services can be provided so that military personnel can function effectively in their jobs and their families can support them in this, in the face of many occupational and family stressors that they encounter. Different types of psychological service requirements include individual, group and psycho-educational counselling and various other psychotherapeutic needs. The counselor/therapist faces many challenges in this unique setting; however
hundreds of military psychologists the world over, continue to contribute positively to the psychological well-being of military personnel and their families. The future challenge for the Indian Armed Forces is to be able to recognize the need and the long term cost benefits of inducting psychological support professionals to deal with high levels of psychological stress being experienced in every day lives of our armed forces personnel.

REFERENCES


The mental health problems are growing alarmingly among the youth especially in college going students. The aim of the study was to examine the nature of self-reported psychological problems in college students and their association with childhood ADHD and family alcoholism. The sample consisted of 199 college students (93 boys and 106 girls) in the age range of 16 to 18 years. The subjects were administered a Personal Information Sheet, Wender Utah Rating Scale (WURS-25), Children of Alcoholics Screening Test (CAST-6) and Problem Oriented Screening Instrument for Teenagers (POSIT). Data were analyzed using t tests and correlations. Results revealed that childhood ADHD, substance use, problems with peers and aggressive behaviour were significantly higher in boys than girls. History of childhood ADHD was associated with educational problems, problems with family and peers, poor social skills and aggressive behaviour. Alcohol problems in a parent were associated with higher childhood ADHD, substance use and disturbed family relations. The study indicates the importance of screening adolescents for psychological problems so that early interventions can be planned.

Keywords: College students, psychological problems, ADHD, family alcoholism

INTRODUCTION

Blanco et al. (2008) carried out a first ever study examining Axis I and Axis II DSM IV disorders in a nationally representative sample of college students in the United States. The study consisted of 43,093 students and a sub sample of 5,092 college students and non-college students in the age range of 19-25 years were assessed for prevalence of psychiatric disorders. Results revealed that almost half the college students had psychiatric disorders in the past one year. 20.37% had alcohol use disorders, 20.66% had nicotine dependence and 17.68% had personality disorders. The researchers recommend early detection and treatment of psychiatric disorders in this population.

Li et al. (2008) noted that very few studies have examined the mental health of college students in Asia. They screened 827 college students in China for mental health problems and found that Yi ethnic students, female students, older students irrespective of gender, and those who were dissatisfied with their course, were more likely to report serious mental health problems. They recommend further research to identify predictor variables, which will help in planning intervention programs.

Many studies of ADHD have shown that the problems associated with the disorder continue into adolescence and beyond for 10% to 60% of patients. Several aspects of college adjustment, social skills, and self-esteem in college students are affected by ADHD. Students with ADHD symptoms show decreased functioning in several areas of college adjustment as well as lower levels of self-reported social skills and self-esteem. It is also suggested that the relation between ADHD and college adjustment is partially mediated by self-reported levels of self-esteem. (Shaw-Zirt et al., 2005). Research indicates that problem behaviours which mainly constitute externalizing spectrum of disorders in early adolescents identify a subset of youth who are at an especially high and generalized risk for developing adult psychopathology (McGue & Iacono, 2005). Further, it is reported that...
23% of alcohol-dependent persons have shown evidence of retrospective ADHD affliction in childhood. (Ohlmeier et al., 2008).

More recently, Gudjonsson et al. (2010) examined the relationship between symptoms of childhood and current ADHD and core maladaptive personality problems. The study was carried out on a sample of 397 college students with a mean age of 23 years. Results revealed that females scored lower on ADHD and antisocial behaviour. Students with ADHD were found to be poorer in the capacity to set realistic goals, the capacity to tolerate and control one’s own impulses and emotions and the ability to withhold aggressive impulses towards others and to work together with others. They also found that the pattern of correlations of childhood and adult ADHD with maladaptive personality traits were similar.

Studies have also reported that children of fathers with substance use disorders and children of parents with alcohol use disorders are at increased risk for psychopathology such as conduct disorder, ADHD, major depressive disorders and anxiety disorders (Clark et al., 2004; Waldron et al., 2009). In a study on college students, Kelley et al. (2011) found that compared to non-Adult Children of Alcoholics (non-ACOAs) (n=288), Adult Children of Alcoholics (ASOAs) (n=100) reported more negative parent-child relationships, greater alienation, more negative attitudes towards the parent and increased depressive symptoms. Similar findings had been reported in earlier study carried out among male ACOAs in India (Michel & Suman, 2009). According to La Brie et al. (2010), family history of alcoholism is also well-documented risk factor for heavy alcohol use among college students and the college environment may be more harmful for those students who are predisposed to alcohol problems.

As recently as 2009, Cranford et al. noted that although prevalence of substance use among college students has been well documented, the extent to which substance use behaviours co-occur with mental health problems is not well understood. In a random sample of 5021 under graduate and graduate students, they found that emotional problems such as depression, panic and anxiety were associated with cigarette smoking, and anxiety was linked to binge drinking, especially among male students. 67% of the students perceived a need for mental health services but only 38% received such services. According to the researchers, the results highlight the importance of improving access to prevention and intervention programs for students with co-occurring substance use and mental health problems.

Although studies have been carried out in India on substance use issues in the student population, empirical research on childhood ADHD and associated problems are lacking in this population. 

**Aim:** The aim of the present study was to examine gender differences in self-reported problems in college students. The study also aimed at examining differences in self-reported psychological problems between those ‘with childhood ADHD’ and ‘without childhood ADHD’ subjects as well as differences in self reported psychological problems between Children of Alcoholics (COAs) and Children of non-Alcoholics (non-COAs). The study also aimed at examining the associations among psychological problems, childhood ADHD and family history of alcoholism.

**Sample:**

The sample comprised of 199 undergraduate college students (93 boys and 106 girls) in the age range of 16 to 18 years from Bangalore City, India. Students studying in four English Medium Colleges were selected for the study after obtaining permission from the college managements. Students of foreign nationality were excluded. Written informed consent was obtained from all the subjects and assessment was carried out in the college premises. The study had a cross sectional research design.
MEASURES

1. Socio-demographic Data Sheet:

    This was used to obtain socio-demographic information about the subjects. This includes subject’s name, age, sex, education and details of family members.

2. Wender Utah Rating Scale (WURS):

    The Wender Utah Rating Scale was developed by Ward, Wender and Reimherr in 1993 and is used to assess adults for Attention Deficit Hyperactivity Disorder. It comprises of 61 questions related to childhood behaviour which are rated on 5 point scale. The WURS has high internal consistency (r=0.87) and high test-retest reliability (r = 0.68).

3. The Children of Alcoholics Screening Test-6 (CAST-6):

    CAST was developed by Pilat and Jones in 1983. This scale assess the difficulty experienced by children living with Alcoholic parents. The actual questionnaire consists of 30 yes or no items. The short form of the scale, (CAST-6), was developed by Hodgins et al., in 1993. The CAST-6 is judged to compare favorably with the full CAST and to provide a more efficient way to identify adult children of alcoholics. Three or more yes answers indicate that the subject has an alcohol dependent parent.

4. Problem Oriented Screening Instrument for Teenagers (POSIT):

    The POSIT developed by Rahdert (1991), is a screening tool using a yes/no response format, designed to identify problems and the potential need for service in 10 functional areas (total 139 items), including substance use and abuse, physical health, mental health, family relations, peer relations, educational status (i.e., learning disabilities/disorders), vocational status, social skills, leisure/recreation, aggressive behaviour/delinquency. Target population is adolescents of age 12 through 19 years.

Analysis of Data:

    Comparison of variables was done by using independent sample t-test. Correlations were carried out to examine the relationships among WURS, CAST-6 and the subscales of POSIT.

RESULTS

Table 1: Mean, SD, and t values on WURS, CAST and POSIT of Boys and Girls

<table>
<thead>
<tr>
<th>GENDER</th>
<th>Boys</th>
<th>Girls</th>
<th>t (df=197)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>N=93</td>
<td>N=106</td>
<td></td>
</tr>
<tr>
<td>WURS</td>
<td>39.87</td>
<td>35.32</td>
<td>2.15*</td>
</tr>
<tr>
<td>CAST</td>
<td>1.10</td>
<td>1.54</td>
<td>1.74</td>
</tr>
<tr>
<td>POSIT</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Substance use / abuse</td>
<td>1.71</td>
<td>0.70</td>
<td>3.16**</td>
</tr>
<tr>
<td>Physical health</td>
<td>2.73</td>
<td>1.71</td>
<td>0.77</td>
</tr>
<tr>
<td>Mental health</td>
<td>9.19</td>
<td>9.42</td>
<td>0.34</td>
</tr>
<tr>
<td>Family relations</td>
<td>3.20</td>
<td>3.14</td>
<td>0.19</td>
</tr>
<tr>
<td>Peer relations</td>
<td>3.55</td>
<td>2.16</td>
<td>4.91**</td>
</tr>
<tr>
<td>Educational status</td>
<td>10.75</td>
<td>9.50</td>
<td>1.99</td>
</tr>
<tr>
<td>Vocational status</td>
<td>8.10</td>
<td>8.19</td>
<td>0.99</td>
</tr>
<tr>
<td>Social skills</td>
<td>4.09</td>
<td>3.33</td>
<td>2.62**</td>
</tr>
<tr>
<td>Leisure/recreation</td>
<td>4.61</td>
<td>5.26</td>
<td>2.73**</td>
</tr>
<tr>
<td>Aggressive Beh. /delinquency</td>
<td>5.83</td>
<td>4.50</td>
<td>3.35**</td>
</tr>
</tbody>
</table>

**Significant at < 0.01 level of significance,
*Significant at < 0.05 level of significance.

Table 1 indicates that boys have significantly higher presence of self reported childhood ADHD, higher substance abuse, more problems in peer relationships, more difficulties in learning, more problems in social skills and more problems due to aggressive behaviours compared to girls. In contrast, girls had more problems in leisure/recreation activities than boys.
Table 2: Mean, SD and t values on POSIT of Non-ADHD and ADHD Subject

<table>
<thead>
<tr>
<th>WURS</th>
<th>POSIT</th>
<th>Non-ADHD (N=132)</th>
<th>ADHD (N=67)</th>
<th>t (df=197)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>M</td>
<td>SD</td>
<td>M</td>
</tr>
<tr>
<td>Substance use/abuse</td>
<td></td>
<td>0.95</td>
<td>1.95</td>
<td>1.60</td>
</tr>
<tr>
<td>Physical health</td>
<td></td>
<td>2.42</td>
<td>1.58</td>
<td>3.63</td>
</tr>
<tr>
<td>Mental health</td>
<td></td>
<td>8.03</td>
<td>4.16</td>
<td>11.84</td>
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<tr>
<td>Family relations</td>
<td></td>
<td>2.91</td>
<td>2.29</td>
<td>3.69</td>
</tr>
<tr>
<td>Peer relations</td>
<td></td>
<td>2.27</td>
<td>1.82</td>
<td>3.88</td>
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<tr>
<td>Social skills</td>
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<td>3.22</td>
<td>1.95</td>
<td>4.60</td>
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<tr>
<td>Leisure/recreation</td>
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<td>4.88</td>
<td>1.79</td>
<td>5.12</td>
</tr>
<tr>
<td>Aggressive Beh./delinquency</td>
<td></td>
<td>4.62</td>
<td>2.51</td>
<td>6.10</td>
</tr>
</tbody>
</table>

**Significant at < 0.01 level of significance, *Significant at < 0.05 level of significance

Table 2 indicates that 34% of the students reported symptoms of childhood ADHD. Subjects with childhood ADHD reported difficulties on all domains except substance use and leisure activities. Subjects with higher childhood ADHD reported significantly more problems in physical and mental health, relationships with family members and peers, performance in academics, social skills and control over aggressive behaviours.

Table 3: Mean, SD and t values on WURS and POSIT of CONAs and COAs

<table>
<thead>
<tr>
<th>CAST - 6</th>
<th></th>
<th>CONAs (N=147)</th>
<th>COAs (N=52)</th>
<th>t (df=197)</th>
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</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>M</td>
<td>SD</td>
<td>M</td>
</tr>
<tr>
<td>WURS</td>
<td></td>
<td>35.73</td>
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<td>Substance use/abuse</td>
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<td>0.98</td>
<td>2.05</td>
<td>1.71</td>
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<tr>
<td>Physical health</td>
<td></td>
<td>2.65</td>
<td>1.63</td>
<td>3.33</td>
</tr>
<tr>
<td>Mental health</td>
<td></td>
<td>8.80</td>
<td>4.41</td>
<td>10.75</td>
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<tr>
<td>Family relations</td>
<td></td>
<td>2.87</td>
<td>2.18</td>
<td>4.02</td>
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<tr>
<td>Peer relations</td>
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<td>2.64</td>
<td>1.95</td>
<td>3.29</td>
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<tr>
<td>Educational status</td>
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<td>9.83</td>
<td>4.43</td>
<td>10.81</td>
</tr>
<tr>
<td>Vocational status</td>
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<td>2.23</td>
<td>8.63</td>
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<tr>
<td>Social skills</td>
<td></td>
<td>3.73</td>
<td>2.05</td>
<td>3.54</td>
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<td>Leisure/recreation</td>
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<td>5.06</td>
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<tr>
<td>Aggressive Beh./delinquency</td>
<td></td>
<td>4.96</td>
<td>2.66</td>
<td>5.58</td>
</tr>
</tbody>
</table>

**Significant at < 0.01 level of significance, *Significant at < 0.05 level of significance.

As it is evident from Table 3, 26% of the students reported family history of alcohol abuse. Children of alcoholics reported significantly higher presence of childhood ADHD compared to children of non-alcoholics, greater problems in substance use related issues, higher levels of physical and mental health problems and higher problems in family relations.

Table 4: Correlations among WURS, CAST-6 and Subscales of POSIT

<table>
<thead>
<tr>
<th>CAST6</th>
<th>WURS</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
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<tbody>
<tr>
<td>CAST6</td>
<td>-.20**</td>
<td>.18*</td>
<td>.15*</td>
<td>.21**</td>
<td>.28**</td>
<td>.14*</td>
<td>.12</td>
<td>-.06</td>
<td>.04</td>
<td>.17*</td>
<td></td>
</tr>
<tr>
<td>WURS</td>
<td>-.15*</td>
<td>-.35**</td>
<td>.51**</td>
<td>.16*</td>
<td>.35**</td>
<td>.54**</td>
<td>.14</td>
<td>.30**</td>
<td>.08</td>
<td>.20**</td>
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</tr>
</tbody>
</table>

**Significant at < 0.01 level of significance, *Significant at < 0.05 level of significance.

Table 4 reveals that children of alcoholics were able to function adequately in the areas of academics, vocational pursuits, leisure and recreational activities, and they had adequate social skills. Parental alcoholism was related to greater self-report of childhood ADHD, substance use, physical and mental health problems and difficulties in relationships with family members and peers. However, childhood ADHD impacted more areas of functioning such as academic performance, aggression and social skills. Childhood ADHD did not have a significant relationship with either vocational status or leisure activities.

DISCUSSION

The finding that about one third of the students in the present study reported symptoms of childhood ADHD is similar to reports that estimated one third of ADHD symptoms persist into adulthood and one third of children with ADHD meeting criteria for ADHD in adulthood as well. Research has been consistent in demonstrating the continuity of ADHD into adult life and ADHD is no longer considered as essentially a benign condition that children grow out of by the time they are adults (Faraone et al., 2000). According to Asherson (2004) evidence for the validity of adult ADHD is strong, and clinical experience suggests that it is a robust and stable concept with clear clinical implications. However, there has been insufficient systematic research carried out on its presentation, overlap with comorbid disorders and treatment outcome. Gender differences in ADHD and its associated problems found in the present study are similar to that reported by Gudjonsson et al., (2010).

Substance use was higher in adolescents who reported childhood ADHD but the difference was not statistically significant when compared to substance use among non-ADHD subjects. This may be due to the young age of the subjects as it is likely that they may not have easy access or resources to initiate substance use. However, the trend indicates that childhood ADHD can be a potential risk factor for later substance use. The association between ADHD and alcohol use, for example, in a sample of 70 Indian male patients, indicated that significantly more ‘Early Onset’ alcoholics had a history of ADHD in childhood compared to late onset alcoholics. The findings have implications for early detection and treatment of ADHD and reducing the risk for later substance use (Sringeri et al., 2008).

The finding that 26% of the students reported parental alcohol abuse is similar to findings reported in earlier studies (Belliveau & Stoppard, 1995; Harter & Taylor, 2000). Multiple self-reported difficulties reported by these students indicate that they are at risk for developing various types of psychopathology. The significant problems found among COAs in the present study are similar to those reported by Clark et al. (2004), Waldron et al. (2009) and Kelley et al. (2011). Although the importance of knowledge of parental alcoholism of non-clinical college students had been emphasized nearly two decades back (Wright and Heppner, 1993) little research has been carried out with these ‘hidden’ COAs, especially in India. Further, Harter and Taylor (2000) noted that although abuse histories and related social maladjustment were high among college going COAs. Few studies have focused on emotional abuse. In India, such studies are required for identifying both resilient COAs as well as those at risk for developing psychopathology. Findings from the studies can then guide screening for parental alcoholism and early intervention for psychological problems by college counsellors.

Problems across more domains of functioning among those with childhood ADHD as compared to COAs indicate the disruptive nature of residual ADHD symptoms. In a review of studies on ADHD and substance use, Wilson (2007) noted that having ADHD as a child, predicted a greater likelihood of learning problems, impulsivity, substance abuse and maladaptive social interactions. Severe
deficits in behavioural regulation often lead to oppositional defiant disorder in childhood and antisocial behaviour in adulthood. According to the review, common deficits in self-regulatory processes could underlie the developmental progression of these disorders.

The findings have implications for student mental health in India. Most schools and colleges do not have screening for psychological problems and teachers may be unaware of why some children have scholastic problems, emotional problems or behaviour problems. If the underlying cause is not identified, early intervention will not be possible. Multi-modal interventions such as coping skills training, social skills training, support groups and parent-training programs can be initiated for the high-risk subgroups. However, more research studies are required to understand patterns of dysfunction among boys with childhood ADHD and girls with childhood ADHD. Similarly, studies are required to examine patterns of dysfunction among boys with parental history of alcohol abuse and girls with parental history of alcohol abuse. As noted by Harter and Taylor (2000), 'future research should assess multiple dimensions of parental alcoholism, such as severity and duration of parental alcohol abuse; subtype of parental alcoholism; gender of the alcoholic parent; co-morbid parental medical problems, other substance abuse and psychiatric disorders; other family history for alcoholism and psychiatric illness; and isolation of the family from extended family or community resources. Such multi-dimensional assessment of parental alcoholism may better identify those COAs who are at risk for long-term alcohol and adjustment problems'.

CONCLUSIONS

Childhood ADHD, substance use, interpersonal problems and aggressive behaviours were significantly higher in boys than girls. Students with higher psychological distress reported poorer social skills, increased aggression, peer relationship difficulties and difficulties in academic learning. The use of screening tools such as WURS and POSIT together can help to identify both the problem population as well as at-risk population. CAST-6 can be used effectively to help to identify the subgroup of COAs for interventions such as further screening for internalizing and externalizing disorders, and psychological assistance through college counselors, if needed.

REFERENCES


EXECUTIVE FUNCTIONS IN UNAFFECTED FIRST DEGREE RELATIVES OF PATIENT WITH SCHIZOPHRENIA

N. Suresh Kumar¹, Bhasi. S² and K.R.Ramakarishnan³

ABSTRACT

Present study examines the nature of executive function deficits in first degree relatives of patients with schizophrenia. 30 unaffected first degree relatives of patients with schizophrenia with an age range of 16 to 50 years participated in the study. They were evaluated with Stroop Test, Controlled Oral Word Association test, Animal Name Test, Tower of London and Wisconsin Card Sorting Test. The relatives’ group performance was compared with normative data published in the NIMHANS Neuropsychological Battery. The obtained results were analyzed using descriptive statistics such as mean and standard deviation on individual tests. 3.3 to 43 percentage of sample showed impairment on various executive functions tests. The unaffected first degree relatives showed deficit performance that was comparable with performance of the identified patient groups in all measures of executive functions except Verbal fluency. This indicates that first degree relatives also had executive functions impairments, suggestive of frontal lobe involvement which may be considered as a vulnerability marker for schizophrenia.

Keyword: Schizophrenia, Executive Functions, First Degree Relatives.

INTRODUCTION

Studies on Cognitive functioning of the first-degree relatives of the schizophrenia patients have suggested that the dysfunction may be familial or genetic. Schizophrenia is a complex disorder characterized by clinical heterogeneity and a variety of subtle neurobiological abnormalities. Despite strong evidence of a major genetic component. No genes have yet been found that increase risk for schizophrenia using diagnosis as the phenotype. In several studies cognitive deficits in relatives of schizophrenia patients have found to be parallel those observed in the patients although to a milder degree (Cannon et al., 1994; Faraone et al., 1995 & 1999; Touloumpoulou et al., 2003). Family studies indicated that deficits in executive function tested with the WCST could be genetically transmitted (Franke et al., 1992). Some studies showed that relatives could perform differently depending on the cognitive tests, poorly on the verbal fluency or the Trail making test Part B but normally on the WCST or the Trial—A (Keefe et al., 1994).

Neuropsychological studies of relatives are valuable for two reasons. First, finding markers of the vulnerability to schizophrenia may provide phenotypes of genetic studies. Second, unlike studies of patients, studies of relatives are not confounded by neuroleptic treatment, chronic hospitalization and the potential neurotoxic effects of psychosis. Cognitive dysfunctions have been considered as one type of biological markers, or endophenotypes, that confer the vulnerability of the disorder and may be associated with the same genetic factors as the disorder. Executive dysfunction is considering the one of the endophenotype factor or as a genetic marker.

