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Editorial

NEUROPSYCHOTHERAPY: The New Frontiers in Clinical Psychology

K.S. Sengar

Since its beginning the field of Clinical Psychology advancing to understand the human behaviour. Since beginning the history the discipline of clinical psychology has been contributed by the professionals of various disciplines i.e., Physiology, Biology, Orthopsychiatry, Paediatrics, Physics and most significantly by Neurology. The role of the Clinical Psychologist in the profession of mental health is now not confined to only the evaluation of intelligence, personality and other diagnostic work rather now the management of the various mental health problems in children, adolescents, and adults is inseparable professional responsibility which needs the regular advancement of the knowledge and skills in the profession. Today, the Clinical Psychologists are not only giving their professional services in the traditional mental hospitals or other general hospital set up rather they are advancing in the field of Juvenile Justice System, Criminal Justice System / Courts, Trauma Centers, in Rehabilitative Services and center for Brain Injury where Clinical Psychologists functioning as other professionals to help the patient to regain strength through certain scientific procedures based on specific scientific knowledge and practice which help the patient on managing various cognitive, emotional and personality deficits followed by brain injury or also due to some psychological trauma.

Neuropsychotherapy is a form of treatment based on recent advances in the domains of neuroscience, neuropsychological rehabilitation, and models of psychotherapy. It can be considered an alliance between scientific, theoretical and clinical knowledge in these areas (Laaksonen, 2007). In fact the neuropsychotherapy is the use of neuropsychological knowledge in the psychotherapy of persons with brain disorders, psychological balance and well being greatly depends on availability of information and therapeutic support. Neuropsychotherapy is name for interventions which we need for people who suffer from emotional, behavioural and personality problems after the brain injury or otherwise too and also remediation of cognitive disorders and psychiatric patients's neurological dysfunctions as an essential part of neuropsychotherapy (Tedd, 1999). The term “Neuropsychotherapy” has emerged from different conceptual connotations. This is basically out product of the use of various measures of psychotherapeutic procedures in integrated pattern in the land of neuropsychological knowledge and rehabilitation for the brain injured cases. Hence according to Judd (1999) Neuropsychotherapy is needed when the person with brain illness has significant behavioural or emotional problems resulting from illness. 2) The problem can not be managed or improved adequately or efficiently in and by the person's setting. 3) Interventions is likely to reduce these problems.Thus, the neuropsychotherapy is the modality of treatment based on the various neurological and psychological problem by jointly use of advance methods of neuroscience, procedures of neuropsychological rehabilitation, and various psychotherapeutic procedures including behavioural, cognitive and psychoanalytic. The central features of the Neuropsychotherapy is to know pre illness personality, managing emotional reaction to illness and organic changes in emotion and behaviour through the use of various behaviour, cognitive procedures and electronic device (biofeedback) in integrated manner.

Though, the history of use of such procedure dates back in 1970s but most of the work in organized manner with new procedure and thinking was started by Barbara A Wilson in 1980s in the treatment of brain dysfunctional patients through behavioural therapeutic approach together with neuropsychological knowledge (Wilson & Maffat, 1984). Forther the work and writing of Luria, A R among the persons suffering from various mood and personality problems after brain injury and the role of neuropsychological rehabilitation contributed significantly in understanding of neuropsychotherapy as advance modality of management of neuropsychological problems in brain injury and psychiatric cases (Laaksonen, 1994).

Fractured Mind (Odgen, 2005), emotional trauma, shattered worlds, and grief reactions/ grieving and depression is not unknown for the persons working in the field of mental health and neurosciences. Since long the psychotherapeutic
measures alone were not being considered a potent measures for the management of such problems in brain dysfunctional cases despite the phenomenological necessity. In present era world is turning towards increasing number of stroke, diabetes and multifocal lesions which are associated with frequently mood changes, depression, anxiety, multiple behavioural problem i.e. anger, problem in social adjustment, individuality, and tolerability and many other mental health problems. Earlier it was thought that all problems can be