MATERIAL

The aim of the present study is to examine the nature of executive function deficits in first degree relatives of patients with schizophrenia. The objectives were to assess the executive functions in unaffected first degree relatives of patients with schizophrenia.

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² Professor & Head, Dept. of Clinical Psychology, Sri Ramachandra University, Chennai -16. ³ Director, senior consultant Psychiatrist, The Mind Center, Trichy.
The sample for the present study consists of 30 unaffected first degree relatives of patients with schizophrenia were attending Athma – The Mind center, Trichy, both males and females (parents, siblings and children) were selected for this study. All the subjects were right handed, has age between 16 and 50 years and those who are volunteering to participate to this study were included. The subjects having any of the following conditions were excluded: history of Substance abuse within the past 6 months, Present or past history of any psychiatric illness, history of Head injury with any documented cognitive sequelae or with loss of Consciousness, Neurological diseases or damage (Epilepsy etc), Having undergone Brain surgery, Clinical evidence of mental retardation and Medical illness that may significantly impair cognitive functions, Cardiovascular disorder, liver diseases etc.

Tools used:
A data sheet was developed to record all information about patient name, age, education, occupation, income, and marital status. Information about the onset of illness, duration of the illness, type of illness, family history of illness and other relevant information recorded. The executive functions were assessed through a battery of tests of Executive functions (Rao et al., 2004). The battery include following sub test;
1. Controlled Oral Word Association Test.
2. Animal Names Test
3. Tower of London
4. Wisconsin Card sorting Test
5. Stroop Test

PROCEDURE: All the subjects were screened by two Psychiatrists and one Clinical Psychologist. The subjects met the inclusion and exclusion criterion for the present study, were considered for the assessment procedure. The assessment tools used in this study is clinical and social demographic data sheet and neuropsychological tests that assess the executive functions. The neuropsychological tests included Stroop Test, Controlled Oral Word Association test, Animal Name Test, Tower of London and Wisconsin Card Sorting Test. The administration of the executive function test took an average 2 hours which was given over 2 sessions with sufficient rest pauses. The neuropsychological tests were presented in the order of Controlled Oral Word Association Test, Animal Names Test, Stroop Test, Tower of London and Wisconsin Card Sorting Test. Informed consent was obtained from all the participants. The treating team was informed about the results of the tests.

Statistical Analysis:
Statistical calculations were done using the computerized version of the statistical package for social sciences version 10.0. The obtained data was compared to a normative data (Age, education, gender matched group) The obtained results were analyzed using descriptive statistics such as mean and standard deviation on individual tests.

RESULT
The sample consists of Male were 47% and female were 53%. 23% of the subjects were between age of 16 to 30 years and 77% were 31 to 50 years of age. The Mean age of relatives of patients with schizophrenia was 39.56 with the standard deviation of 10.43. The number of years of education of the samples were up to 10th standard was 57% and 11th standard and above were 43%. Mean years of education of relatives of patients with schizophrenia was 11.73 ±2.94. 37% of samples were from rural background and 63% were urban background. 80% of the samples were from nuclear family and 20% were from joint family. 53% of the subjects were parents, 37% were siblings and 10% were children of schizophrenia patients.
Table 1: Distribution of scores of Controlled Oral Word Association on (Phonemic fluency) and Animal Name test (category fluency) of the Relatives of patients with Schizophrenia.

<table>
<thead>
<tr>
<th>Variable</th>
<th>Mean</th>
<th>S.D</th>
<th>Percentage of Subjects with deficit</th>
</tr>
</thead>
<tbody>
<tr>
<td>COWAT (Phonemic Fluency)</td>
<td>9.53</td>
<td>2.27</td>
<td>6.7</td>
</tr>
<tr>
<td>ANT (Category fluency)</td>
<td>12.93</td>
<td>2.05</td>
<td>20</td>
</tr>
</tbody>
</table>

There were 6.7 percentage subjects who scored below the cut-off score on Phonemic Fluency. The larger proportion of the subjects did not show the signs of impairment in this test. 20 percentage of the sample had scores below the cut-off score (15\textsuperscript{th} percentile) on Animal Name Test. (Table 1)

Table 2: Distributions of scores on Stroop Test of the Relatives of patients with Schizophrenia.

<table>
<thead>
<tr>
<th>Stroop Min.</th>
<th>Max.</th>
<th>Mean</th>
<th>S.D</th>
<th>Percentage of samples with deficit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Response</td>
<td>102</td>
<td>240</td>
<td>168</td>
<td>33.90</td>
</tr>
<tr>
<td>Inhibition</td>
<td>5.90</td>
<td>19.90</td>
<td>11.80</td>
<td>20</td>
</tr>
</tbody>
</table>

Table 2 indicates that 20 percentage of the subjects have performed below the cut-off score (15\textsuperscript{th} percentile) on Stroop Test.

Table 3: Distribution of the scores of Relatives of patients with Schizophrenia on Tower of London (TOL).

<table>
<thead>
<tr>
<th>Tower of London</th>
<th>Min.</th>
<th>Max.</th>
<th>Mean</th>
<th>S.D</th>
<th>% of samples with deficit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Trial 2 Mean Time</td>
<td>4.25</td>
<td>15.00</td>
<td>7.98</td>
<td>3.086</td>
<td>26.7</td>
</tr>
<tr>
<td>Trial 3 Mean Time</td>
<td>7.00</td>
<td>32.00</td>
<td>15.98</td>
<td>7.095</td>
<td>16.7</td>
</tr>
<tr>
<td>Trial 4 Mean Time</td>
<td>14.50</td>
<td>78.00</td>
<td>32.99</td>
<td>17.05</td>
<td>40</td>
</tr>
<tr>
<td>Trial 5 Mean Time</td>
<td>4.75</td>
<td>46.00</td>
<td>27.30</td>
<td>9.643</td>
<td>20</td>
</tr>
<tr>
<td>Trial 2 Mean Moves</td>
<td>2.00</td>
<td>3.25</td>
<td>2.17</td>
<td>.2470</td>
<td>6.7</td>
</tr>
<tr>
<td>Trial 3 Mean Moves</td>
<td>3.00</td>
<td>5.25</td>
<td>3.56</td>
<td>.6329</td>
<td>10</td>
</tr>
<tr>
<td>Trial 4 Mean Moves</td>
<td>4.00</td>
<td>24.75</td>
<td>8.28</td>
<td>4.106</td>
<td>36.7</td>
</tr>
<tr>
<td>Trial 5 Mean Moves</td>
<td>5.50</td>
<td>23.50</td>
<td>8.89</td>
<td>3.937</td>
<td>30</td>
</tr>
<tr>
<td>Trial 2 No of Problems Solved Minimum Moves</td>
<td>2.00</td>
<td>4.00</td>
<td>3.43</td>
<td>.6261</td>
<td>0</td>
</tr>
<tr>
<td>Trial 3 No of Problems Solved Minimum Moves</td>
<td>1.00</td>
<td>4.00</td>
<td>2.66</td>
<td>.8023</td>
<td>3.3</td>
</tr>
<tr>
<td>Trial 4 No of Problems Solved Minimum Moves</td>
<td>1.00</td>
<td>4.00</td>
<td>1.86</td>
<td>.7303</td>
<td>16.7</td>
</tr>
<tr>
<td>Trial 5 No of Problems Solved Minimum Moves</td>
<td>0.00</td>
<td>3.00</td>
<td>1.86</td>
<td>.7303</td>
<td>3.7</td>
</tr>
<tr>
<td>Total No. of problems solved with minimum moves</td>
<td>7.00</td>
<td>13.00</td>
<td>9.83</td>
<td>1.34</td>
<td>0</td>
</tr>
</tbody>
</table>

Table 3 shows the distribution of the scores on Tower of London Test performance in the selected subjects the mean time for completion of trial 2, trail 3, trail 4 and trail 5 was 26.7%, 16.7%,40% and 20% of subjects performed below the cut-off score(15\textsuperscript{th} percentile) respectively.

The mean number of moves for trial 2, trial 3, trial 4 and trial 5 was 6.7%, 10%, 36.7% and 30% of subjects performed below the cut-off score (15\textsuperscript{th} percentile) respectively.

Number of problems solved with minimum moves in trial 2 and the total number of problems solved in minimum moves was all the subjects showed intact performance. Number of problems solved with minimum moves in trial 3, trail 4 and trial 5 was 3.3%, 16.7% and 3.7% of the subjects performed below the cut-off score (15\textsuperscript{th} percentile) respectively.
Table 4: Distributions of scores of the Relatives of patients with schizophrenia on Wisconsin Card Sorting Test.

<table>
<thead>
<tr>
<th>WCST</th>
<th>Min.</th>
<th>Max.</th>
<th>Mean</th>
<th>S.D</th>
<th>% of samples with deficit</th>
</tr>
</thead>
<tbody>
<tr>
<td>No. of Trials</td>
<td>76.00</td>
<td>128</td>
<td>122.73</td>
<td>15.42</td>
<td>3.3</td>
</tr>
<tr>
<td>No. of Correct Responses</td>
<td>47.00</td>
<td>94</td>
<td>72.23</td>
<td>11.14</td>
<td>10</td>
</tr>
<tr>
<td>% of errors</td>
<td>11.00</td>
<td>68</td>
<td>40.93</td>
<td>13.19</td>
<td>20</td>
</tr>
<tr>
<td>% of perseverative Responses</td>
<td>7</td>
<td>48</td>
<td>26.43</td>
<td>12.37</td>
<td>23.3</td>
</tr>
<tr>
<td>% of perseverative Error</td>
<td>6</td>
<td>44</td>
<td>22.93</td>
<td>10.32</td>
<td>26.7</td>
</tr>
<tr>
<td>% of non – perseverative Error</td>
<td>00</td>
<td>15</td>
<td>3.60</td>
<td>3.18</td>
<td>0</td>
</tr>
<tr>
<td>No. of categories completed</td>
<td>1</td>
<td>6</td>
<td>4.03</td>
<td>1.29</td>
<td>33.3</td>
</tr>
<tr>
<td>Trials to complete Category – 1</td>
<td>10</td>
<td>62</td>
<td>23.80</td>
<td>13.79</td>
<td>43.3</td>
</tr>
<tr>
<td>Failure to maintain set</td>
<td>.00</td>
<td>3</td>
<td>1.167</td>
<td>1.05</td>
<td>16.7</td>
</tr>
<tr>
<td>% of conceptual level responses</td>
<td>5</td>
<td>79</td>
<td>43.43</td>
<td>16.01</td>
<td>23.3</td>
</tr>
</tbody>
</table>

Table 4 shows the distribution of the scores on Wisconsin Card Sorting Test performance of the selected subjects. The mean of number of trials and no. of correct responses is 3.3 and 10% of subjects performed below the cut-off score (15th percentile) respectively. The percentage of errors, percentage of perseverative responses and percentage of perseverative error 20%, 23.3%, and 26.7% of subjects performed below the cut-off score (15th percentile). Whereas percentage of non perseverative errors all the subjects were showed no deficits in performance.

The number of categories completed, number of trials taken to complete category-1, number of failures to maintain a set and percentage of conceptual level of responses, 33.3%, 43.3%, 16.7% and 23.3% of subjects performed below the cut-off score (15th percentile) respectively.

DISCUSSION

Phonemic Fluency:

6.7% of the subjects (Table-1) show deficits on phonemic fluency. The findings were not consistent with several authors (Roxborough et al., 1993; Keeffe et al., 1994; Laurent et al., 1999, & Dollfus et al., 2002) who found that relatives performed significantly worse than matched controls on verbal fluency.

Category Fluency:

The findings (Table-1) show that 20% of the sample has deficits in ideational fluency. These findings corroborate with the results reported by several authors. Heinrichs and Zakzanis (1998) reported that individuals with schizophrenia score below in the executive functioning and verbal fluency task. Laurent et al. (2000) found that the patients and their relatives showed impaired performance on Verbal fluency test when compared to normals.

Response Inhibition:

The findings show (Table-3) that 20% of the subjects showed deficits on the Stroop task. This indicates poor response inhibition in the current sample. They were slower on the interference condition and made more errors mainly omission errors, which is an indicator of poor response inhibition.

On the Stroop test relatives of patients with schizophrenia performed slower and made errors during the interference condition. The present study results supported by several studies which found an impairment of the inhibitory process in the relatives of schizophrenic patients (Zalla et al., 2004; Dollfus, 2002; Park et al., 1996). A similar deficit on the Stroop Colour Word was present in the relatives of schizophrenia patients; this deficit could reflect a behavioural ‘trait’ rather than the effect of illness or its treatment and may be considered as a vulnerability marker for schizophrenia. Laurent et al. (1999) proposed that the heritable component of neuropsychological dysfunction lies in attention deficit.

Planning:

The subject’s performance on the task was evaluated as mean time, mean moves, problems solved in minimum moves on each trail and total no. of problems solved in minimum moves...
Most of the subjects showed more than 10 percentage of the deficit. These findings corroborate with earlier results (Staal, 2000) which shows that the executive functioning of patients and their healthy siblings seemed to be equally impaired when compared to control subjects on TOL test.

**Set Shifting:**
The subject’s performance on the task was evaluated by number of trials, number of correct responses, percentage of errors, percentage of perseverative responses, percentage of perseverative errors, percentage of non perseverative errors, number of categories completed, and trials to complete category-1, failure to maintain set and percentage of conceptual level of responses on the Wisconsin Card Sorting Test. The findings (Table-3) show that in most of the test more than 10 percentages of subjects showed deficit in performance. This shows that the subjects had difficulty in set shifting, abstracting and concept formation abilities.

The result in this study is consistent with the results found by Goldberg (1979). Keefe et al. (1994), and Saoud et al. (2000), who found that relatives of schizophrenia patients showed poor performance on all measures of WCST. Egan et al. (2001) Keri et al. (2001), Dollfus et al. (2002), Klemm et al., (2006), and Szoke et al. (2006), also report similar results.

The results of the present study indicate that first degree relative of patients with schizophrenia showed impairment in WCST categories completed. This finding is contrary to the finding in Hughes (2005), and Farone et al. (1995), where they found that the WCST categories completed, a measure of abstraction and set shifting, did not differ between unaffected siblings and controls. Thus the results will indicate that first degree relatives have deficit in executive functions as shown by impaired performance on Tower of London, Wisconsin Card Sorting Test, Stroop.

The relatives of schizophrenia patients performed poorly in almost all the measures used to assess executive functions in this study. 3.3 percentages to 43 percentages of samples performed below the cut-off scores for the various test. This reveals that they had impaired performance in executive function.

Thus the results indicate that first degree relatives have deficits in executive functions as shown by impaired performance on Tower of London, Wisconsin card sorting and Stroop test. This is suggestive of frontal lobe involvement, which may be considered as a vulnerability marker for schizophrenia.

**CONCLUSION**

The findings of the study concludes that first degree relatives of schizophrenia also had impairment in performance of executive functions suggestive of frontal lobe involvement which may be considered as a vulnerability marker for schizophrenia.

**Limitation:**
The Sample size for this study is 30, in which there were three different groups of subjects they are parents, siblings and children of patients with schizophrenia. The results should be generalized with caution. The performance of the relatives was not compared with Schizophrenia patients or matched Control Group. Performances of relatives were compared with patients and matched control group it may show different trends.

**REFERENCES**


INTRODUCTION

Pain symptoms are a major reason for seeking medical attention and are associated with large decrease in psychological health and daily functioning (Anderson et al., 1999; Bassols et al., 1999). Gureje et al. (2001) claim that unrelenting pain is a frequent difficulty in primary care and is linked with a considerable inadequacy in everyday performance, poorer self-rated health and increased dominance of anxiety or depressive disorders. Zakizewsk and Feinmann (1990) aver that all dental surgeons are faced with patients in pain. Cognitive behavioural models of chronic pain emphasize the importance of pain-related cognitive behaviour and beliefs in chronic pain adjustment (Meagher, 1982). Even in groups of patients with apparently similar clinical examination and diagnostic test findings, individuals with chronic pain vary considerably in their levels of psychological and physical dysfunction (Bonica, 1990).

The biopsychosocial model of pain, which further emphasized the fact that pain is a complex, subjective experience that consists of a host of factors, each of which can contribute to the understanding of nociception as pain, was introduced. Pain is experienced uniquely by each individual. The complexity of pain is especially evident when it persists over time, as a range of psychological, social and economic factors can interact with physical pathology to modulate a patient’s report of pain and subsequent disability (Turk & Monarch, 2002).

Obviously, this biopsychosocial perspective of pain highlights the potentially significant role of psychosocial factors (including personality) in the pain perception process. Sanchez and Sanchez (1994) argue that the experience of pain is determined by the personal characteristics of individuals which, in interaction with other factors, act as differential variables to determine how pain is experienced. There is now a great amount of clinical research
indicating the important role of pain beliefs and personality in perceived pain which can, in turn, have important clinical implications for treatment approaches.

Without a firm grasp of pain belief and personality characteristics of patients, it is difficult to precisely "tailor" treatment programmes to the specific characteristics of a pain patient. Williams and Thorn (1989) define pain beliefs as a subset of a patient’s belief system which represents a personal understanding of the pain experience, while McCrae and Costa (2003) view personality as enduring tendencies or habitual patterns of behaviour, thought and emotion. Numerous studies of patients with a wide variety of chronic pain problems have shown that patients’ beliefs about their pain (for example, belief that one can control one’s pain, belief that one is disabled by pain) and the strategies they use to cope with their pain are associated with various measures of pain intensity and psychosocial and physical functioning (Dozois et al., 1996). Other studies have shown that changes in pain-related beliefs and coping strategies use are associated with improvement on measures of pain intensity and physical and psychosocial disability after cognitive-behavioural treatment (Turner et al., 1995).

According to Williams and Thorn (1989), the first of the three dimensions is negatively related to patients’ adherence to treatment. Patients that believe their pain is durable show less interest in satisfying the demands of management. Patients who believe their pain to be a mysterious occurrence apart from present low self-esteem and high levels of somatisation. In the same line, Lipchik et al. (1993) assert that the multidisciplinary treatment of chronic pain patients produced, among other results, a significant reduction in belief about pain as a mysterious and incomprehensible phenomenon. Williams et al. (1991) aver that patients who believe their pain to be permanent and mysterious use fewer cognitive coping strategies, such as distraction. These patients report, moreover, that their strategies are not very effective for controlling pain. In contrast, patients who believe their pain to be fleeting and comprehensible rate their ability to control pain significantly higher than other patients and respond better to cognitive-behavioural treatment (Moreno et al., 1999).

Eysenck and Eysenck (1990) claim that people with a high level of neuroticism are emotionally unstable and sensitive to bodily states and have a range of health complaints. Furthermore, people with a high level of extroversion are impulsive, uninhibited, and sociable. On the other hand, high levels of extroversion are related to the use of strategies which might lead to a better adaptation to stressful situations (Medvedo, 1999). However, the work of Wade et al. (1992) suggests that the levels of neuroticism do not affect the perceived intensity of pain although patients with chronic pain and high levels of neuroticism manifest greater subjective distress related to pain. Lynn and Eysenck (1961) aver that extroverted people have higher pain thresholds than introverted people and they tolerate pain better. In addition, extroverted people exposed to situations of prolonged pain adapted better to them than introverted people.

Ziesat and Gentry (1978) conducted a study on a sample of patients suffering from benign chronic pain. They concluded that subjects with greater introversion levels manifested higher levels of perceived pain. Wade et al. (1992) reported that extroversion had a negative influence on the levels of subjective distress related to pain, although it was not related to the perceived intensity of pain. Phillips and Gatchel (2000) assert that the traits of extroverted individuals (that is individuals able to express their feelings, socially active, and receivers of social support) lead them to adopt strategies that help the patient to achieve lower degrees of perceived pain. Abu Alhajia et al. (2010) investigated the relationship between
personality traits, pain perception and attitude toward orthodontic treatment. They found that personality traits did not affect pain perception during orthodontic treatment.

Since there is the recognition that psychosocial factors are involved in perceived pain, it is of interest to understand the relationship between these psychosocial factors and perceived pain in the chronic pain patients. Prior to this study, almost no known research has explored the influence of pain beliefs and personality factors on perceived pain in Nigeria. However, researches in the developed world have demonstrated the importance of these psychosocial factors in the perceived pain (Melzach, 1993). Based on the cognitive-behavioural theory, the biopsychosocial model and previous research, we hypothesized that pain beliefs (spiritual, medical, permanent, constant and self-blame) would independently and jointly predict perceived pain among chronic pain patients. Furthermore, we hypothesized that personality factors (extroversion, agreeableness, conscientiousness, neuroticism and openness) would independently and jointly predict perceived pain among chronic pain patients.

MATERIALS AND METHODS

Subjects and Procedures:

The subjects of the present investigation were adult patients applying for treatment for dental pain. During a period of 3 months, 320 new patients applied for chronic pain treatment. The study was carried out under normal daily clinical work circumstances. Sixty-five patients were excluded because they failed to complete the questionnaire package. Some patients did not want to participate because of the excruciating pain they were experiencing or had difficulty understanding the questionnaire because of language problems. The study group also excluded patients with facial pain, patients presented with acute oral pain less than three months, patients with psychogenic oral pain, patients experiencing pain due to oral cancer, and patients with traumatic injuries associated with oral pain less than three months. The study, therefore, comprised 255 consecutive chronic pain patients evaluated at a comprehensive secondary care dental centre located in a major university medical centre.

The sample was 115 (45%) male and 140 (54.9%) female. The average age was 28.59 years (SD = 10.74 years) ranging from 18 to 75 years. In terms of educational attainment, 128 (50.2%) were high school graduates, while 127 (49.8%) had tertiary education. The patients had been in pain for an average of 13.86 months (SD = 25.10 months) and reported an average perceived pain of 36.29 (SD = 19.01). These patients exhibited predominantly dental pain of varying distribution, including acute apical periodontitis (51.5%); reversible/irreversible pulpitis (25.2%); chronic periodontitis (5.5%); pericoronitis (5.2%), dental caries (4.3%); and others, such as retained root, chronic marginal gingivitis, dento-alveolar abscess, gingivitis, buccal space infection and alpous ulcer, were 8.3%. At their first visit, the patients were informed about the project. The questionnaire package was given to all who gave their consent to participate. Ethical approval for the study was given in advance by the Ethics and Research Committee of the University of Benin Teaching Hospital (UBTH), Benin City.

Measures:

The questionnaire package investigated background data, pain beliefs, personality traits and perceived pain. Background variables were gender, age, duration of pain, dental diagnoses and educational level.

Pain Beliefs:

The pain beliefs and perception inventory (Williams & Thorn, 1989) contains 16 items. These items were grouped originally into three scales: pain as a mystery (pain is mysterious/poorly understood); time (pain is enduring); and self-blame (pain is caused or maintained by the patients). Williams et al. (1994) describe a...
new scoring method for the PBPI, creating four scales; Mystery, Self Blame, Pain Permanence (similar to original Time scale, tapping the belief that pain will be an enduring part of life in the future), and Pain Constancy (belief that pain is constant and pervasive in current daily life). This instrument has not been standardised for the Nigerian population. Therefore, an adapted pain beliefs and perceptions inventory that eventually generated 12 items and yielded two additional factors (medical-related belief and spiritual belief) with the removal of pain being mysterious, was used to measure pain beliefs in this study. The validity of the adapted pain beliefs was determined using the concurrent validity method with a sample of 96 respondents in a dental clinic. The concurrent validity of the scale was established by correlating scores of the Pain Beliefs and Perception Inventory (Williams & Thorn, 1989) and the adapted pain beliefs inventory for this study. The adapted pain beliefs inventory method with a sample of 47 people attending the Dental Centre, UBTH. The new chronic pain grade questionnaire recorded a significant positive correlation with the original Chronic Pain Grade questionnaire (r = 0.93, p <.01). In this study, the alpha coefficient of the 9 items scale was .88 and a Spearman Brown equal length coefficient of .86. The overall score of the modified questionnaire that generated 9 items was used to measure perceived pain of chronic pain patients in this study.

**Perceived Pain:**

The Chronic Pain Grade (CPG) questionnaire (Von Korff et al., 1992) is a seven–item instrument that measures chronic pain severity in two dimensions; intensity and disability. Participants were asked to rate pain intensity (current pain, worst pain in past six months, average pain, activities, social activities and work activities) in the past six months. The CPG was modified and validated for this study among the dental patients and this generated 9 items. The validity of the adapted chronic pain grade questionnaire was determined using the concurrent validity method with a sample of 47 people attending the Dental Centre, UBTH. The new chronic pain grade questionnaire recorded a significant positive correlation with the original Chronic Pain Grade questionnaire (r = 0.93, p <.01). In this study, the alpha coefficient of the 9 items scale was .88 and a Spearman Brown equal length coefficient of .86. The overall score of the modified questionnaire that generated 9 items was used to measure perceived pain of chronic pain patients in this study.

**Data Analysis:**

The means, standard deviations and zero-order correlations of the major variables (pain beliefs, personality factors, and perceived pain) in this study were computed. Multiple regressions analysis was used to ascertain the relative contribution of the independent variables of pain beliefs and personality factor (psychosocial factors). They were entered separately to determine the variance they explain in perceived pain of respondents experiencing chronic pain conditions. Multiple regressions were the technique used to analyze the hypothesized relations. Two separate multiple regressions were computed to test hypothesis 1 and 2, where perceived pain were regressed on the predictor variables. All analyses were performed using SPSS 15.0 for Windows (SPSS Inc., Chicago, IL).

**RESULTS**

The means, standard deviations and zero-order correlations of variables measured with interval scales and the results of the hypotheses tested are presented.
Table 1: Correlation Matrixes of Major Variables

<table>
<thead>
<tr>
<th>Variables</th>
<th>Mean</th>
<th>SD</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>8</th>
<th>9</th>
<th>10</th>
<th>11</th>
<th>12</th>
<th>13</th>
<th>14</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Pain beliefs</td>
<td>-12.55</td>
<td>5.2</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2. Spiritual</td>
<td>-2.79</td>
<td>1.52</td>
<td>.41</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3. Medical</td>
<td>-2.65</td>
<td>2.08</td>
<td>.69</td>
<td>.06</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4. Permanent</td>
<td>-2.58</td>
<td>1.59</td>
<td>.44</td>
<td>.12</td>
<td>.11</td>
<td></td>
<td></td>
<td></td>
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<td></td>
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<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5. Constant</td>
<td>-2.44</td>
<td>3.36</td>
<td>.67</td>
<td>.10</td>
<td>.27</td>
<td>.06</td>
<td></td>
<td></td>
<td></td>
<td></td>
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<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>6. Self-blame</td>
<td>0.65</td>
<td>1.08</td>
<td>.41</td>
<td>.09</td>
<td>.19</td>
<td>.22</td>
<td>.27</td>
<td></td>
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<td></td>
<td></td>
<td></td>
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<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>7. Personality</td>
<td>33.90</td>
<td>3.61</td>
<td>.00</td>
<td>.09</td>
<td>.02</td>
<td>-.08</td>
<td>.02</td>
<td>.01</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>8. Extraversion</td>
<td>6.02</td>
<td>1.79</td>
<td>.08</td>
<td>.07</td>
<td>.05</td>
<td>-0.05</td>
<td>.05</td>
<td>.02</td>
<td>.45</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>9. Agreeableness</td>
<td>8.01</td>
<td>1.79</td>
<td>.08</td>
<td>.07</td>
<td>.05</td>
<td>-0.05</td>
<td>.05</td>
<td>.02</td>
<td>.45</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>10. Neuroticism</td>
<td>8.06</td>
<td>1.95</td>
<td>-.13</td>
<td>-.02</td>
<td>-.12</td>
<td>-.03</td>
<td>-.10</td>
<td>-.03</td>
<td>.48</td>
<td>-.00</td>
<td>.32</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>11. Openness</td>
<td>5.00</td>
<td>2.03</td>
<td>.14</td>
<td>.09</td>
<td>.16</td>
<td>-.00</td>
<td>.16</td>
<td>.09</td>
<td>.27</td>
<td>.09</td>
<td>-.34</td>
<td>-.33</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>12. Pain perception</td>
<td>36.29</td>
<td>19.01</td>
<td>.12</td>
<td>-.05</td>
<td>-.02</td>
<td>.02</td>
<td>.29</td>
<td>.19</td>
<td>.05</td>
<td>.04</td>
<td>.01</td>
<td>.05</td>
<td>.07</td>
<td>.00</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**P < .01, *P < .05**

Table 1 shows a correlation matrix of the variables measured in the continuous format in the study. Pain constancy and self-blame for pain had a correlation of .29 (p<.01), and .19 (p<.01), respectively, with perceived pain. The positive relationships of these pain beliefs with perceived pain suggest that the belief that pain is a constant phenomenon and belief that one should blame oneself for pain are associated with increased perceived pain (Table 1).

Multiple regression statistical analysis was used to test the independent variables that would yield an optional predictive equation of perceived pain among patients who are experiencing chronic pain. The independent variables selected were spiritual, medical, permanent, constant and self-blame (Table 2).

Table 2: Showing the Multiple Regression Analysis on Predictive Ability of Pain Beliefs on Perceived Pain

<table>
<thead>
<tr>
<th>Perceived Pain</th>
<th>B</th>
<th>ß</th>
<th>T</th>
<th>P</th>
<th>R²</th>
<th>F</th>
<th>P</th>
</tr>
</thead>
<tbody>
<tr>
<td>Spiritual</td>
<td>-1.11</td>
<td>-.09</td>
<td>-1.48</td>
<td>.05</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Medical</td>
<td>-1.13</td>
<td>-.12</td>
<td>-1.97</td>
<td>.05</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Permanent</td>
<td>-.07</td>
<td>-.01</td>
<td>-1.05</td>
<td>.12  6.95</td>
<td>.01</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Constant</td>
<td>2.41</td>
<td>.30</td>
<td>4.70</td>
<td>.01</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Self-blame</td>
<td>2.52</td>
<td>.14</td>
<td>2.26</td>
<td>.05</td>
<td>.01</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

It can be seen in Table 2 that belief that pain is medicine-related (β = -.12; t =-1.97; p <.05), belief that pain is constant (β = 3.0; t =4.70; p <.01) and belief in self-blame for pain (β = 2.26; t =2.26; p <.05) independently predicted perceived pain among respondents experiencing oral pain conditions. These imply that the more the respondents believe that pain is medicine-related, the less the tendency to over-evaluate perceived pain. Also, the higher the belief in pain constancy among respondents who were experiencing oral pain conditions, the greater the tendency to report increased pains perception. Furthermore, the higher the belief in self-blame for pain among the respondents, the greater the tendency to over-evaluate perceived pain. The negative value of beta weight for medical belief implies that increase in such belief is associated with low tendencies to over-evaluate perceived pain.

Table 3: Showing the Multiple Regression Analysis on Predictive Ability of Personality Factors on Perceived Pain

<table>
<thead>
<tr>
<th>Pain</th>
<th>B</th>
<th>ß</th>
<th>T</th>
<th>P</th>
<th>R²</th>
<th>F</th>
<th>P</th>
</tr>
</thead>
<tbody>
<tr>
<td>Conscientiousness</td>
<td>.693</td>
<td>.071</td>
<td>1.03</td>
<td>.05  0.10</td>
<td>.50</td>
<td>ns</td>
<td></td>
</tr>
<tr>
<td>Neuroticism</td>
<td>.827</td>
<td>.088</td>
<td>1.27</td>
<td>.05</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Openness</td>
<td>-.004</td>
<td>.000</td>
<td>.00</td>
<td>.05</td>
<td>.00</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

This explanation regarding feeling of pain intensity based on eats evaluation on is drawn from the fact that low score on the medical belief scale implies high tendency to report increased perceived pain. However, all
the predictor variables of pain beliefs subscales (spiritual, medical, permanent, constant and self-blame) jointly predicted perceived pain $F [5, 249] = 6.95; <.01$ with $R^2 = .12$. This suggests that all the predictor variables accounted for 12 percent of the proportion of variance in perceived pain.

As shown in Table 3, none of the personality factors significantly independently predicted pain. This implies that personality factors did not determine perceived pain among patients who were experiencing chronic pain conditions. Furthermore, all the personality factors as predictor variables did not jointly predict pain severity ($F [5, 249] = 0.50; p ns$). This indicates that personality factors together did not explain perceived pain among individuals experiencing chronic pain. Therefore, the hypothesis which states that personality factors (extroversion, agreeableness, conscientiousness, neuroticism, and openness) would independently and jointly predict that perceived pain was not supported by personality variables.

**DISCUSSION**

This study of psychological predictors of perceived pain among chronic patients revealed that belief that pain is medicine-related, belief that pain is constant, and belief in self-blame for pain independently predicted perceived pain of respondents experiencing oral pain conditions. However, all the pain beliefs jointly predicted perceived pain. The present study indicates that belief that pain is medicine-related, belief that pain is constant, and belief in self-blame for pain are three strong predictors of perceived pain. The belief that patients have about pain can influence the degree of the pain they experience. In a sample of 49 patients hospitalized for acute burn injuries, the belief in self-blame for the injury was found to be significantly associated with increased pain behaviour, poorer adherence to the treatment essential for healing, and greater depression (Kiecolt-Glaser & Williams 1987).

Confirming the result of the relationship of pain constancy and perceived pain, Williams et al. (1994) reported that pain constancy (as opposed to intermittently) was the only temporal pain belief that had an association with greater self-report pain. In a similar study, Williams and Thorn (1989) found that the belief that pain will be enduring was positively associated with increased subjective report of pain intensity. Thus, beliefs play an important role in the subjective aspect of patients’ pain reports. These findings regarding the belief in pain constancy support an earlier study by Williams and Thorn (1986), which found that subjective reports of cold pressor pain were lower when respondents were informed about the duration of the pain than when the time limit was withheld from respondents. Williams and Thorn (1989) reported that beliefs in the endurance of pain are associated with decrease compliance in health psychology and physical therapy interventions.

The result of this study also shows that belief in self-blame for pain significantly predicted perceived pain among respondents experiencing oral pain conditions. Williams and Thorn (1989) reported that mystery and self-blame were not related to subjective pain ratings. On the contrary, the current study found that self-blame belief for pain significantly contributed to subjective perceived pain. They claims that why self-blame for pain may not be related to subjective pain ratings was because patients in their study rarely blamed themselves for their pain. Other research works suggest that, at least ¼ of injured persons in other medical populations do, in fact, engage in self-blame (Kiecolt-Glaser & Williams 1987). This finding implies that pain beliefs should be taken seriously in the management of dental pain. Relevant health-care professionals involved in the dental treatment procedure can look out for people who believe that pain is not medicine-related, people who believe that pain is constant, and people who believe that one is to be blame for one’s pain, so that an effective intervention can be commenced to prevent or reverse identified psychosocial disability. These factors may be considered as potential
targets for therapy, rather than the orthodox objective of pain relief.

Findings from the second hypothesis revealed that none of the personality factors significantly independently predicted perceived pain and all the personality factors as predictor variables did not jointly predict perceived pain. The findings reported here are consistent with a previous study conducted by Abu Alhaija et al. (2010). They investigated the relationship between personality traits, pain perception and attitude toward orthodontic treatment. They found that personality traits did not affect pain perception during orthodontic treatment. However, Remirez-Maestre et al. (2004) found that neuroticism scores increased the perceived pain intensity. High neurotic levels, according to them leads to the use of more passive coping strategies (for example, resting, restriction of activities) and fewer active coping strategies (for instance, distraction, meditation, biofeedback) which is inefficient and leads to greater pain intensity. Furthermore, conscientiousness is implicated in long-term survival and in treatment outcome, while openness and agreeableness are implicated in treatment outcome (Wade & Price 2000).

In conclusion, the present study demonstrates a relationship between pain beliefs and perceived pain among chronic pain patients. These findings may contribute to our understanding of the possible mechanism underlying individual differences in perceived intensity of pain. Patients’ beliefs about their pain are thought to play a prominent role in the way they perceive and response to treatment. The identification of specific pain beliefs that can predict perceived intensity of pain will facilitate the design of individually tailored chronic pain management. While knowledge of a person’s beliefs cannot perfectly predict future behaviour, assessing sufferer’s beliefs can provide insight into how one understands what they are experiencing and what needs to be done to remedy the experience. Beliefs therefore are precursors to behaviour and can influence motivation to engage in future actions (Ajzen 1988).

Most governments in Africa would rather invest more money in surgical and medical treatments that are often ineffective than provide larger upfront costs to treatment protocols that have been proven effective at reducing pain and restoring functionality. Therefore, it seems likely that optimal care of chronic pain patients can best be achieved by cross-disciplinary efforts, involving physicians, dentists and clinical psychologists.

REFERENCES


Koleoso O. N. / Cognitive and Personality Aspects of Perceived Pain Among Chronic Pain Patients...


PSYCHOPATHOLOGY AND COGNITIVE INSIGHT IN PATIENTS WITH CHRONIC SCHIZOPHRENIA

S. Mohanty¹ and S. Kumar²

ABSTRACT

The concept of ‘cognitive insight’ was introduced in 2004 to complement the specific domain of insight which taps into the cognitive processes of reflections, openness to corrective feedbacks and the extent of beliefs in one’s own thought processes and experiences. The Beck Cognitive Insight Scale (BCIS) was specifically developed as a measure of cognitive insight. A factor analysis of BCIS yielded two factors of 15 item BCIS: (a) Self-reflectiveness (b) Self-certainty. The patients with schizophrenia are reported to have deficits in cognitive insight. This paper aims to explore the association of psychopathology and cognitive insight in patients with chronic schizophrenia. A cross-sectional descriptive study conducted at Institute of Mental Health and Hospital (IMHH), Agra, India. The sample consisted of 120 patients with chronic schizophrenia drawn from in-patients at IMHH, Agra. PANSS and Beck Cognitive Insight Scale (BCIS) were administered on the patients. Linear regression analyses were performed separately for two factors of BCIS as predicted variables and following predictor variables (a) Positive (b) Negative (c) General Psychopathology. PANSS Positive and PANSS Negative psychopathology have significant positive association with self-certainty; and significant negative association with self-reflectiveness factor of BCIS. PANSS general psychopathology does not have any significant association with any of the factors. There is a significant association of positive and negative psychopathology; and cognitive insight in patients with chronic schizophrenia.

Keywords: Insight, Cognitive Insight, Schizophrenia, Psychopathology PANSS, BCIS

INTRODUCTION

Insight is an important aspect of psychopathology. The patients with severe mental illness are known to have impairment in their insight. The form of insight which addresses a patient’s awareness of illness is labelled as ‘Clinical Insight. Beck et al. (2004) introduced the concept of ‘Cognitive Insight’ which corresponds to a person’s ability to objectively evaluate and correct one’s distorted beliefs and misinterpretations. The concept of cognitive insight emerged from the observations that the persons with psychotic experiences demonstrate (a) an impairment in objectivity about their cognitive distortions, (b) resistance to corrective information from others, and (d) an overconfidence in their conclusions.

To assess and empirically investigate Cognitive Insight, Beck et al. (2004) developed a Cognitive Insight Scale (BCIS). The scale has a two factor structure (a) Self-reflectiveness: A patient’s capacity and willingness to observe his/her mental productions and to consider alternative explanations and (b) Self-certainty: A patient’s overconfidence in the validity of his/her beliefs. BCIS has made it possible to explore various dimensions and correlates of cognitive insight in persons with psychiatric illnesses. Beck et al. (2004) noted that patients with major psychoses typically have reduced capacity to reflect rationally on their anomalous experiences and to recognize that their conclusions are incorrect.

Perivoliotisa et al. (2010) examined the relationship between cognitive insight and treatment response during cognitive behavioural therapy for psychosis (CBTp). They administered BCIS and Psychotic Symptoms Rating Scale on a sample of 78 patients at baseline and after a course of CBTp. Their results revealed that a higher baseline cognitive

¹Research Officer; ²Director, Institute of Mental Health and Hospital, Agra – 282002
insight was significantly associated with reduced severity of delusions at post-treatment. The gains in cognitive insight produced clinically significant outcomes in severity of delusions and auditory verbal hallucinations. The findings are considered supportive of the validity and clinical utility of the construct of cognitive insight in psychosis.

Greenberger and Serper (2010) investigated the clinical utility and the statistical coherence of BCIS in acute schizoaffective and schizophrenia patients. The results indicated BCIS as a coherent and internally consistent measure of cognitive insight. Their findings further suggested that the individuals with higher cognitive insight exhibited fewer autistic/cognitive symptoms. Ekinci et al. (2012) compared cognitive insight impairment in 40 patients with deficit schizophrenia with 81 patients of non-deficit schizophrenia. The patients with deficit syndrome were having higher self-reflectiveness scores than the patients with non-deficit syndrome. The self-certainty scores were not different across groups. A significant relationship between cognitive insight and specific psychotic symptoms was present. Engh et al. (2010) investigated the relationship between delusions and hallucinations, occurring solitarily or concurrently, and cognitive insight in patients with schizophrenia. Their findings indicated that delusions irrespective of the presence or absence of hallucinations were associated with low self-reflectiveness and high self-certainty, reflecting low cognitive insight in the patients.

The literature indicates significant association of psychopathology with cognitive insight. In this study, we intended to add the observations by examining if different forms of psychopathology have a distinct pattern of association with cognitive insight in patients with chronic schizophrenia.

Aim:

To explore the association of positive, negative symptoms and general psychopathology with cognitive insight in patients with chronic schizophrenia.

METHOD

A sample of 120 male patients with chronic schizophrenia in the age range of 18 to 60 years was drawn from in-patients of Institute of Mental Health and Hospital, Agra. The patients were diagnosed as suffering from schizophrenia as per ICD-10 diagnostic criteria by consultant psychiatrist. The persons having a continuous schizophrenic illness of two or more years were included in the sample. The patients having co-morbid substance abuse other than tobacco dependence, were not included. Also the patients having organic involvement, mental retardation and prominent mixed features of affective disorder were also not included in the sample. The co-operative, communicative and consenting patients were included in the sample. Written informed consent was obtained from the patients.

Positive and Negative Syndrome Scale [PANSS] developed by Kay et al. (1987) measures positive, negative and general psychopathology of the patients. This is standardized and well recognized tool which is used world-wide for measurement of psychopathology.

Beck Cognitive Insight Scale (BCIS) is developed by Beck et al. (2004) as a self-report measure of cognitive insight. It consists of 15 statements rated on a 4-point Likert scale (0 = do not agree at all to 3 = agree completely). A factor analysis yielded a two factor structure of the scale. The factor-1 is labelled as self-reflectiveness which consists of nine items. The second factor labelled as self-certainty consists of six items. High scores on the subscale self-reflectiveness and low scores on subscale self-certainty are considered as normal. This is the only tool that measure cognitive insight. The authors have estimated its reliability and validity on a sample of 150 patients and found it to be a reliable and valid tool for measurement of cognitive insight.

The data were analysed through Mean, Standard Deviation (S.D.) and linear regression
analysis performed separately on two factors of BCIS. The PANSS scores for Positive, Negative and General Psychopathology were entered as predictor variables and two factors of BCIS (a) Self-certainty and (b) Self-reflectiveness as predicted variables. SPSS 11.5 version for Windows was used to perform all the computations.

RESULTS
Table-1: Mean & S.D. of Salient Sample Characteristics (N=120)

<table>
<thead>
<tr>
<th>Characteristic</th>
<th>Mean</th>
<th>S.D.</th>
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<tbody>
<tr>
<td>Age (in years)</td>
<td>35.57±8.93</td>
<td></td>
</tr>
<tr>
<td>Education (in years)</td>
<td>7.97±4.36</td>
<td></td>
</tr>
<tr>
<td>Duration of Illness (in years)</td>
<td>10.21±5.99</td>
<td></td>
</tr>
<tr>
<td>Domicile</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Rural</td>
<td>72 (60%)</td>
<td></td>
</tr>
<tr>
<td>Urban</td>
<td>48 (40%)</td>
<td></td>
</tr>
</tbody>
</table>

Table-2: Descriptive Statistics for PANNS and BCIS

<table>
<thead>
<tr>
<th></th>
<th>Sample Size (N)</th>
<th>Mean</th>
<th>Std. Deviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Self-Reflectiveness</td>
<td>120</td>
<td>11.92</td>
<td>10.06</td>
</tr>
<tr>
<td>Self-certainty</td>
<td>120</td>
<td>11.15</td>
<td>6.37</td>
</tr>
<tr>
<td>PANSS Positive</td>
<td>120</td>
<td>7.72</td>
<td>5.88</td>
</tr>
<tr>
<td>PANSS Negative</td>
<td>120</td>
<td>2.47</td>
<td>2.70</td>
</tr>
<tr>
<td>PANSS General</td>
<td>120</td>
<td>4.18</td>
<td>3.99</td>
</tr>
</tbody>
</table>

Table-3: Beta Co-efficient for PANSS & Self-certainty

<table>
<thead>
<tr>
<th></th>
<th>Standardized Coefficients Beta</th>
<th>t</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>PANSS Positive</td>
<td>.726</td>
<td>11.666</td>
<td>.001</td>
</tr>
<tr>
<td>PANSS Negative</td>
<td>.162</td>
<td>2.608</td>
<td>.010</td>
</tr>
<tr>
<td>PANSS General</td>
<td>.036</td>
<td>.593</td>
<td>n.s.</td>
</tr>
<tr>
<td>a Dependent Variable: Self-certainty</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

PANSS is significantly associated with self-certainty in schizophrenia (F3,116=59.324, p<.001) R square=.653. Table - 4 reveals that PANSS Positive and PANSS Negative psychopathology have significant negative association with self-certainty; and general psychopathology does not have any significant relationship with self-certainty component of BCIS.

Table-4: Beta Co-efficient for PANSS & Self-Reflectiveness

<table>
<thead>
<tr>
<th></th>
<th>Standardized Coefficients Beta</th>
<th>t</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>PANSS Positive</td>
<td>-.780</td>
<td>-13.374</td>
<td>.001</td>
</tr>
<tr>
<td>PANSS Negative</td>
<td>-.114</td>
<td>-1.959</td>
<td>.050</td>
</tr>
<tr>
<td>PANSS General</td>
<td>-.067</td>
<td>-1.160</td>
<td>n.s.</td>
</tr>
<tr>
<td>a Dependent Variable: Self-Reflectiveness</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

PANSS is significantly associated with self-reflectiveness in schizophrenia (F3,116=72.852, p<.001) R square=.653. Table - 4 reveals that PANSS Positive and PANSS Negative psychopathology have significant negative association with self-reflectiveness; and general psychopathology does not have any significant relationship with self-reflectiveness component of BCIS.

DISCUSSION
Self-certainty is significantly associated with both positive and negative symptoms in schizophrenia. The findings are in agreement with the observations of Engh et al. (2010) who observed that in schizophrenia patients, the delusions were significantly associated with self-certainty. The beta coefficients in the present study are suggestive of a positive association reflecting that progression in psychopathology leads to increased confidence in the validity of the patients’ beliefs. This enhanced confidence in the validity of one’s beliefs can result from false belief system and in turn can reinforce the false belief itself. A high level of self-certainty induces cognitive rigidity and limits an opportunity to look for other options and alternatives to one’s thought processes; a sort of closing. The self-certainty is most implicated in delusional processes.

Self-reflectiveness has a negative association with both positive and negative symptoms reflecting that a reduction in psychopathology is associated with increased self-reflectiveness. Beck et al.(2004) also reported...
a significant negative correlation between scores on PANSS delusions and self-reflectiveness. Engh et al. (2010) using BCIS also observed that delusions were significantly associated with low self-reflectiveness in schizophrenia patients. In self-reflectiveness, a patient monitor one’s own thought processes and consider alternative explanations, which paves the path for reduction in psychopathology. It is a marker of cognitive flexibility which broadens a patient’s perspectives enabling him/her to explore, consider and evaluate alternative explanations for his/her experiences. This cognitive framework is the hallmark which can shatter the false belief system and stimulate a correction process through feedbacks and reality checks.

The cognitive interventions aimed at improving cognitive insight can accelerate the pace of improvement and possibly reduce the relapse rate. This proposition can systematically be tested through future researches. The initial empirical evidence is favourable, indicating significant association of the gains in cognitive insight with clinical improvement in psychopathology (Perivoliotisa et al., 2010).

Conclusion:

The results of the present study demonstrated that the schizophrenic persons with positive or negative psychopathology have greater self-certainty and decreased capacity for self-reflectiveness. The application of cognitive models need to be explored for enhancing self-reflectiveness in schizophrenic patients; which in turn should result in improvement in psychopathology.

REFERENCES


NEUROCOGNITIVE DEFICITS AMONG ALCOHOL USERS, CANNABIS USERS AND INJECTING DRUG USERS.

Jins Mathew1, K.S Senger2 and Amool R Singh3

ABSTRACT

Background: Alcohol consumption has almost become a sign of civilized man in India. The number of users increases alarmingly in the country. It is easily available everywhere while the government policies become a scapegoat. Use or selling cannabis is considered as illegal and the offender could be punished but still it is a commonly sold in a hidden manner all over the country. The number of people misusing pharmacological medicine is also on rise as it has the advantage of not being detected by smell and easily available in open market and seller or buyer can not be caught or punished. The dark side of these drugs and drinks has often been reported by various studies from all over the world and especially their effect on brain. Aim of the present study was to assess the cognitive deficit among people who have developed dependence either on alcohol, cannabis or on pharmacological substances/injectable and also to see the difference among the groups. 90 male participants who’s age range was on or between 20 and 50 years and diagnosed as dependent (as ICD-10 DCR) on either alcohol, cannabis or using pharmacological drug/injectable were selected. 30 subjects were included in each groups as Alcohol users cannabis users Pharmacological drug injectors and normal control for study. They were assessed then administered with Comprehensive Trial Making Test along with socio demographic sheet. The sample was mainly selected from three places in Emakulam District, Kerala state of India. Result shows significant difference in the experimental groups in the area of their cognitive functioning in comparison to the normal control. Cannabis use was found more harmful in relation to the cognitive function of the user in comparison to alcohol and injecting drugs. However, the significant role of alcohol and injecting drugs also has been identified in their adverse effect on cognition.

INTRODUCTION

People in the post modern era, where survival of the fittest becomes the practical rule, highly structured and complicated life style, where the social and emotional support feather away, had often seek psychoactive substances as a way to side away the often painful reality, though transient. The history of human civilization parallels the development of psychoactive substances (Westermeyer, 1999). Various psychoactive substances are used in India among which alcohol and tobacco occupy the most prominent places in terms of use. The use of cannabis has its history very long back. It was often used as an aid to spiritual satisfaction as it alters the consciousness of the user. However, it reached its peak of popularity in 1970s (Frances et al., 2005). The misuse of pharmacological and non-pharmacological substances at times in combination too, in injecting mode is quite modern in its approach. It has its quick effect along with the desirable aspects such as not being detected by smell.

The present study focus on the influence of drugs on cognitive functioning namely alcohol, cannabis and injecting drugs. Studies give controversial results regarding cannabis use and its harming influence on the cognition of the user. Two types of effects are often reported that are acute and the other residual, regarding marijuana use. The influence of marijuana on the emotional aspect of the user is well documented as well. Alcohol is also strongly associated with cognitive impairment especially in its excessive use as well as long term use along with its adverse effect give rise to several other serious physical conditions such as on pancreas, cardiovascular disease, cirrhosis, malnutrition, vulnerability to develop cancer etc. There are not many studies available regarding injecting drug use and its adverse effects on cognitive functions. Most of

1Ph.D. Scholor, 2Associate Professor, 3Professor & Head, Dept of Clinical Psychology and Director RINPAS, Kanke, Ranchi
the studies available in this area are in co-morbidity with AIDS, which is a known condition affecting significant impairment in cognitive functioning.

**AIMS**

The aim of the study was to identify the difference in cognitive functioning between the groups of different drug dependents (alcohol, cannabis, injecting drugs) and also in their comparison to normal controls.

**METHOD**

The participants in the study were interviewed prior to the test administration and ruled out those with any other psychiatric and neurological comorbidity. Those with withdrawal symptoms and who are in drug related delirium at the time of interview, and or had any physical disability or any primary sensory deficit were excluded. Consent was taken from the participants to take part in the study. The age range was 20 to 50 years and education level minimum 10th pass and maximum level of education was kept as graduation. All the participants were from urban area. The standardized diagnostic criteria was applied to ascertain dependence for selecting them for study. The participants were given socio demographic data sheet followed by the Comprehensive Trial Making test soon after the interview and Confirmation of diagnosis for dependence. Statistical analysis such as ‘t’ test and ANOVA were used for data analysis.

**Sample:**

The sample consisted of 120 male subjects. 30 male participants in each of four groups namely alcohol addicts, injecting drug addicts, cannabis addicts and a normal control group who do not use any of these drugs or the other. The data collection was done from three main cities in the district of Ernakulam, Kerala, India. The age was to be ranging from 20 to 50 years. Purposive sampling method was used for the study.

**Tools Used:**

The tools used are socio Demographic data sheet and Comprehensive Trial Making Test (Reynolds 2002). Comprehensive trial making test measures Psychomotor Speed, Visual Search and Sequencing, Attention and Set Shifting as a whole. It is often used as a measure for the frontal lobe function.

**RESULTS**

**Table 1: Group comparisons of age**

<table>
<thead>
<tr>
<th>Group</th>
<th>N</th>
<th>Mean</th>
<th>S.D</th>
<th>‘t’</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age Alcoholic</td>
<td>30</td>
<td>32</td>
<td>7.01</td>
<td>.390</td>
</tr>
<tr>
<td>Cannabis</td>
<td>30</td>
<td>31.26</td>
<td>7.55</td>
<td>N.S</td>
</tr>
<tr>
<td>Drug Injectors</td>
<td>30</td>
<td>32.43</td>
<td>7.43</td>
<td>N.S</td>
</tr>
<tr>
<td>Normal</td>
<td>30</td>
<td>32</td>
<td>7.01</td>
<td>1.28</td>
</tr>
<tr>
<td>Age Cannabis</td>
<td>30</td>
<td>31.26</td>
<td>7.55</td>
<td>-.60</td>
</tr>
<tr>
<td>Drug Injectors</td>
<td>30</td>
<td>32.43</td>
<td>7.43</td>
<td>N.S</td>
</tr>
<tr>
<td>Normal</td>
<td>30</td>
<td>32.43</td>
<td>7.43</td>
<td>1.83</td>
</tr>
<tr>
<td>Age Drug Injectors</td>
<td>30</td>
<td>32.43</td>
<td>7.43</td>
<td>1.83</td>
</tr>
<tr>
<td>Normal</td>
<td>30</td>
<td>32.43</td>
<td>7.43</td>
<td>N.S</td>
</tr>
</tbody>
</table>

All the groups were compared on the basis of their age and were found no significant difference among the groups, indicating groups were age wise matched.

**Table 2: Group comparisons on the time taken to complete the trials**

<table>
<thead>
<tr>
<th>Trial-1 (in seconds)</th>
<th>Sum of Squares</th>
<th>df</th>
<th>Mean Square</th>
<th>F Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Between Groups</td>
<td>216464.692</td>
<td>3</td>
<td>72154.897</td>
<td>35.413*</td>
</tr>
<tr>
<td>Within Groups</td>
<td>236355.300</td>
<td>116</td>
<td>2037.546</td>
<td></td>
</tr>
<tr>
<td>Trial-2 (in seconds)</td>
<td>284240.367</td>
<td>3</td>
<td>94746.789</td>
<td>33.435*</td>
</tr>
<tr>
<td>Between Groups</td>
<td>328718.800</td>
<td>116</td>
<td>2833.793</td>
<td></td>
</tr>
<tr>
<td>Within Groups</td>
<td>343724.467</td>
<td>116</td>
<td>2963.142</td>
<td></td>
</tr>
<tr>
<td>Trial-3 (in seconds)</td>
<td>230433.000</td>
<td>3</td>
<td>76811.000</td>
<td>25.922*</td>
</tr>
<tr>
<td>Between Groups</td>
<td>343724.467</td>
<td>116</td>
<td>2963.142</td>
<td></td>
</tr>
<tr>
<td>Trial-4 (in seconds)</td>
<td>686042.867</td>
<td>3</td>
<td>228680.956</td>
<td>37.722*</td>
</tr>
<tr>
<td>Between Groups</td>
<td>703232.600</td>
<td>116</td>
<td>6062.350</td>
<td></td>
</tr>
<tr>
<td>Trial-5 (in seconds)</td>
<td>976007.158</td>
<td>3</td>
<td>325335.719</td>
<td>58.839*</td>
</tr>
<tr>
<td>Between Groups</td>
<td>641388.633</td>
<td>116</td>
<td>5529.212</td>
<td></td>
</tr>
<tr>
<td>Total Time (in seconds)</td>
<td>1.140E7</td>
<td>3</td>
<td>3800203.656</td>
<td>65.492*</td>
</tr>
<tr>
<td>Between Groups</td>
<td>6730904.200</td>
<td>116</td>
<td>58025.036</td>
<td></td>
</tr>
</tbody>
</table>

Significance level: * .001 level
Group comparisons on the time (in seconds) taken to complete the 5 different trials and the total time on the 5 trials indicate significant difference exist among the groups.

Table 3: Post Hoc Analysis-Bonferroni

<table>
<thead>
<tr>
<th>Dependent Variable</th>
<th>Groups Compared</th>
<th>T1</th>
<th>T2</th>
<th>T3</th>
<th>T4</th>
<th>T5</th>
<th>TT</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Mean</td>
<td>Mean</td>
<td>Mean</td>
<td>Mean</td>
<td>Mean</td>
<td>Mean</td>
</tr>
<tr>
<td></td>
<td>Alcohol &amp; Cannabis</td>
<td>36.166</td>
<td>18.400</td>
<td>39.800</td>
<td>39.566</td>
<td>8.866</td>
<td>173.166</td>
</tr>
<tr>
<td></td>
<td>Alcohol &amp; IDU</td>
<td>51.966</td>
<td>75.533</td>
<td>49.433</td>
<td>85.866</td>
<td>131.233</td>
<td>397.466</td>
</tr>
<tr>
<td></td>
<td>Alcohol &amp; Normal</td>
<td>71.500</td>
<td>96.666</td>
<td>73.300</td>
<td>155.166</td>
<td>205.000</td>
<td>602.433</td>
</tr>
<tr>
<td></td>
<td>Cannabis &amp; IDU</td>
<td>88.133</td>
<td>93.933</td>
<td>89.233</td>
<td>125.433</td>
<td>140.100</td>
<td>570.633</td>
</tr>
<tr>
<td></td>
<td>Cannabis &amp; Normal</td>
<td>107.666</td>
<td>115.066</td>
<td>113.100</td>
<td>194.733</td>
<td>213.866</td>
<td>775.600</td>
</tr>
<tr>
<td></td>
<td>IDU &amp; Normal</td>
<td>19.533</td>
<td>21.133</td>
<td>23.866</td>
<td>69.300</td>
<td>73.766</td>
<td>204.966</td>
</tr>
</tbody>
</table>

Significance level: ***.05, **.01, *.001, T= Trial, TT= Total time.

**DISCUSSION**

It is clear from the above table that those who use cannabis are found the most differing group from the normal controls indicating impairment in attention, concentration, visual searching, visuomotor ability and set shifting. These groups were found to be making more errors while performing in the test. It is also found that cannabis group was highly impaired in their cognitive functioning compared to IDU group as well. Those who use cannabis are found to have deficits in cognition such as attention, memory, motor skills and reaction time as an acute effect but they continue to say that they are reversible (Hall & Solowij et al., 1998; Harrison et al. 2002). However, Solowij et al. (2002) reported similar result in their study when they compared cannabis users in terms of their duration of use. Long term cannabis use can result impairment in memory and attention that endure beyond the period of intoxication (Fletcher, 1996). Findings of Yesavage et al. (1985) in favour of that the residual effects of cannabis on cognition do not persist more than 24 hours. In 1993, Block & Ghoneim compared 144 cannabis users with normal controls and found heavy cannabis users were identified to have deficit in mathematical reasoning, verbal expression and selected areas of memory in the study. In comparison of compared heavy users of cannabis with light cannabis users and the findings of test after 16 hours of abstinence showed that the heavy users of cannabis are more impaired on cognitive set shifting (Pope & Yurgelun, 1996)

Alcohol use is also a well established substance in its effect of cognitive functions. Results of present study reveals that those who are dependent on alcohol are highly impaired in attention, set shifting ability, visuomotor functioning in comparison to normal controls. The impairment is evident as they highly differ from the normal as the complexity of the task increased (T1 to T5). Injecting drug users were also found to be substantially differing from alcohol users. However, those who use cannabis were found more impaired be differing from the alcohol users but the pattern of difference in different task difficulty is found to be confusing, that the difference between the groups was least on T5. Alcohol group was also found to be differing from the IDU group. The most cognitive deficits associated with alcoholism are visuo-spatial abilities as well as higher cognitive functioning such as abstract thinking, planning, judgment etc. The similar findings are reported by Oscar-Berman et al. (1997). Evert & Oscar-Berman (1995) reported that mild and moderate level of alcohol consumption can interfere with cognitive functioning such as acquiring, storing, retrieving and use of information. Zinn et al. (2004) reported that in the early abstinence of alcohol is associated with impairment in executive functions. Alcohol users were found mild to moderately impaired intellectual functioning and interestingly, reduction of their brain size was also reported (Parsons 1998). Further the findings
of the study reveal the significant impairment in most complex task among both groups (cannabis and IDU). The impairment of sustained attention Elega (1995) and visuo-spatial attention (Post et al. 1991) among those who use alcohol are also well documented. The dysfunction in prefrontal cortex among alcoholics are reported by Dutty & Campbell (1994).

Those who use injecting drugs are found to be differing from normal controls on their cognitive functioning. The significant difference was found only on T4, T5, and TT. The processing speed was found to be slower in comparison to other groups. IDU group was found to have higher difference in comparison to cannabis group and secondly to alcohol group, indicating that the IDU group are less impaired in their cognitive functioning in comparison to cannabis and alcohol. Mild dose of alcohol also impair cognitive functions such as planning, verbal fluency, memory and complex motor control along with impairment in divided attention (Peterson et al., 1990) Most of the available reviews are directly related to HIV (a known condition for cognitive impairment) and drug injection as there is a high chance of spread of HIV through sharing of needles. Studies mainly focused on injecting drug users who are not HIV positive are rare.

CONCLUSION

The present study results in confirmation with most already existing studies that substance abuse mainly cannabis, alcohol and injecting drugs, results in cognitive dysfunction mainly attention, visuo-motor ability, visual search which demands attention resistance to distraction and set shifting.

REFERENCE


A STUDY OF PERSONALITY PROFILE AND WELL-BEING OF THE PATIENTS WITH DEPRESSION

Kamayani Mathur¹ and Prisha P.²

ABSTRACT
Clinical depression is an emotional, physical and cognitive state that is intense and long lasting and has more negative effects on a person’s day to day life. Approximately one in five people will experience an episode of clinical depression in their lifetime. Some personality types like high anxiety levels are sensitive to criticism have a higher risk of developing depression. Psychological well-being is about lives going well. It is the combination of feeling good and functioning effectively. The present investigation is an attempt to study the effects of levels of depression on a person’s personality and well-being. A group of clinically diagnosed 100 patients of depression (50 males and 50 females) and an equal number of normal subjects, belonging to Ahmedabad city, aged 20 to 35 years were studied. The Beck’s Depression Inventory (1996), Maudsley Personality Inventory (1975) and PGI Well-Being Scale (1989) were administered on the subjects. ANOVA was applied for data analysis. The results exhibited that the patients were significantly more introvert and neurotic compared to normal subjects suggesting that the normal subjects tended to be more extrovert and emotionally stable. The female subjects suffering from depression tended to be more introvert and neurotic compared to their male counterparts, who had rather extrovert and emotionally stable personality. The interaction effect of level of depression and gender was found to be significant on type of personality. The patients of depression had a significant effect on their poor well-being. However, the male patients were found to be maintaining their well-being significantly better than the female patients. Further research is warranted to establish the present findings more stringently.

Key Words - Personality, Well Being, Depression and Gender

INTRODUCTION
The health of the people is under increasing challenges from a range of environmental, social and political factors affecting their lifestyle. There is an increasing recognition that these do not only have an effect on our physical health but also on our mental health or well-being. Identifying and addressing these factors requires a strong public health approach, building on our collective knowledge, experience and expertise.

Depression is a serious mental health concern that touches most people’s life at some point in their lifetime. In contrast to the normal emotional experiences of sadness, loss or passing mood states, depression is extreme and persistent and can interfere significantly with an individual’s ability to function. Nearly twice as many women (12%) as men (7%) are affected by a depressive illness each year (Hunter J. & NIMH, 2010).

Some personality types are more likely to develop depression. There is evidence that people who experience high anxiety levels are very sensitive to criticism or have a perfectionist personality have a higher risk of developing depression (APS Tip Sheet, 2012).

The present research study deals with depression and gender in relation to personality and well being.

Personality is a concept to be used to recognize stability and consistency of behaviour across different situations, uniqueness of the person and individual differences. The trait of introversion-extroversion is a central dimension of human personality. Extroverts tend to be gregarious, assertive, and interested in seeking out excitement. Introverts, in contrast, tend to be more reserved, less outgoing, and less sociable. They are not necessarily loners but they tend to be satisfied

¹Associate Professor, ²M.Phil. Student, Department of Psychology, Gujarat University, Ahmedabad, Gujarat
with having fewer friends. Introversion does not describe social discomfort but rather a social preference: an introvert may not be shy but may merely prefer less social activities. Ambiversion is a balance of extroverted and introverted characteristics. The psychological well-being is about lives going well. It is the combination of feeling good and functioning effectively. People who are high on psychological well-being report feeling happy, capable, well-supported, satisfied with life. The consequences of psychological well-being include better physical health, mediated possibly by brain activation patterns, neurochemical effects and genetic factors (Winfield et al., 2012). In terms of ancient Indian terminology it refers to harmony of Indriyas, Chitta and Atma.

**METHOD**

The present research is intended to study the personality and well-being in relation to gender and level of depression subjects. It was hypothesized that depressed and non-depressed subjects differ on their personality and well-being criteria in relation to their gender.

**Sample:**

The total sample comprised of 200 subjects from Gujarat state of middle socioeconomic status made of two subgroups namely depressed and non-depressed. Both groups consisted of equal number of males and females age ranging from 20 to 35 years.

**Procedure:**

The patients who were found with mild and moderate depression level on their assessment by using the Beck Depression Inventory (BDI) were selected in the depressed group with equal number of male and female patients. Non depressed group was selected from various working institutes and offices comprising of equal number of male and female subjects. Sample entails two sub-groups namely depressed and non-depressed.

**Tools:**

**Maudsley Personality Inventory (MPI)** (S. S. Jalota & S. D. Kapoor, 1975): The Maudsley Personality Inventory (MPI) is designed for assessing Neuroticism-Emotional Stability and Introvert-Extrovert dimension of personality. Hindi version of H. J. Eysenck’s MPI consisting of total 48 items was used. This test has a high reliability and validity.

**PGI General Well Being Measure** (Verma & Verma, 1989): This measure consisted of 20 items measuring individual's well being which is suited to Indian conditions. This test has a high reliability and validity.

**Beck Depression Inventory (BDI)** (A T Beck, 1978): It consists of total 21-item with multiple-choice. This is a self-report inventory commonly used for assessment of depression.

**Statistical Analysis:**

The results were statistically analyzed keeping in mind the objective of the study and thus 2X2 analysis of variance was applied. For this purpose, the SPSS was used. This statistical analysis forms the basis of the results arrived at and discussions were done accordingly and conclusions were arrived at.

**RESULTS**

The results are presented as under:

**Personality:**

**Table 1:** Mean and SD for All Groups on Measure of Personality (MPI)

<table>
<thead>
<tr>
<th>Groups</th>
<th>Mean</th>
<th>SD</th>
</tr>
</thead>
<tbody>
<tr>
<td>Introvert/Extrovert</td>
<td></td>
<td></td>
</tr>
<tr>
<td>A1 – Depressed</td>
<td>16.70</td>
<td>2.12</td>
</tr>
<tr>
<td>A2 – Non-Depressed</td>
<td>28.55</td>
<td>2.21</td>
</tr>
<tr>
<td>B1 – Male</td>
<td>40.01</td>
<td>3.05</td>
</tr>
<tr>
<td>B2 – Female</td>
<td>21.22</td>
<td>4.39</td>
</tr>
<tr>
<td>Neuroticism/Emotional Stability</td>
<td></td>
<td></td>
</tr>
<tr>
<td>A1 – Depressed</td>
<td>42.87</td>
<td>4.12</td>
</tr>
<tr>
<td>A2 – Non-Depressed</td>
<td>25.00</td>
<td>4.02</td>
</tr>
<tr>
<td>B1 – Male</td>
<td>27.33</td>
<td>2.05</td>
</tr>
<tr>
<td>B2 – Female</td>
<td>34.20</td>
<td>2.39</td>
</tr>
</tbody>
</table>

As elucidated in Table No.1 the depressed group scored less in the I/E dimension than the non depressed group and scored higher in the.
N/ES dimension than the non depressed group. Further the male group obtained a higher score in the I/E dimension and obtained less score in the N/ES dimension than the female group. Higher score on MPI indicates right polar characteristic and low score indicates left polar characteristic on the given dimension of personality.

**Table 2: Mean and SD of Male and Female of Depressed Group on Measure of Personality (MPI)**

<table>
<thead>
<tr>
<th>Groups</th>
<th>Mean</th>
<th>SD</th>
</tr>
</thead>
<tbody>
<tr>
<td>Introvert/Extrovert</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Male</td>
<td>30.31</td>
<td>3.55</td>
</tr>
<tr>
<td>Female</td>
<td>19.12</td>
<td>2.09</td>
</tr>
<tr>
<td>Neuroticism/Emotional Stability</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Male</td>
<td>29.70</td>
<td>2.11</td>
</tr>
<tr>
<td>Female</td>
<td>32.40</td>
<td>3.33</td>
</tr>
</tbody>
</table>

Apart from the above findings, when the male and female subjects of only depressed group were compared (Table No.-2) on Personality dimension of MPI it was found that the males obtained higher score in I/E dimension than the females and obtained less score in the N/ES dimension than females which revealed that the depressed females had more introverted and neurotic personality whereas the males had more extroverted and emotionally stable personality. On the basis of the obtained result it can be concluded that as personality characteristics of the depressed group were found to be similar to the non depressed group, gender is more prominent than level of depression to determine ones’ traits of personality.

**Table 3: Summary of Analysis of Variance for personality (MPI) in 2X2 Factorial Designs**

<table>
<thead>
<tr>
<th>Source</th>
<th>df</th>
<th>SS</th>
<th>MS</th>
<th>F</th>
</tr>
</thead>
<tbody>
<tr>
<td>Introvert/Extrovert</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Main Effect</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Depression (A)</td>
<td>1</td>
<td>1524.36</td>
<td>1524.36</td>
<td>4.02*</td>
</tr>
<tr>
<td>Gender (B)</td>
<td>1</td>
<td>4930.52</td>
<td>4930.52</td>
<td>13.07**</td>
</tr>
<tr>
<td>Interaction Effect</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>A*B</td>
<td>1</td>
<td>5820.01</td>
<td>5820.01</td>
<td>14.41**</td>
</tr>
<tr>
<td>Error</td>
<td>196</td>
<td>79109.52</td>
<td>403.62</td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>199</td>
<td>114634.00</td>
<td>576.05</td>
<td></td>
</tr>
</tbody>
</table>

**Significant at .01 level, *significant at .05 level and NS-Not significant**

Table 3 shows the F value for depression level, gender and interaction between Personality dimension namely Introvert/Extrovert and Neuroticism/Emotional Stability (MPI). As all these F values were found to be significant on the personality dimension we can conclude that people who are having depression symptoms have a higher introvert and neuroticism component in their personality whereas the non depressed persons’ personality contained more extrovert and emotionally stable criteria. These significant F values revealed that overall personality characteristics has a significant role to determine ones’ depressive symptoms and vice versa. Additionally F value for gender on the personality dimension namely Introvert/Extrovert and Neuroticism/Emotional Stability which was found to be significant revealed that male and female persons significantly differ on their Introvert/Extrovert and Neuroticism/Emotional Stability dimension of personality and thus support the above findings concluded on the basis of mean difference.

Further, F value of interaction effect of depression level X gender on Introvert/Extrovert and on Neuroticism/Emotional Stability personality dimension were also found to be significant. It can be concluded that a persons’ biological characteristics i.e. Gender interact with his or her psychological criteria i.e. depression level in order to determine their personality.
Well-Being:

Table 4: Mean and SD for All Experimental Groups on Measure of Well Being (PGIGWB)

<table>
<thead>
<tr>
<th>Groups</th>
<th>Mean</th>
<th>SD</th>
</tr>
</thead>
<tbody>
<tr>
<td>A1– Depressed</td>
<td>9.79</td>
<td>2.12</td>
</tr>
<tr>
<td>A2– Non-Depressed</td>
<td>14.87</td>
<td>3.02</td>
</tr>
<tr>
<td>B1– Male</td>
<td>17.82</td>
<td>3.05</td>
</tr>
<tr>
<td>B2– Female</td>
<td>15.09</td>
<td>1.39</td>
</tr>
</tbody>
</table>

Result of Table No. 4 illustrates the mean of depressed, non-depressed, male and female groups on the measure of well-being. The means shows that all groups are different on their well-being criteria.

Table 5: Mean and SD of male and Female of Depressed Group on Measure of Well Being (PGIGWB)

<table>
<thead>
<tr>
<th>Groups</th>
<th>Mean</th>
<th>SD</th>
</tr>
</thead>
<tbody>
<tr>
<td>Male</td>
<td>14.12</td>
<td>2.05</td>
</tr>
<tr>
<td>Female</td>
<td>11.03</td>
<td>1.79</td>
</tr>
</tbody>
</table>

Apart from the aforementioned obtained results (Table No. 5), when males and females of only depressed group were compared on their criteria of well being it was found that male patients were higher in their well being as compared to their female counterparts. It can be additionally revealed that females are inferior in their criteria of well being as compared to males in our society and this inferiority is likely to be heightened when depression is also added.

Table 6: Summary of Analysis of Variance for Well Being (PGIGWB) in 2X2 Factorial Designs.

<table>
<thead>
<tr>
<th>Source</th>
<th>df</th>
<th>SS</th>
<th>MS</th>
<th>F</th>
</tr>
</thead>
<tbody>
<tr>
<td>Main Effect</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Depression (A)</td>
<td>1</td>
<td>10218.07</td>
<td>10218.07</td>
<td>17.92**</td>
</tr>
<tr>
<td>Gender (B)</td>
<td>1</td>
<td>2257.82</td>
<td>2257.82</td>
<td>3.86*</td>
</tr>
<tr>
<td>Interaction Effect</td>
<td></td>
<td>7420.01</td>
<td>7420.01</td>
<td>13.01**</td>
</tr>
<tr>
<td>A*B</td>
<td>1</td>
<td>111772.9</td>
<td>570.27</td>
<td></td>
</tr>
<tr>
<td>Error</td>
<td>196</td>
<td>124664.0</td>
<td>626.452</td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>199</td>
<td></td>
<td></td>
<td>626.452</td>
</tr>
</tbody>
</table>

**Significant at 0.01 level,
*significant at 0.05 level and NS-Not significant

DISCUSSION

In current era non psychotic depression is common in population. A variety of psychosocial factors have been associated with depression, including history of psychopathology, poor marital satisfaction, low social support, and stressful life events. Personality traits like neuroticism and introversion also have been associated with depression. Neuroticism and introversion represent major sources of individual variation in (a) emotionality and (b) sociability and activity level, respectively. A high neuroticism score indicates feelings of tension, emotional liability, and insecurity, and a low score indicates emotional stability. A high introversion score indicates inhibition and shyness in social interactions, and a low score indicates sociability and feelings of competence in social interactions.

Pertaining to aforementioned results, few studies have examined the relation between personality and depression. Gerda et al. (2005) reported Personality was a stable determinant of both clinical depression and depressive symptoms. Introversion contributed to the association between neuroticism and depression; i.e., women scored high on both neuroticism and introversion (high N-high I) were at 4 to 6 fold increased risk for clinical depression. High N-high I was the only independent and stable predictor of clinical depression. Moreover, high N-high I was
clearly a better predictor of clinical depression than history of depression (the other independent predictor) especially on the long-term. Addition of high N-high I to a previous history of depression enhanced the identification of women at increased risk as well as the identification of women with an extreme low depression risk. Further, in same context Kendler et al. (1993) studied the emerging role of personality as a vulnerability factor for depression in other populations. Individuals high on neuroticism and introversion are at risk for depressive symptoms including depressive symptoms in cardiac patients (Wright, & Persad, 2007). One explanation for these inconclusive findings might be the difference between studies in methods of measuring depression at syndrome level by clinical interviews or at symptom level by self-reports. The results revealed that the Levels of neuroticism strongly predicted the risks for both lifetime and new-onset MD. By contrast, extroversion is only weakly related to risk for MD.

Further with reference to gender role in personality, the obtained result is best explained by three models - biological, socio-cultural, and biosocial - which address the causes of sex differences in relation to personality traits. The biological model posits that observed gender differences in personality test scores reflect innate temperamental differences between the sexes. The socio-cultural model of gender differences posits that social and cultural factors directly produce gender differences in personality traits. Whereas biosocial model posits that sex differences in personality is a product of both biological and environmental factors. The present results were found to be consistent with the study of Feingold (1994) who asserted that males were found to be more assertive and had slightly higher self-esteem than females. Females were found to be higher on extraversion, anxiety, trust, and, especially, tender-mindedness (e.g., nurturance) than the males. The overall findings of the present investigation revealed that males and females differ on their personality dimensions.

In context of depression and gender interaction to influence personality, the present study shows significant results which were consistent with the study. Well-being is a multifaceted and dynamic concept that includes subjective, social, and psychological dimensions as well as health-related behaviours. In the sphere of well being the present finding revealed that depression level has a significant role to influence the persons’ well-being. Further, Kenneth et al. (1989) described the functioning and well-being of patients with depression. Data was collected from 11242 outpatients in three health care provision systems in three US sites. They found that the poor functioning and well being uniquely associated with depressive symptoms. Apart from effect of depression level on well being, gender was also found to be significant for persons’ well-being. The characteristics that distinguish between male and female are related to sex, social roles and gender identity, depending on the circumstances. Research has shown there are a number of gender related differences between men and women related to mental health, mental illness and psychological well-being. In general, the rates of psychiatric disorder are almost identical for men and women, but there are significant differences in the patterns of mental illness and mental health related to gender.

In the present study interaction effect of depression level and gender were also found to be significant on persons’ well being. In this context previous research has consistently found that men and women have similar levels of happiness, life satisfaction, and other global measures of subjective well-being, but as far as interaction of gender with other factors is concerned in order to affect persons’ well being the present finding gets indirect support from the study of Ronald (2002) in which they demonstrates that significant gender-related differences in subjective well-being exist— but tend to be concealed by an interaction effect between age, gender and well-being. Further, they revealed that the relationship between gender and well-being reverses itself.

Depression is the most common mental health diagnosis for women. An overwhelming statistic, being publicized, is that unipolar depression is expected to be the second leading
cause of global disability by the year 2020. The mental health diagnosis of unipolar is diagnosed twice as much in women as in men. It has been proposed that being able to reduce the over-representation of women who are depressed would significantly impact the global problem of mental health disorders and psychological issues. Another gender specific mental health or psychological issue most commonly associated with women than men is Post Traumatic Stress Syndrome (PTSD) - specific to sexual violence. (Johnson-Gerard M, 2010).

Overall, on the basis of the results it can be concluded that the persons’ biological characteristics i.e. gender and psychological criteria i.e. his level of depression work together for determining ones’ criteria of well being.

CONCLUSIONS

The concern of the present research was to investigate the effect of depression level and gender on persons’ personality and well-being. It was found that depressed persons possessed more introvert and emotive personality, whereas non depressed persons were found to have more extrovert and emotionally stable personality. The non-depressed group was found to be significantly higher on well-being than the depressed group. In context of gender, the females were found to be more introvert and neuroticism in their personality whereas males were found to have more extrovert and emotionally stable personality. In reference to gender effect on well being, the male subjects were found to be significantly higher than their counterparts. Further in regard to interaction effect of depression level and gender, depressed and non depressed subjects were found to be significantly different on Introvert/Extrovert, Neuroticism/Emotional Stability and on well being criteria in relation to their gender.

LIMITATIONS AND SUGGESTIONS

Although it is a study in the area of clinical Psychology yet the lack of scientific medical knowledge was a major hindrance. Further studies are suggested to include some medical aspect on the same objectives. Further, the study was confined to adults only, it would have been better if adolescents or elderly cases could be considered. Other than the forgoing limitation, therapeutic aspect was not considered in this investigation. Therapeutic intervention with different psychological therapies can be considered in future research with the same objective. To conclude, it may be stated that despite the limitations of the present study, the findings, if implemented in further researches conducted on the lines suggested, will contribute positively and advance our knowledge in the area of clinical psychology.

REFERENCES

APS, Tip Sheet (2012); Understanding and Managing Depression; Australian Psychological Society (APS); extracted from http://www.psychology.org.au/tip_sheets/depression/).


HOW DOES BELIEF IN GOD INFLUENCE OUR MENTAL HEALTH AND EXISTENTIAL STATUS?

Chetna Duggal and Jayanti Basu

ABSTRACT

The study was conducted to determine the impact of belief in God on an individual’s mental health. Mental health was conceived as consisting of outcome variables: distress and well-being, and resource variables: coping repertoire and ego-functions. Participants were divided into three categories of believers, non-believers and the unsure group. The sample consisted of 60 Bengali, Hindu males in the age group of 35-65 years. The General Health Questionnaire, the PGI Well-being Scale, The Presumptive Stressful Life Events Scale, the Coping Checklist and the Ego-Functions Assessment Scale were used to obtain data. Results indicated that believers showed greater sense of well-being and displayed a larger coping repertoire while the unsure group showed higher levels of distress. The second part of the study aimed to explore the world-view of people differing in their belief in God using different existential themes. The research was carried out in the qualitative tradition using the interview-schedule for data collection. The obtained data was subjected to phenomenological analysis and the results indicated that the believers, non-believers and the unsure group differed in the way they constructed their world-view.

Keywords: Belief in God, Existentialism, Existential status, Mental Health

A review of earlier literature reveals that the relation of religion with mental health has undergone a change over the past decades (Seybold & Hill, 2001). Earlier studies influenced by Freud’s concept of religion as an ‘illusion’ (Freud, 1927) and Marx’s ideas that religion was the “opium of the masses” concluded that religion is for the feeble-minded. Religion was understood as generated by the psychologically and socially weaker section of the population to delude them. Recent research, however, has shown mixed results and indicates that the relationship between religion and mental health might be very different. A meta-analysis by Hackney and Sanders (2003) to clarify the proposed relationship between religiosity and psychological adjustment showed that religiosity has a “salutary relationship” with psychological adjustment. Seybold and Hill (2001) briefly reviewed the literature on the helpful and harmful effects of religion and found numerous "salutary effects" of religion on physical and mental health. Koenig and Larson (2001) systematically reviewed 850 studies and
concluded that a generally positive relationship exists between religiosity and mental health. Among those studies that correlated religiosity with depression, approximately two-thirds found lower rates of depression and/or anxiety among the more religious. Hintikka, et al. Kontula, & Viinamki (2000) in a Finnish population observed that minor mental disorders appeared among 25% of females who never attended religious events as compared to 16% of those who attended. In men there was no difference. Mitchell & Weatherly (2000) studied a large sample in 33 counties of North Carolina and observed that reduced health status and functional inability combined with limited participation in church activities resulted in poor mental health and depression. George et al. (2000) from a review of literature noted that there were links between religious practices and reduced onset of physical and mental illnesses, reduced mortality, greater likelihood of recovery from or acceptance of physical and mental illness. The three mechanisms underlying these relationships involved religion increasing healthy behaviours, social support, and a sense of coherence or meaning. Plante et al. (2000) in their study on 342 university students also found that the strength of religious faith is associated with several important mental health benefits among college students. Gall et al. (2000) found that relationship with God and religious coping behavior were related to the well-being of female breast-cancer survivors. Willits and Crider (1988) examined the effect of beliefs about God among middle-aged people. They used five questions to assess belief in God where a high score signified "belief in God as a controlling, caring force," and strongly predicted overall life satisfaction, in both sexes. Although some recent studies show that religious faith and participation in religious activities contributes to better mental health, further exploration in this area is needed. The present study focused on belief systems, rather than overt expressions of religious beliefs like participation and attendance in religious activities, and its impact on an individual’s mental health. This study was conceptualized as having two phases, the first study examining the relationship of certain mental health variables with belief in God through quantitative technique, and the second study using qualitative interview for exploring the meaning of belief in God.

Study 1:

Study I was a quantitative study to understand how belief in God was related to mental health. Mental health was conceived as consisting of – outcome variables: distress and well-being, and resource variables: coping repertoire and ego-functions. The objective was to see how the three groups of respondents, namely, believers, non-believers and unsure differ in their well-being, distress, coping and ego strength. The research hypotheses for the present study were (1) Belief in God will be related to the psychological well-being of an individual, (2) Belief in God will be related to the amount of distress an individual experiences, (3) Belief in God will be related to the coping ability of the individual and (4) belief in God will be related to the ego functions of the individual.

METHOD

Participants:

A total of 60 Bengali, Hindu male subjects (35-65 years of age) of Kolkata city participated in the study. The participants were graduates or above and belonged to middle-income group. The sample was collected using purposive sampling.

Variables:

For the purpose of the study the variables were defined as follows: Mental health is defined as a state of well-being in which the individual realizes his or her own abilities, can cope with the normal stresses of life, can work productively and fruitfully, and is able to make contribution to his or her community. Coping as defined by Pearlin and Schooler (1973) is “any response to situational life stressors that serves to prevent, avoid or control emotional distress”. Bellak et al. (1973) conceptualized
ego functions as referring to mental contents or processes that mediate between environmental inputs and inner states, thus encompassing both adaptation to environment and adaptation to inner processes.

**Measures:**

The following four types of dependent measures were employed:

**The General Health Questionnaire** (Goldberg & Hitler, 1979): G H Q - 28, contains 28 items, and is derived from factor analysis of GHQ-60 and consists of 4 sub scales for somatic symptoms, anxiety and insomnia, social dysfunction and severe depression. It is a self-administering screening test. Its Split-half reliability is .8 and .88 respectively.

**The PGI Well-being Scale** (Verma & Verma, 1989): The PGI Well-being Scale was used to assess the participant’s level of subjective well-being. It is a 20-item scale constructed with a low difficulty level to suit Indian conditions. Its Kuder-Richardson reliability is .98, while the test retest reliability is .91.

**The Coping Checklist:** (Rao et al., 1989) The Coping Checklist is open ended, and consists of 70 items relating to things that people do in times of stress in general, and is scored on a yes/no format. This scale was used to assess the coping repertoire of the participants.

**The Ego Function Assessment Scale-Modified** (Bellak 1989): Indian adaptation by Basu et al. (1996) consists of twelve sub scales each of which assess separate ego functions. Each sub scale has ten questions. The reliabilities for the twelve Ego-functions range from .5 to .78.

**Procedure:**

The research was conducted on 60 men in Kolkata over a period of 3 months. The subjects were asked about their belief in God and 20 believers, 20 non-believers, and 20 unsure about their belief in God were selected based on the sample characteristics and the above mentioned questionnaires were administered.

**RESULTS**

The means and standard deviations of the scores on the General Health Questionnaire, the PGI well-being Scale, the Coping checklist, Presumptive stressful life events scale and the twelve Ego functions were computed for the three groups (Table 1 and 2 respectively). For the verification of the hypotheses Analysis of Variance and post hoc t was conducted on the obtained data.

Analysis of variance table 1 yielded a significant difference between the three groups of believers, non-believers, and unsure on their scores on psychological well-being obtained on the PGI Well Being Scale (F= 5.855, p<0.01). Results reveal that the average score of the believers on the well-being Scale was 16.7, which was higher than that of the nonbelievers and the unsure group, with their average scores of 12.75 and 13.15 respectively (Table 1). The results revealed that the believers differed significantly from the nonbelievers and the unsure group respectively, but the non-believers did not differ significantly from the unsure group. As hypothesized the results of the study indicated that belief in God is related to an individual’s psychological well being. Religion has been linked in the past with emotional instability, rigidity, inflexibility, repression and even delusional thinking. More recently Wendell Walters has written extensively about the negative effects of religion on mental health, claiming that religion can be the cause of neuroses, depression, and even schizophrenia (Friedman, 1998). In spite of predictions of religion’s eventual demise and arguments for the negative effects of religion, recent research suggests otherwise (Levin et al., 1989; Koenig et al., 1988). Seybold & Hill (2001) reviewed literature on the impact of religion and spirituality on physical and mental health, and concluded that the influence was largely beneficial. He proposed several possible mechanisms to account for this overall beneficial effect of religion.
on mental health such as social networks, healthier lifestyles, coping strategies, positive emotions, and stress appraisal. The three groups also differed significantly in the amount of distress experienced (F = 4.081, p<0.05). The believer group showed considerably less distress, with their average score on the General Health Questionnaire at 1.15, than the non-believers and the unsure group with their average scores of 2.15 and 3.8 respectively (Table 1). In post hoc analysis t-tests reveal the believers differed significantly from the unsure group (t = -2.71, p<0.01) but not from the non believers. The non believers also did not differ significantly from the unsure group. Thus, as hypothesized belief in God was also related to the level of distress experienced by an individual. Results showed that the unsure group faced maximum distress and the believers and non-believers showing only a marginal difference in their scores.

Results of table 1 revealed a significant difference between the three groups with respect to their coping repertoire (F= 4.607, p<0.05). The believers in God utilized an average of approximately 30 coping strategies to deal with stressful situations, while the non-believers and the unsure group utilized approximately 25 and 23 strategies respectively when faced with a stressful situation (Table 1). The t-tests reveal that the believers differed.
Significantly from the non-believers (t=2.22, p<0.05) and the unsure group (t = 3.16, p<0.01) but the non-believers did not differ significantly from the unsure group. Results further suggested that believers have a substantially larger coping repertoire as compared to the other two groups. A closer look at the kind of coping strategies employed showed that problem solving strategies were most popular. Almost all 60 participants reported using one or more of the problem solving strategies. Analyzing the obtained data reveals that the additional coping repertoire of the believers can be attributed to their belief in God. 17 out of the 20 studied reported praying to God when faced with problematic situations. 13 of them found meaning in suffering, and almost half of them reported visiting places of worship and reading books on religion and philosophy when faced with stressful life events. None of the above mentioned coping strategies were employed by the non-believing and the unsure group. These results suggest that a belief in God not only empowers the individual with more resources to be able to draw from when faced with a demanding stressful situation, but also implies the role of faith in God and religion as an important coping mechanism.

The scores of the three groups of believers, non-believers, and unsure were tested for significance for each ego-function separately. A significant difference was obtained between the three groups of believers, non-believers and unsure on the ANOVA (F = 3.517, p<0.05) conducted on the ego function of stimulus barrier. The post hoc t-tests reveal that the believers differed significantly from the unsure group (t = 2.43, p<0.05), but not from the non-believers. Properly functioning, the stimulus barrier scales down the intensity of external stimuli to a level that the organism can manage. The score on this ego function indicates how resilient a person is and how he readapts after stressful situations. It may be concluded that the believers and the unsure group showed better adjustment against an onslaught of stimuli.

There was a significant difference between the three groups of believers, non-believers, and unsure on their scores on the ego function of Synthetic-Integrative functioning as revealed by the ANOVA results (F=12.143, p< .01) with the unsure group displaying very poor synthetic functioning. The t-tests reveal that the believers and non-believers differed significantly from the unsure group (t = 3.95, p<0.01 and t =3.99, p<0.01 respectively) but the non-believers did not differ significantly from the believers. The synthetic function of the ego is super ordinate to all the other ego functions. These results are congruent with the findings that the unsure group show maximum distress and have poor coping ability.

ANOVA results indicate that the three groups of believers, non-believers, and unsure differ significantly on their scores on the ego function of Mastery Competence (F = 4.013, p< 0.05) with the unsure group ending up with the lowest scores. The post hoc t-tests reveal that the believers and non-believers differ significantly from the unsure group (t = 2.48, p< 0.05 and t= 2.3, p< 0.05 respectively) but the non-believers did not differ significantly from the believers. These results supplement the findings of the unsure group displaying a very restricted coping repertoire as the ego function of mastery competence is related to a person’s existing capacity to interact effectively with his environment and is often designated as an individual’s coping behavior under extreme stress.

Contradictory to studies that suggest that religion is for the feeble minded, believers displayed higher scores on all ego functions assessed. The non-believers equaled the believers on ego strength, however the unsure group displayed relatively poorer ego functioning on two of the ego-functions.

To summarize the results of study 1 it may be concluded that believers in God have better mental health, show less distress and display a larger coping repertoire when faced with stressful life situations and also have relatively higher ego strength, as compared to the non-believers and the unsure group. These results may be indicative of the purpose of belief in God and religion as providing a meaningful world-view and an adequate support system. While the non-believers may or may not find another suitable substitute paradigm, they are somewhat better off than the unsure group, whose vacillation with regard to their religious
beliefs may predispose them to greater distress and restrict their coping ability.

Study 2:

METHOD

The objective of study II was to explore how belief in God impacts the way an individual structures his world-view. Participants A total of 15 Bengali, Hindu male subjects (35-65 years of age) of Kolkata city participated in the study. The participants were graduates or above and belonged to middle income group and high-income group. The participants were obtained through purposive sampling.

Measures:

The study was carried out in the qualitative tradition, and the tool used for data collection was the interview-schedule. The methodological tradition of inquiry used in the present study was the Phenomenological Approach. This approach describes the meaning of the lived experiences for several individuals about a concept or phenomenon. The format of the interview-schedule used was semi-structured and the interview was kept non-directional. In order to prepare an interview schedule for the present study, themes from the existential literature were selected as existentialism looks at how people construct their world-view, make sense of their existence and find meaning in life.

Belief in God: Since an individual’s belief in God was the dimension on which they were categorized, the interview began with exploring their belief in God, the reason they did or did not believe in God or were unsure about it. Irrespective of their beliefs they were asked to elaborate on what God as a construct meant to them.

Religious orientation: Subjects were asked about their religious orientation, the place of religion in their lives and whether they participated in religious activities. The purpose of religion was explored.

Pre-determination and Personal Choice: The subject’s belief in destiny or fate was explored along with the importance they laid on making their choices themselves. Pre-determination of life events was contrasted with individual will to judge the subjects stand on the issue.

Finding Meaning: Subjects were asked if they found any meaning in their lives, and whether they saw any meaning in the world being the way it is.

Death: The issue of death was taken up in terms of one’s own death, death of a significant other, the construct of death and the concept of rebirth.

Once the participants of the study had been interviewed and transcriptions were obtained the interviews were analyzed using a modification of the Stevick-Collaizzi-Keen method (Moustakas, 1994). The process of horizontalization helped to obtain a list of non-repetitive, non-overlapping statements; this was followed by categorizing the statements into themes and sub-themes. Statements were grouped into meaningful units and a general description of the experience: the textural description of what was experienced and the structural description of how it was experienced was obtained.

RESULTS

Each existential theme and the sub-themes that emerged are discussed to contrast the three groups of believers, non-believers and unsure persons. This is followed by an understanding of how the three groups constructed their world-views.

Belief in God: Almost all the participants rejected the prevalent concept of a conventional God who controlled lives and administered justice. Amongst those who said that they believed in God, only one person interviewed believed in the conventional concept of God, all the others had their own personal abstractions of God. Three meaningful units could be derived: (a) God seen as the summation of the universe, the harmony, the symmetry (b) God seen as some force or energy, source of creation, (c) God seen as a higher self.

Pollner (1989) asked people to affirm their belief in God, by asking them who God is? The responses were grouped into three scales: ruler (including master, king, and judge); relation (lover, mother, father, spouse, and friend); and remedy (redeemer, creator, liberator, and healer). He found that perceptions of God as a remedy - as a being or force that releases people from or resolves problems of living - was most strongly associated with a higher level of life satisfaction.
The believers believed in God but found him elusive and at the same time were aware of the fact that the concept is learnt in the process of socialization. The non-believers vehemently rejected the existence of God. As one of the participants put it - “The concept of God as a transcendental existence, a superpower that controls everything is what I reject. I believe in the networking of reasons and in human rationality.” The unsure group, on the other hand, questioned his existence but still felt his need if not in the conventional form, then in some other personalized form. Nietzsche and other existentialists who came after him believed that the purpose of God is over, and God is dead. We see the same idea resound itself in the non-believing group. The believers and the unsure group, however, thought God was needed to give meaning to the world and for turning to in times of trouble. A participant from the believers group said “A Godless world would be a dark bleak world”. Thus the importance of faith and belief in God in creating a meaningful worldview and acting as a buffer during stressful life events was reinforced by the believers group.

Religion:

While some of the believers felt that religion was a medium to attain God (“a guide map to the destination of God”), others along with most non-believers and unsure participants felt the genesis of religion could be attributed to social causes. The other important reason for the genesis of religion stated by the participants was imposition of norms, morals and ethics. All the participants interviewed reported that they did not participate in any religious activities and felt that belief in God was unrelated to religious participation. The believers group said that they had no time for religious activities or going to temples and they did not think it to be central to their existence. Also Hinduism when compared with other religious faiths was very permissive and did not demand regular temple visits or prayers. The non-believing group, in turn, emphasized the negative impact of religion and emphasized the need for a substitute faith, as religion seemed to have “lost its punch”. The unsure group had participants who had not thought too much about religion and faith. Less than half of the believer group emphasized the purpose of ritualism in creating identification with religion, participation in rituals for half the believers and half of the unsure group was primarily to conform to societal norms. The other half of the unsure group along with the non-believing group denied participation in any rituals.

Predetermination:

While the believers were clearly in favor of the idea of predetermination, the non-believers seemed to reject any role of destiny and fate. The unsure group was found to be divided on the issue. Consistent with their rejection of the role of destiny the non-believing group asserted the importance of free will and choice in determining the course of their lives. Although majority of the believers had earlier claimed that they believed in destiny and fate, more than half of them thought that making personal choices was nevertheless important. Like the believers more than half the unsure group thought personal choices were important, but they were divided about the issue like they were about the role of destiny.

Meaning:

We find that the believers saw more meaning in their life, as compared to the non-believers and participants of the unsure group, where more than half of them saw no real meaning in their lives. One of the non-believers put it as “There is no real purpose in life, it is an accidental epiphenomenon. There is no ulterior motive....all this is meaningless...there is nothing to be understood”. However, amongst those who found meaning, three major meaningful units can be delineated: to know oneself and achieve peace, to love and help others, and to fulfill professional and familial responsibilities. All the believers saw meaning in the world as compared to the non-believers and unsure group, where majority of the participants had not thought about why the world came into being. Majority of the believers and one participant in the unsure group used their belief in God to create a meaningful world-view – “To enrich himself the powerful One created different manifestations of Himself”. The non-believers
resorted to scientific explanations like the big bang theory, theory of evolution, and chance.

**Death:**

On the whole it can be said that no group showed a positive attitude towards death, and it was something they still had to come to terms with. While the believers saw death as only a transition ("In every moment we are dying and being born again"), the non-believers clearly perceived it as an end. Half the unsure group like the non-believers saw death as a final end, while the other half had not really thought about death.

All the participants in the believer group believed in the concept of rebirth. This is congruent with their idea of death as only a transition. Since the non-believers and the unsure group saw death as an end, almost all of them did not believe in the concept of rebirth.

**DISCUSSION**

While belief in a conventional God created by religious scriptures seemed to be fading, there emerged a trend to believe in personal Gods, a God who does not administer justice and pass verdicts of hell and heaven, but one who is a product of each individual’s idiosyncratic beliefs. Accompanied by this revolutionized image of God was the rejection of religion, by believers and non-believers alike. There was a general disillusionment with religion. The value of performing rituals seems to be limited to that of a social imperative.

The world-view of the believers rested on the foundational premise that God exists, and everything inexplicable and beyond the human mind could be traced back to the creator. They made meaning of their existence through their belief in God and had a coherent world-view in which their belief in God was central. Non-believers, on the other hand, vehemently denied any existence of God going up to the point of declaring it an empty word. They accepted science as a substitute paradigm and constructed a functional world-view based on rationality. In the midst of the debate between the acceptance and rejection of the existence of God emerged a category of people who remained unsure about where they belong. Their questioning the existence of God lead to a subsequent lack of stance on all the existential themes explored. Equally plagued by existential issues they seemed to still be grappling with them and looking for their answers leading them to have far less coherent world views.

Greenberg et al. (1991) proposed a terror management theory which proposes that adherence to a shared cultural worldview (including a religion) provides a "buffer" that shields the individual from existential anxiety. Hackney and Sanders (2003) suggest that it is necessary to be a "true believer," so that the world-view is accepted and internalized as one’s own, and can generate meaning. They assert that "perhaps measures of religiosity that focus on institutional participation are focusing on the least existentially relevant aspects of religion, with personal devotion producing the greatest existential satisfaction, and ideology in between the two". The belief in God can be seen as a more core belief and therefore helps the believers construct a meaningful world-view that provides greatest existential satisfaction; the non-believers use an ideology, whereas the unsure group due to their fragmented world-view could be experiencing lesser existential satisfaction.

The results of the study revealed that the believers in God showed greater sense of wellbeing and had a larger coping repertoire when compared to the non-believers and the unsure groups. They also had higher scores on three of the twelve ego functions. The unsure group had higher levels of distress when compared to the other two groups and had a limited coping repertoire. The qualitative study further revealed that belief in God helped the believers create a more meaningful and coherent worldview and that perhaps accounted for their greater well-being. The non-believers relied on science to find meaning and make sense of their existence and therefore did not differ much from the believers in terms of levels of distress. However, the unsure group vacillated in their beliefs and that led to a fragmented world-view which could account for higher distress in this group. The findings of the study have implications in the area of mental health prevention and intervention, in terms of the way belief systems are structured and how they impact our well-being.
The major constraint and limitation of the current study is that it was conducted only on men and the sample was small. Therefore, further research should address these issues and focus on different age groups, for better generalization of the findings.

REFERENCES


NEUROPSYCHOLOGICAL SEQUELAE IN STROKE

Renu E. George¹, B. N. Roopesh², Keshav J. Kumar³ and D. Nagaraja⁴

ABSTRACT

Stroke causes serious long term disability. It is associated with various cognitive deficits. However most studies that have looked at cognition in stroke have recruited only ischemic stroke patients and only 3 months after stroke. The present study aims to examine the neuropsychological profile in stroke patients as well as to look at the feasibility of neuropsychological assessment prior to 3 months. A comprehensive battery of neuropsychological tests was used to assess cognitive functions in the domains of attention, executive functions, memory and visuospatial functions. Results suggest that the neuropsychological performance of the Stroke Patient group was significantly poorer than the Healthy Normal Control group on all the cognitive domains. Stroke, irrespective of type, has debilitating effects on cognitive functioning. Patients are amenable for a complete neuropsychological assessment within a few weeks after stroke and this impacts their treatment and prognosis.

Keywords: Cognitive deficits, Cerebrovascular accident, Neuropsychological assessment, stroke, Neuropsychological profile

INTRODUCTION

Studies have shown that two-thirds of stroke patients have cognitive impairments (Ballard et al., 2003). When assessed 3 months after their first-ever stroke, these patients are seen to have impairments in the domains of orientation, attention, abstraction, mental flexibility, information processing speed, working memory, language, memory, and construction/spatial ability (Tatemichi et al., 1994; Srikanth et al., 2003; Sachdev et al., 2004).

Cognitive deficits are associated with poor prognosis and a failure to benefit from stroke rehabilitation (Alladi et al., 2002). They affect the individual’s ability to successfully resume prior physical, vocational and social roles (Duncan & Keighley, 2000) in addition to significantly burdening the caregivers of elderly stroke victims (Thommessen et al., 2001).

Though cognitive deficits are some of the debilitating effects of stroke, models that aim at predicting outcome after stroke often times ignore cognitive functioning (Kalra & Crome, 1993) as a detailed neuropsychological evaluation is not considered to be feasible in the early stage (Lezak et al., 2004; Nys et al., 2005).

The present study was aimed at examining the feasibility of carrying out a detailed cognitive assessment and identifying the neuropsychological deficits associated with stroke, irrespective of the type of stroke. Identification of cognitive deficits at the earliest is imperative for appropriate management of the stroke patients and this has far reaching consequences for both patient and family.

METHOD

Sample:

A total of 302 stroke patients were screened between 2007 and 2009 in the National Institute of Mental Health and Neuro Sciences (NIMHANS), of which 104 satisfied the study’s inclusion and exclusion criteria. The patients were required to have either a CT and/or MRI scan. The CT/MRI scans were analyzed by a qualified radiologist from NIMHANS. Each scan was scrutinized and classified in terms of the type of stroke (ischemic/haemorrhagic), laterality of stroke (left/right), the vascular territory involved (anterior / posterior) as well as the location of the stroke (cortical / subcortical).

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Additionally a Healthy Normal Control (HNC) group was recruited to match each patient in the stroke patient group on age education and gender. They were drawn from the staff of the institute (NIMHANS), relatives of the patients and also from the community. They were informed about the nature of the study and were included in the sample after obtaining consent. The HNC group was screened using the General Health Questionnaire (GHQ-12) (Goldberg & Williams, 1988) and those who obtained the cutoff score of 2 and above as well as those with substance abuse, were excluded from the study.

Eligibility requirements for both groups included right-handed subjects between the ages of 18 and 60 years, with either normal or corrected vision and hearing. The subjects were excluded if there was any previous history of psychiatric illnesses, neurological illnesses and/or neurosurgical conditions, clinical evidence of mental retardation and severe sensorimotor deficits/physical conditions/expressive or receptive aphasia that rendered the subject not amenable for testing.

The study was approved by the Ethics Committee of NIMHANS and written informed consent was obtained separately from the patients as well as the HNC.

Assessment tools and Procedure:

Patients were recruited between 15 days to 3 years after a first-ever stroke. They were administered a comprehensive neuropsychological battery. The tests used were Digit Span Test (Wechsler Memory Scale – III, 1997), Spatial Span Test (Wechsler Memory Scale – III, Wechsler, 1997), Continuous Performance Test [(CPT) (Darvesh et al., 2002)], Letter Fluency Test [FAS Test (Benton & Hamsher, 1989)], Category Fluency Test [Animal Names Test (Lezak, 1995)], Wisconsin Card Sorting Test (Heaton et al., 1993), Go/No-Go Test (Darvesh et al., 2002), Rey's Auditory Verbal Learning Test (Maj et al., 1993), Rey-Osterrieth Complex Figure Test (Rey, 1941), Faces I & II, [(Wechsler Memory Scale – III) Pushpalatha, 2004], Bender Gestalt Test (Bender, 1938), Spatial Comparison Test (Mukundan et al., 1979), Block Design Test (Mukundan et al., 1979) and Clock Drawing Test.

The same set of neuropsychological tests was administered to the HNC group, who formed the normative controls.

Sociodemographic information such as age, education and occupation were collected for both groups and additional information related to stroke, such as brief history of the illness, present complaints, past, personal, family and treatment history were collected from the stroke patient group. Handedness of both groups was assessed using the Edinburgh Handedness Inventory.

Statistical Analysis:

Statistical analysis was carried out using the statistical software SPSS 15.0. Descriptive statistics such as mean and standard deviation, frequencies and percentages were used to describe the demographic, clinical variable of the patients and demographic characteristics of the HNC. The comparison between the stroke patient group and HNC group was carried out using Student’s t-test for continuous variables and Chi-square test for categorical variables.

RESULTS

Table 1: Comparison of the stroke patient group and the HNC group on age and years of education

<table>
<thead>
<tr>
<th></th>
<th>Mean</th>
<th>SD</th>
<th>t-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age (in years)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Stroke patient</td>
<td>42.61</td>
<td>10.65</td>
<td>0.17</td>
</tr>
<tr>
<td>(n=103)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Healthy Normal</td>
<td>42.36</td>
<td>10.59</td>
<td>ns*</td>
</tr>
<tr>
<td>Control (n=103)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Education (in years)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Stroke patient</td>
<td>8.08</td>
<td>4.85</td>
<td>0.19</td>
</tr>
<tr>
<td>(n=103)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Healthy Normal</td>
<td>8.20</td>
<td>4.80</td>
<td>ns*</td>
</tr>
<tr>
<td>Control (n=103)</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*ns- not significant
Results of table - 1 shows both groups did not differ in terms of age and number of years of education (table - 1). Seventy nine patients were male (76.7%) and 24 (23.3%) were female. While 81.55% of the stroke patients had ischemic stroke, 18.45% had hemorrhagic stroke. Nearly equal representation of patients with stroke in the left and right hemispheres (48.54% and 42.72% respectively) was seen. Few patients (8.74%) had strokes in both hemispheres.

**Table 2:** Showing the distribution in terms of stroke type, laterality of stroke and gender

<table>
<thead>
<tr>
<th>Clinical features</th>
<th>Frequency</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Type of stroke</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ischemic stroke</td>
<td>84</td>
<td>81.55</td>
</tr>
<tr>
<td>Hemorrhagic stroke</td>
<td>19</td>
<td>18.45</td>
</tr>
<tr>
<td><strong>Laterality of stroke</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Left stroke</td>
<td>50</td>
<td>48.54</td>
</tr>
<tr>
<td>Right stroke</td>
<td>44</td>
<td>42.72</td>
</tr>
<tr>
<td>Both</td>
<td>9</td>
<td>8.74</td>
</tr>
<tr>
<td><strong>Gender</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Male</td>
<td>79</td>
<td>76.7</td>
</tr>
<tr>
<td>Female</td>
<td>24</td>
<td>23.3</td>
</tr>
</tbody>
</table>

**Table 3:** Comparison of the stroke patient group and the HNC group on the neuropsychological tests

<table>
<thead>
<tr>
<th>Tests</th>
<th>Stroke patient (n=103)</th>
<th>HNC (n=103)</th>
<th>t-value</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Mean</td>
<td>SD</td>
<td>Mean</td>
</tr>
<tr>
<td>Digit Forward</td>
<td>4.56</td>
<td>2.07</td>
<td>6.19</td>
</tr>
<tr>
<td>Digit Backward</td>
<td>2.46</td>
<td>1.79</td>
<td>3.98</td>
</tr>
<tr>
<td>Spatial Forward</td>
<td>6.20</td>
<td>2.59</td>
<td>7.25</td>
</tr>
<tr>
<td>Spatial Backward</td>
<td>3.79</td>
<td>2.89</td>
<td>5.75</td>
</tr>
<tr>
<td>CPT</td>
<td>1.54</td>
<td>1.89</td>
<td>2.64</td>
</tr>
<tr>
<td>Go/No-Go Test</td>
<td>1.24</td>
<td>0.90</td>
<td>1.70</td>
</tr>
<tr>
<td>Fluency Test</td>
<td>3.76</td>
<td>2.07</td>
<td>6.50</td>
</tr>
<tr>
<td>Category Fluency Test</td>
<td>10.67</td>
<td>5.05</td>
<td>16.52</td>
</tr>
<tr>
<td>WCST-PE</td>
<td>50.97</td>
<td>26.44</td>
<td>37.14</td>
</tr>
<tr>
<td>WCST-NPE</td>
<td>26.14</td>
<td>43.64</td>
<td>27.73</td>
</tr>
<tr>
<td>WCST-CLR</td>
<td>31.27</td>
<td>23.37</td>
<td>40.99</td>
</tr>
<tr>
<td>WCST-NCC</td>
<td>1.64</td>
<td>2.05</td>
<td>2.62</td>
</tr>
</tbody>
</table>

Spatial Comparison Test 2.78 1.84 4.12 1.68 5.45***
Block Design Test 2.41 2.17 4.03 1.74 5.92***
Bender Gestalt Test 5.69 2.45 3.18 2.37 7.46***
Clock Drawing Test 0.86 1.12 2.08 1.08 7.87***
Faces-IR 28.80 5.35 31.92 4.31 4.61***
Faces-DR 27.83 4.73 30.75 3.88 4.82***
AVLT–Total 51.17 15.84 64.64 7.68 7.76***
AVLT–DR 7.30 3.74 10.54 3.08 6.79***
AVLT–Recognition 9.86 4.11 12.27 3.02 4.79***
CFT-Copy 20.37 11.38 27.29 8.46 4.95***
CFT-IR 10.44 7.85 16.83 7.59 5.93***
CFT-DR 10.01 7.79 16.87 7.59 6.47***

* p < .05, ** p < .01, *** p < .001

**CPT** = Continuous Performance Test; **WCST** = Wisconsin Card Sorting Test; **PE** = Perseverative Errors; **NPE** = Non Perseverative Errors; **CLR** = Conceptual Level Responses; **NCC** = Number of Categories Completed; **IR** = Immediate Recall; **DR** = Delayed Recall; **AVLT** = Rey’s Auditory Verbal Learning Test; **CFT** = Rey-Osterrieth Complex Figure Test.

Results of table - 3 shows both group showed significant differences in all the neuropsychological tests, except in the WCST – Nonperseverative error.

**DISCUSSION**

Various studies have clearly demonstrated that stroke patients have cognitive deficits (Tatemichi et al., 1994; Srikanth et al., 2003; Sachdev et al., 2004). While the presence of verbal and non-verbal memory deficits as well as visuo-perceptual deficits have been unequivocally established in stroke patients, findings have been mixed with respect to fluency, working memory, set shifting ability and response inhibition deficits in stroke. The literature is fairly limited and there is no clear consensus regarding their presence or absence. These deficits when present, affect the real-life functioning of the patient.

The sample in the present study comprised a younger cohort than seen in the west or even other Indian studies. Previous Indian studies
that had looked at the neuropsychological profile of stroke patients suffered from lack of adequate norms and smaller samples. This study has clearly shown that cognitive deficits in attention, executive functions, memory and visuospatial functions are present, thereby indicating that even at younger ages, a first-ever stroke can have devastating effects on the individual’s cognition.

Cognitive deficits such as attention and working memory deficits might interfere with task performance and task completion. Deficits in response inhibition could lead to behavioural problems in terms of impulsivity and disinhibition, which will interfere with goal-driven behaviour. Fluency deficits can hamper the patient’s communication and effective socialization. Learning and memory deficits might impede the patient’s ability to engage in rehabilitation effectively.

Further, cognitive deficits can often hamper relationships between patients and their caregivers, result in a reduced ability to cope with the physical impairment and interfere with rehabilitation programs (Anderson et al., 2000). Even nondisabling strokes, such as Transient Ischemic Attacks (TIA) have been associated with cognitive deficits by themselves and additionally are predictors for future strokes.

Stroke survivors have increased, due to good medical management in the acute stroke phase (Dombovy et al., 1986). Higher order cognition such as abstract thinking, judgement, short term verbal memory, comprehension and orientation plays an important role in determining the duration of the hospital stay and in predicting functional status at discharge (Galski et al., 1993). The outcome of rehabilitation can be predicted with greater accuracy when the results of functional assessment are supplemented with in-depth cognitive assessment (Hajek et al., 1997).

Early assessment after stroke has been largely ignored in stroke literature, as the feasibility and reliability of a thorough neuropsychological evaluation in the early stage is uncertain (Lezak et al., 2004). However, the few authors who studied cognitive functioning in the early stage post-stroke have used only a few tests and additionally have incomplete data (van Zandvoort et al., 2005). Thus, this study has demonstrated the feasibility of carrying out a detailed neuropsychological assessment early after stroke as well as demonstrating the presence of cognitive deficits in attention, executive functions, memory and visuospatial functions in stroke patients.

IMPLICATIONS

Cognitive deficits are amongst the most far-reaching and incapacitating consequences of stroke. These deficits are neither identified nor reported by the patient or family members, as the primary focus of the patient as well as the family member is most often on physical recovery after stroke. Most stroke treatment units use the Mini Mental Status Examination (MMSE) which has high loading on language and lack of sensitivity to nonverbal functions.

Thus the presence of cognitive deficits in the stroke patient group points to the urgent need to educate and sensitize all professionals who involved in stroke treatment and management about the necessity of having a comprehensive neuropsychological assessment for stroke patients, rather than the screening MMSE. Amelioration of cognitive deficits is necessary for appropriate and effective engagement of the patient in rehabilitation.

This study has several limitations. Neuroimaging was not carried out at the time of recruitment into the study. Also, patients were seen at various post-stroke periods, even upto 3 years after stroke.

This study has several strengths such as having a large sample, a well matched control group, use of a comprehensive neuropsychological battery of tests, equal representation of left and right hemisphere stroke patients as well as the inclusion of both ischemic and hemorrhagic stroke.

CONCLUSION

In sum, stroke patients have significant deficits across a variety of cognitive domains. This can be detected early, thus having huge prognostic value in terms of early rehabilitation.
REFERENCES


KORO SYNDROME: MASS EPIDEMIC IN KERALA, INDIA

K. Promodu1, K.R. Nair2 and S. Pushparajan3

ABSTRACT

Koro is a culture bound syndrome characterized by acute anxiety and fear that the genital organ would retract into the body and may even cause death. The present study was conducted to (i) report the mass koro epidemic which broke out at the labour camps in Kochi, Kerala, South India during the months of August and September 2010, (ii) describe its symptomatology and (iii) identify the etiological factors of koro syndrome. Victims belong to the floating migrant labour population from North India. Study was conducted using the descriptive methods such as field survey, observation, clinical interview and medical examination. Within a period of two weeks koro epidemic spread to nearly 100 individuals in three labour camps. Illiteracy, poor living conditions, economic problems, occupational stress and separation from family were found to be the major causes. Individuals with histrionic and anxious personality traits or disorders were more likely to be affected by such conditions. Previous knowledge of the koro syndrome combined with unhealthy pre morbid personality traits and life stress led to the outbreak of the epidemic. Etiology was found to be exclusively psychogenic factors. Signs and symptoms of the epidemic were typical of koro syndrome described elsewhere. The psychological and social implications are also discussed.

Keywords: Koro, Koro syndrome, Koro epidemic, Culture bound syndrome, Sexual health, Sexual problems, Kerala.

Koro in its original sense is an Asian socio-cultural phenomenon characterized by acute anxiety and fear that the genital organ will retract into the body and may even cause death. Affected male believes that his penis will retract or disappear into the abdomen and the female may believe that the vulva, labia, breasts or nipples will recede inside the body. It is also believed that when this process is complete he or she would die (Yap, 1965). These beliefs are certain strong irrational convictions and not delusions in its strict sense. Its clinical picture has been controversially discussed in psychiatric literature but could be best described as a kind of panic disorder with the leading symptom of fear projected to the genitals. It is still questionable that whether this phenomenon can be put into a western dominated classification of psychiatric disorders as the socio-cultural roots are not adequately appreciated.

The term koro is believed to have originated from a Malaysian word that means "the head of the turtle" (his Brer, 1897). Koro should be used in a restricted sense to define those socio-culturally rooted phenomena mostly seen as "epidemics" (Garlipp, 2008). Now it is generally used for an acute panic anxiety state (Mattelaer & Jilek, 2007). Koro is seen among men in South-West Asia, more commonly among the Chinese (Gelder et al., 1989). The Cantonese people call it Suk-Yeong, which means shrinking of the penis. Koro epidemic had been reported in various countries like China (Gelder et al., 1989), Taiwan (Rin, 1965), Singapore (Gwee, 1963), Thailand (Jilek & Jilek-Aall, 1977), Hong Kong (Yap, 1965), Philippines (Edwards, 1985), India (Dutta, 1983; Chowdhary, 1991, 1992, 2008; Sachdev, 1985), Africa (Ibusumunyi & Rwegellera, 1979) and many other countries.

Socio-cultural factors significantly influence the symptoms of all psychiatric disorders. Cultural variation is most pronounced in reactive and neurotic disorders. Personality factors, cultural beliefs, sexual inadequacy, lack

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feelings associated with masturbation are found to have an important role in the etiology of koro. Koro is usually accompanied by complaints of palpitations, sweating, pericardial discomfort and trembling. Symptoms may last for thirty minutes to two days. Associated symptoms may include perception of alteration of penile shape, loss of erection or muscle tone, shortening of penis and paraesthesia of genital organs. Extremely anxious sufferers may depend on physical methods to prevent the presumed retraction of penis such as holding it tight, pulling it outside or tying it with a string. Male patients may tie their penis to an object or ask another person to hold it in order to protect from shrinkage or withdrawal. Similarly a suffering woman may grab her breast or pull the nipple.

Kerala is located at the south western region of India, comprising a population of 31.8 million with very high literacy rate compared to other states. As a result, lakhs of Keralites have migrated to the Middle East, USA, UK, Australia, Africa and other countries for occupation. This situation has led to scarcity of skilled, semiskilled and unskilled labourers in the state. In the recent years it has become a common practice to hire large group of labourers from northern states like Bihar, Orissa, West Bengal and Assam. They are provided with group accommodation in temporary shelters near the work place. Kochi being one of the fast developing metropolitan cities massive construction work is under way. Thousands of labourers are working in the construction sites and living in the adjacent labour camps. People living in this environment were affected by the koro epidemic. Thus, a need was felt to study this phenomenon.

METHOD
Sample:
The epidemic broke out at the labour camps in Kochi, Kerala, South India during the months of August and September, 2010. Affected people were a group of migrant North Indian workers camped in Kochi. A medical team under the leadership of the authors visited the affected areas on 01st and 02nd September 2010. About 100 individuals were reportedly affected by koro epidemic. A few of them fled to their home at the onset of symptoms. From the available victims 12 subjects who gave consent to undergo medical and psychological evaluation were included in the study. Their age ranged from 20 to 50 years. Education varied from illiteracy to 8th class. Subjects were selected by purposive cluster sampling and the data collected using descriptive methods such as field survey, observation, clinical interview and medical examination. Interview with the sufferers, eyewitnesses, labour leaders, work supervisors and local inhabitants were carried out to collect information. Living conditions at the labour camps were also evaluated. Before conducting the study prior approval was taken from the ethics committee.

Description of the mass epidemic and Observations:
In August 2010, a sudden mass absenteeism was reported from the construction sites in Kochi. On enquiry, it was found that many workers were in a panic state with the fear of penis retracting into the body and engaged in group worship, offerings and poojas (religious rituals) for symptom relief. Within a few days it turned out to be a major labour problem resulting in the arrest of construction work at a few sites. Many persons left the camps and returned home either due to the panic situation or the fear of transmission. Television channels and daily news papers reported it as a major news. More people including the local inhabitants became panic due to the fear of transmission of the disease. Reportedly symptoms started with a sudden feeling of penis shrinking and withdrawing inside the body. Affected individuals experienced panic state characterized by extreme anxiety, fear, palpitation, sweating and tremors. A few helped the victims by holding the penis so as to prevent retracting inside. Buckets of cold water poured through the head of the victim. In most cases affected persons became normal within thirty minutes to one hour and took rest in their shelters by confining to bed or engaging in worship. A few returned home on the following day.
Who got affected the most:

Study revealed that a few months before its onset in Kochi the koro epidemic was prevalent in West Bengal. The symptom was first observed in a worker migrated from West Bengal. When he became panic and complained of genital retraction, others couldn’t believe it and a few laughed at him. To their shock more migrant workers from West Bengal reported similar symptoms. Later on, symptoms spread to labourers from other North Indian states also. Within two weeks the epidemic affected about 100 workers in three labour camps. Victims were mostly the workers who migrated from the villages of West Bengal and Assam. A few of them fled to their native places as soon as the symptoms were noticed. Hence the exact number of the affected cases was not available. A few Keralites were also affected. One of them was admitted in a local hospital. Medical examination could not detect any abnormality. Patient recovered soon after the physical examination and reassurance of the physician. When the news spread out in the local community, local people did not allow the North Indian workers to mingle with them or to enter into the local hotels and shops. A few were reportedly chased out of the hotels.

Living conditions at the labour camps:

The medical team observed the living conditions at the labour camps. Labourers lived in groups in the temporary shelters made of aluminum or fibre sheets, and slept either on the floor or temporary cots. Bare minimum facilities were available for cooking, which was done with a kerosene stove at the corner of the shelter. Purified potable water was not available. Water supplied in tanker lorries on a daily basis was not sufficient. Bathing and toilet facilities were quite inadequate, improper and unhygienic. The level of occupational stress was extremely high. A few complained that they were not getting adequate wages. Total scenario at the labour camps was pathetic and could cause severe stress to any human being.

Examination and Clinical Interview of the Victims:

Twenty one affected persons with age ranging from 20 to 50 years were found during the visit of the medical team. All of them underwent clinical evaluation including clinical interview, mental status examination and general medical examination. Clinical interview was jointly done by the clinical psychologists and urologist. Mental status examination was conducted by clinical psychologists and general medical evaluation with specific focus on genital examination was done by the urologist. Clinical evaluation was done for those who were under recovery also. Clinical interview and mental status examination revealed that the victims had signs of severe anxiety. Three of them were found to have hysterionic personality traits. No organic pathology was identified which can account for the above mentioned syndrome.

DISCUSSION

Symptoms similar to koro have been observed in different psychiatric and medical conditions. The etiology, pathogenesis and manifestations of many such conditions still remain unknown. Distinction between the personal and collective dimensions of koro implies an important difference in etiological explanations (Ataly, 2007) i.e., the culture-bound etiology and the role of organicity or physical conditions to koro (Chowdhury, 1996). Ataly (2007) suggested a distinction between primary koro either sporadic or epidemic form, in which genital shrinking is the presenting complaint, and secondary koro in which the presentation is co-morbid with another psychiatric disorders (such as anxiety disorder, schizophrenia, depression); any disease of the central nervous system (Dzokoto & Adams 2005; Kar, 2005) or somatic conditions such as urological disease, withdrawal from drugs, brain tumors and epilepsy (Bernstein & Gaw 1990; Earleywine, 2001).

It is considered that genital retraction is intimately related not only to ethno-cultural beliefs, but also to the dramatic expression of acute anxiety and the fear of impending catastrophe or death (Chowdhury, 1996). The epidemic which broke out in Kerala also had typical clinical picture of koro syndrome reported elsewhere. The psychoanalytic model that tends to focus on the role of castration anxiety cannot
explain this phenomenon. Behavioural and the social learning models are better suited to explain the pathogenesis and symptomatology of mass koro epidemic spread in Kerala.

The present study revealed that the index patients had the classical symptoms of koro syndrome. Affected individuals experienced panic state characterized by extreme anxiety, palpitation, sweating, tremors and severe fear of genital retraction. Some authors consider that anxiety is the primary disorder and the fear of genital retraction is secondary. It is reported that koro has frequently been associated with depersonalization and other syndromes in which anxiety is outstanding (Alttable & Urrutia, 2004).

In Kerala koro was first noticed among the workers who came from West Bengal who already had previous knowledge of the epidemic as it was prevalent in their villages. Cheng (1977) identified that cultural attitudes, beliefs, news and rumors about koro and mass anxiety in the community are some of the important risk factors for spreading the epidemic. Wen (1998) in his study of the influence of folk belief, illness behaviour and mental health in Taiwan showed how cultural context operates among the illness of shen-kuei syndrome, koro etc. It is already reported in the literature that stressful life events such as separation from family and being lonely in an unfamiliar environment can lead to the development of koro syndrome (Ataly, 2007). Majority of the individuals affected by koro epidemic in India were from lower socio-economic strata and were poorly educated (Kar, 2005). Present study shows that illiteracy, poor living conditions, separation from the family, economic problems and occupational stress were major factors which led to the onset of koro epidemic in Kochi. Gradually it spread to other workers from northern part of the country. A few Keralites were also affected. Tseng et al. (1988) in their socio-cultural study of koro epidemic in Guangdong, China shows how the community perception and attitude helped to create a hysterical atmosphere to facilitate the epidemic and the role of folk beliefs as a causative factor for the individual vulnerability to koro attack.

The victims who remained in the camp had a spontaneous recovery within a week. Medical examination and group counselling offered by team of professionals helped the victims to relieve their anxiety and facilitated speedy recovery. This is similar to the findings reported by Dutta (1983) that epidemics of koro were known to be contained or benefited by mass education programmes. The fact of spontaneous recovery as well as the quick response to psychological intervention itself ruled out the organic causes behind the mass epidemic. When the news came to the notice of local governmental authorities, there was immediate intervention to improve the living conditions in the labour camps. No information was available about the majority who fled to their home towns, at the onset of symptoms.

Yap (1951) reported that tying of red string round the penis was one of the traditional methods used in China to prevent the penis from retraction. Pouring of cold water or submerging the patient into ponds or rivers was a widespread social healing ritual observed in the traditional treatment of koro patients in North Bengal region (Chowdhury, 1991). Similar methods of treatment such as pulling of the penis, tying up with a thread and pouring cold water were observed among the victims in Kochi. This shows how a common thread of cultural context operates among the victims in Kochi as well as North Bengal which supports the cultural influence on the etiology of koro syndrome. Culture shapes the colour of the symptoms and its interpretation. Knowledge of the syndrome will help to identify if it occurs and to make effective intervention immediately (Garlipp, 2008) especially because there is a belief that koro was attributed by supernatural causes.

Patients afflicted with koro syndrome are likely to be referred to clinical psychologists by the primary care physicians or urologists after excluding the organic etiology. Therefore awareness among clinical psychologists about this medico-psychological condition is necessary, hence the relevance of this article.

CONCLUSION

Signs and symptoms of the epidemic were typical of koro syndrome reported elsewhere. Etiology was purely psychogenic and no organic factors could be identified. Previous knowledge
of koro syndrome combined with unhealthy pre
morbid personality traits and stressful events
led to the outbreak of this epidemic. Individuals
with histrionic and anxious personality traits
or disorder were more likely to be affected by
such conditions. From a social and humanitarian
perspective, it is an eye opener to the poor living
as well as working conditions of the labour
camps which needed a closer supervision by the
authorities to prevent future mishaps.

Nevertheless, knowledge of koro
syndrome, its pathogenesis and effective
intervention techniques are more important
for clinical psychologists, urologists and other
medical practitioners than ever before, in the
trans-cultural context of steep increase in
the migrating population. Therefore, further
research in this area will help to give insight
into the issues related to the etiology, nosology,
socio cultural and ethnic specificity as well as
the management of koro syndrome.

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THE ROLE OF ATTENTION REHABILITATION IN IMPROVING ATTENTION OF PATIENT HAVING ALCOHOL DEPENDENCE: A CASE REPORT

Manoj Kumar Pandey¹, Masroor Jahan² and Amool R. Singh³

ABSTRACT:
Attention deficits along with other cognitive deficits in patients with alcohol dependence are well documented in literature. The present case report assessed efficacy of attention rehabilitation in a patient diagnosed as having alcohol dependence. Mr. X., a thirty years old male, married, having one child, studied up to 12th standard, unemployed, belonging to middle socio-economic status, and hailed from rural area of Patna district, Bihar, India. He was brought to Ranchi Institute of Neuro-Psychiatry and Allied Sciences (RINPAS), Ranchi, Jharkhand with the chief complaints of consumption of alcohol, showing abusive and assaultive behaviour during effect of alcohol, vomiting, restlessness, tremors and decreased appetite whenever tried to discontinue alcohol. On assessment scores of PGI BBD suggest grossly impaired. The duration of problem was thirteen years. Attention rehabilitation module [Sohlberg and Mateer (1989)] was used to mediate attention. Attention rehabilitation showed improvement in attention and concentration. Patient was less distracted by internal and external distracters. Sustained, divided and simultaneous attention improved.

INTRODUCTION
Alcohol dependence is characterized by a strong desire or sense to take the alcohol, difficulties in controlling alcohol taking behaviour, a physiological withdrawal state, and evidence of tolerance, progressive neglect of alternative pleasures or interest behaviour and/ or persisting with alcohol use despite clear evidence of overtly harmful consequences (World Health Organization, 1993). Studies in the area of alcohol abuse and dependence evident that alcohol has adverse impact in several cognitive functions i.e. attention, memory and executive functions. Patients with alcohol dependence performed poorly on test of set-shifting and selective attention (Saraswat et al., 2006). Literature suggests that long-term and heavy episodic alcohol use has adverse effect in cognitive functions such as attention, working memory, implicit memory, associate learning and memory (Cairney et al., 2007). In some other studies it was found that people diagnosed with alcohol abuse or dependence performed poorly on neuropsychological tests that assessed verbal reasoning, visuospatial ability, executive function, memory, attention, and processing speed (Uva et al., 2010). Cognitive rehabilitation studies suggest that cognitive rehabilitation play major role in improving the cognitive deficits including attention deficits in these patients (Mathai et al., 1998; Fals-Stewart & Lucente, 1994). Some studies indicate that cognitive deficits in alcohol dependence patients recover with increased abstinence period and cognitive rehabilitation does not have any differential effect in improving the cognitive deficits (Peterson et al., 2002). In literature, attention has been found to have significant impact in maximizing the success of treatment intervention for patients with substance abuse (Teichner et al., 2001). Overall, attention being fundamental cognitive process is also found impaired in these individuals and cognitive rehabilitation has significant role in improving
The present case report is a demonstration of the effectiveness of attention rehabilitation in improving attention and daily functioning related to attention in a patient with alcohol dependence.

CASE REPORT

Mr. X a thirty years old male, married, having one child, studied upto 12\textsuperscript{th} standard, unemployed, belonging to middle socio economic status, hailed from rural area of Patna district of Bihar state in India. Patient was brought to Ranchi Institute of Neuro-Psychiatry and Allied Sciences (RINPAS), Ranchi, Jharkhand with the chief complaints of consumption of alcohol, showing abusive and assaultive behaviour during effect of alcohol, vomiting, restlessness, tremors and decreased appetite whenever tried to discontinue alcohol. The duration of problem was for last thirteen years.

History revealed that patient was doing well thirteen years back when he was student in 12\textsuperscript{th} standard. He started taking alcohol occasionally with some of the classmates after leaving school on the way to home. Frequency and amount of alcohol intake increased when he joined a job as a ticketing agent in a motor agency in Ranchi. The most of the people working in motor agency used to take alcohol daily in evening. Patient also used to join them. Initially he felt intoxicated in two pegs. Gradually the amount increased to about 200 ml/day and within 6 month around 400 ml. In this way, the amount kept on to increase to feel same state of intoxication. Patient also started taking alcohol during working hours, which affected his job performance in which he would fight with the passengers. Patient's behaviour continued until one and half year, he was dismissed from his job. Patient left taking alcohol during day time and again joined the job. After few months, he started manifesting the same behaviour as The same behaviour. He was dismissed many times from the job. When he would return to home in intoxicated state, would not take meal properly and abusing and beating wife on trivial issues otherwise he has been a caring person. Family members tried to convince him not to take alcohol but he continued.

Psychiatrists treated him once often. He remained in abstinence for few weeks to 4 months following treatment but again he started. He would feel craving especially when he crossed the alcohol shop and watched people taking it. Whenever, he stopped alcohol, he felt restlessness, vomiting, tremor in limbs and decreased appetite that also provoked him to take alcohol again. Patient became reluctant to well-being of family members and he lost the job and was unemployed. There was no history suggestive of epilepsy, mental retardation, significant head injury, high fever, and other psychiatric illness and significant physical illness.

He had been a pampered child. He has been an average student in academic. Premorbidity, he was emotionally unstable, was often irritable and angry. His family and marital adjustment was not satisfactory due to his alcohol taking behaviour. There was no family history of any psychiatric illness presented. He was not having co-morbid psychiatric disorder, vision or hearing impairment, no history suggestive of organic pathology, mental retardation, significant physical illness and no withdrawal symptom at baseline assessment.

Assessment of the patient was done with the help of Attention and Concentration scale of PGI-BBD and Attention subscale of Cognitive Symptoms Checklist. Attention subscale assesses Attention related daily functioning included internal distracters (physical, emotional), external distracters (visual, auditory and environmental), sustained attention, divided attention, and simultaneous attention.

Attention module of Brainwave-R was used for attention training. The treatment and rehabilitation exercises provided in the Brainwave-R Attention module address attention deficits following the rehabilitation model provided by Sohlberg and Mateer.
Each session consisted of the following steps i.e., brief education about the attention training in first session, then introducing a new task and establishing a rationale for the task, discussing steps of the task, practicing the task, giving feedback and if made any mistake by patient correcting it, assessment of performance, and introducing new a task. Patient was reminded to attend each session-the more he would attend and participate, the more skills he would learn and if face any problem or difficulty, report. Total 18 Sessions were done on frequency of 3 times in a week basis. Home work was also assigned to practice the same in home which was advised during therapeutic session.

Pre and Post treatment assessment was done. At base line digit forward was 04 and digit backward was 02. At Post treatment assessment digit forward was 07 and digit backward 05 which suggests improvement in attention and concentration after intervention.

In Attention subscale of the Cognitive Symptoms Checklist highest deficit was found in internal distracter- emotional and sustained attention. Moderate deficits were present in the internal distracter- physical, external distracter-auditory and visual, divided attention and simultaneous attention. No deficit was found due to external distracter- environmental. In comparison to baseline, score on all areas of deficit decreased which suggests improvement. Patient was less distracted by internal and external distracters. Sustained, divided and simultaneous attention improved.

**DISCUSSION**

The present case report was designed to assess the efficacy of attention rehabilitation in improving attention and daily functioning related to attention in a patient with alcohol dependence. Attention training improved both attention and concentration of the patient after 6 weeks of training program. Attention training also improved the daily functioning related to attention such as concentrating on simultaneous tasks at a time, focusing on a given task for longer duration, avoiding distractions, shifting of attention from one task to another etc. Previous research also reports that attention and memory training in abstinent patients with alcohol dependence improved both memory and attention deficits (Steingass et al., 1994). Cognitive training significantly improved deficits in information processing, memory and other neuropsychological deficits in detoxified male alcoholic patients as compared to control group (Mathai et al., 1998). Research focusing on functional output of cognitive rehabilitation reported that patients with drug abuse who received cognitive rehabilitation demonstrated a faster rate of recovery, more efficient cognitive functioning, and "appropriately participatory" in treatment program (Fals-Stewart & Lucente, 1994). In a pilot study to examine the effect of computerized neuropsychological rehabilitation on cognitive impairment, it was also found that relative to controls, the group that participated in neuropsychological rehabilitation remained in treatment significantly longer and rated as having a better overall attitude in the general treatment program (Grohman et al., 2006).

Findings of present case report suggest that attention rehabilitation has a significant remedial role in improving attention of alcohol dependent individual which further facilitates the improvement in daily functioning related to attention.

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COGNITIVE-BEHAVIOUR THERAPY WITH AN ADOLESCENT GIRL WITH SEXUAL OBSESSIONS

Uttara Chari¹ and Mahendra. P. Sharma²

ABSTRACT

Cognitive-Behaviour Therapy (CBT) has been established as an effective treatment for child and adolescent Obsessive-Compulsive Disorder (OCD). However, developmental needs and symptom presentation often mandate therapeutic interventions that are beyond conventional CBT protocols. This paper presents a case report of CBT with an adolescent girl with sexual obsessions. Aspects unique to adolescence, sexual obsessions, and parenting are found to mediate treatment processes and outcome.

Keywords: Sexual obsessions, Adolescence, CBT, OCD

INTRODUCTION

Cognitive-Behaviour Therapy (CBT) is established to be effective in the treatment of Obsessive Compulsive Disorder (OCD) in child and adolescent populations (Freeman et al., 2009). Nonetheless, aspects unique to the development of child and adolescent patients interject expected CBT trajectories in OCD. High parental distress noted in families having a child with OCD is correlated with symptom severity, internalizing and externalizing problems in child, family accommodation of symptoms, and caregiver strain (Storch et al., 2009). Thus, parental involvement in CBT is mandated both from clinical experience and research findings (Barrett et al., 2008; March & Mulle, 1998; Storch et al., 2007; Storch et al., 2009). Obsession categories are noted to mediate treatment progress (Storch et al., 2008; Storch et al., 2010). Symptoms associated with poor insight such as hoarding and religious obsessions/compulsions and those associated with pleasure such as sexual obsessions/compulsions are often more challenging to treat (Storch et al., 2008).

This paper presents a case report of CBT with an adolescent girl diagnosed with OCD, of sexual content.

CASE REPORT

Case History:

Deepa (name changed to protect confidentiality), 14 year old girl from high socio-economic status, presented with complaints of intrusive thoughts and images of sexual content since 2 years, taking semi-nude photographs of mother, maid, and grandmother since 4 months, and decreased interest in studies with academic decline since 1½ months. An only child, she lived with her parents and maternal grandmother. Her mother was reported to have an ankastic traits. Temperamentally difficult, Deepa was consistently a high achiever in school.

Deepa was shown sexually provocative pictures by her classmates and made to guard the bathroom door while they indulged in sexual acts. Subsequently, she had repeated thoughts and images of sexual organs and acts witnessed, and began touching her mother, grandmother, and maid inappropriately. She found it difficult to concentrate on her studies and her academic performance declined. She discontinued schooling and was taken to a psychiatrist who recommended change of environment. Deepa was shifted to a boarding school, where the frequency and intensity of sexual obsessions increased. She grew irritable and began disturbing other students by throwing water and biscuits at them, spitting on them, and locking them inside rooms. This resulted in her being sent back home. At home, she took pictures of her mother and grandmother while they changed clothes. She was started on mediation by a local psychiatrist. At the National Institute of Mental Health and Neuro

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Sciences (NIMHANS), she was diagnosed with OCD and referred for CBT.

**Baseline Assessment:**

On the Yale-Brown Obsessive-Compulsive Scale, sexual obsessions (thoughts and images) were recorded. Neutralizing behaviours included inappropriate touching of mother, grandmother, and maid, disturbing peers, and destroying objects. She obtained a score of 15, indicating severe distress. On the World Health Organization Quality of Life – BREF, scores indicated poor quality of life. On the Sentence Completion Test, there was guilt regarding sexual act/photographs witnessed and obsessions. There was evidence for poor frustration tolerance and inadequate coping. On behavioural analysis, obsessions were found to be triggered whenever Deepa engaged in activities such as reading or playing. She attempted thought-stopping to control obsessions. Negative cognitions included "images/thoughts are bad"; "I am bad for thinking them"; and "I am a bad person". Maintaining factors were decreased interest in studies and avoidance of reading.

**COGNITIVE BEHAVIOUR THERAPY**

A total of 23 sessions of CBT was carried out on an out-patient basis, at a frequency of 4 times per week. The goals of therapy were both symptomatic improvement and enhancing general well-being.

**Initial phase:**

This phase consisted of 4 sessions held with mother and child conjointly. The focus was to establish rapport, psychoeducate child and mother, clarify goals of therapy, and socialize them to CBT. The collaboration of Deepa and her mother was emphasized to ensure success of therapy. Psychoeducation based on both CBT and the medical model facilitated externalizing of blame for OCD. This minimized maternal distress and guilt in child. The techniques of CBT inclusive of Exposure-and-Response Prevention (ERP) were explained, and the demands of homework tasks were emphasized. Both Deepa and her mother obtained adequate understanding of OCD, CBT, and ERP, captured in Deepa’s writing:

> "Now we are planning to change our reaction about our thoughts. We are planning to let them come and face the thoughts, because if we try to stop thinking, they keep coming more... I also used to feel guilty about the thoughts but we should not feel guilty because we are not thinking about it purposely, but they keep coming accidently."

**Middle Phase:**

This phase consisted of 15 sessions. The objectives were to carry out ERP, develop adaptive coping in child, and enhance parenting behaviour. The triggers for obsessions were identified, and a hierarchy was formulated. Deepa was asked to rate her anxiety (Subjective Units of Distress-SUD) for each trigger. She was engaged in approximately 2-3 hours of ERP every day, inclusive of in-session and at-home exposure. Mother was engaged as a co-therapist for home-based ERP. While over the course of therapy, SUD and obsessions decreased, Deepa continued to engage in inappropriate behaviours such as touching her mother in a sexually provocative manner. She also expressed desire to read adult content books, watch adult content films, observe men urinating on streets, join a co-educational school, and to have a boyfriend. Subsequently, she developed liking for a hotel waiter. It appeared that pleasure associated with sexual obsessions; combined with normative adolescent development needs prompted these desires and behaviours. Discriminatory learning and differential reinforcement were introduced. Child was educated about behaviours which were appropriate and inappropriate in social situations. Additionally, adaptive coping, inclusive of anger management was taught. Mother was taught appropriate parenting behaviours such as abstaining from punitive behaviour, limit-setting, ignoring maladaptive behaviours, and differential reinforcement.
As improvements incurred, therapy focused on promoting normalization. An objective was to reorient Deepa to academic pursuits, as a means to reinitiate schooling. She was taught mindfulness meditation towards enhancing non-judgemental awareness of thoughts and focused attention. She was engaged in art classes outside of the therapy towards facilitating normative adolescent experiences.

By the end of this phase, there was marked improvement in OCD manifested via reduction in obsessions and neutralizing behaviours. There was 50% decrease in SUD across triggers. Deepa also learned to differentiate between appropriate and inappropriate sexual behaviours, and her concentration improved. Her mother noted 80% improvement.

Termination:

This phase consisted of 4 sessions. Deepa was confident about restarting schooling. A behavioural contract between mother and child was developed, promoting differential reinforcement of behaviours. She and her mother were encouraged to jointly design an activity schedule and regularize daily routine on returning home. Continuation of ERP and mindfulness meditation at home was discussed.

DISCUSSION

March and Mulle (1998) in their CBT protocol for children and adolescents with OCD recommend the following: (i) Psychoeducation, (ii) Cognitive Training, and (iii) ERP. Parent sessions specific to OCD and relapse prevention are also included. With Deepa, treatment involved techniques beyond this standard paradigm such as mindfulness meditation, discriminatory learning, normalization of adolescent experiences, and parenting training.

Langley et al. (2010) reported greater functional impairment and lesser family cohesion in children having OCD with co-morbid externalizing disorder. While Deepa did not receive a diagnosis of an externalizing disorder, her behaviours were significantly disruptive, given the background of difficult temperament. Thus, parent management techniques were paramount towards facilitating healthier recovery, general well-being, and minimizing chances of relapse by improving general family environment. Indeed, Storch et al. (2009) recommend adjunctive behavioural parent training in cases of OCD with co-occurring externalizing problems as it is likely to reduce parental distress by minimizing demands made on them and, thus enhance family cohesion.

Storch et al. (2008) found sexual/religious obsessions to have lower treatment response rates. While insight is considered a mediating factor for treatment response (Storch et al., 2010), Deepa’s case illustrates pleasure, in combination with normative developmental experiences may also enhance or impede recovery. Adolescence is a period of rapid sexual development, contributing to the desire to experience romantic and sexual relationships (Muuss & Porton, 1999). Thus, discriminatory learning for Deepa, concomitant with orienting mother to normative adolescent developmental experiences was necessary to prevent maintenance of obsessions and promote healthy psychological development.

Given these challenges, it is imperative to highlight that Deepa’s intellectual capacities and compliance to therapy by both her and her mother facilitated treatment success. It was unfortunate that greater cognitive therapy in the manner of restructuring negative cognitions could not be accomplished. This lacuna is attributed to the significant functional impairment seen at treatment initiation, which mandated behavioural methods to speed distress alleviation. Nonetheless, mindfulness meditation was initiated as a preliminary step towards generating awareness into her thoughts (Kabat-Zinn, 2003).

An objective of this case report was to illustrate the need to tailor CBT to the unique
demands of each case of OCD. Thus it is hoped that the inherent limitation of generizability of case studies does not impede the relevance of the content of this paper.

REFERENCES
Obituary

REETA PESHAWARIA MENON
Born: 19-11-1950, Passed away: 14-07-2012

Reeta was born on 19 November, 1950. She lived 62 years life of fulfilment and contentment. She completed her Post Graduation (M.A. Psychology) from Guru Nanak Dev University, Amritsar in 1973. She completed her DMSP from CIP in 1975. She served in various institute with different capacity. She joined Government Institute of Mentally Handicapped, Chandigarh in 1976 as Research Assistant and worked there till August 1981. She moved to Hospital for Mental Disease (HMD) Delhi (Presently IHBAS) and worked with then eminent Clinical Psychologist/Psychologist Mr Baquer Mujtaba. In 1985 she joined National Institute of Mentally Handicapped Secunderabad as lecturer and served there about 16 years. She was awarded British Council Fellowship in 1987. She got married with Dr. D.K. Menon in 1973.

She moved U K in 2000 and worked there in the field of Diagnostic Assessment and Communication Disorder and ASD. Her work was mainly focussed on mentally Handicapped children, women and other disability areas.

She also developed the assessment tools for assessment of children and authored several books in the area of understanding and management of behavioural problems in children.

In her later years Reeta became very spiritual. She listened Bhajanas, Kabir, Nanak, Buddha and Gurubani. She read works on energy, Psychology, Vednta, Tao, Stephen, Covey, Davis Hawkins or any book on human value.

May God rest her soul on Peace and give courage energy to her family members to face the loss.
Saugata Basu, Associate Professor, Department of Psychology, University of Calcutta past away on 25th January 2012. He lived 48 years of his life. He was diagnosed as having cardiomyopathy since a prolonged time period. He was survived by his father and younger brother.

An academically bright student throughout, Dr. Basu completed his schooling from the Hindu School, Kolkata in 1982. He graduated in the year 1985 and 1987, he completed two years post graduation from the Department of Applied Psychology.

He did M. Phil in Medical and Social Psychology from the National Institute of Mental Health and Neurosciences, Bangalore, Karnataka. He then completed his Ph. D on ego functioning in various psychiatric populations in the year 1999 from the Department of Psychology, University of Calcutta. He joined the Department of Psychology, University of Calcutta as a faculty member in the year March 1996.

He had been active in various administrative works and also Headed the Department from 2007-2009. He was visiting faculty of Department of Business Management, Calcutta University and also in the Department of Social Work, Vidyasagar University. He had also completed project on "Suicide Prevention" as principal investigator and also supervised M Phil Dissertations and Ph.D's in the Department. Around 50 publication are in his credit.

Dr. Basu’s was member of various Professional/Academic bodies including Indian Association of Clinical Psychologist, Indian Academy of Applied Psychology, Somatic Inkblot Society, Indian Psychiatric Society. Dr. Basu’s work was mostly pronounced in the area of mental health movement and encompassed various areas of mental illness including ego functioning, suicidal ideation, positive psychology, meaning in life and also death perception

Although he wanted to explore the area of mental well-being, he also worked to improve relational problems and its impact on psychological functioning. His research interest with family therapy also was powered by the insight of impact of complex familial organizations. In his final years,
he began working with qualitative psychology and brief dynamic therapy in addition to quantitative research. His focus of interest gradually had shifted from positive psychology and well being to the existential concerns of being, grieving and death. He was engaged in a deep understanding and critical appraisal of the existing literature on grieving, coping with loss and meaning of death.

Apart from his professional excellence in psychology, he also had deep rooted interest proficiency over culture and literature. In his lifetime he had composed literary works like short stories, reminiscences which had been published in various magazines.

Dr. Basu, well known for his research and contribution in the field of clinical psychology was extremely popular amongst his colleagues and students. A pioneer in his field, his demise is deeply mourned by numerous number of friends, colleagues, students and well wishers.

May God rest his soul on Peace and give courage to his family members to face the loss.
Dear Hon’ble Members of IACP

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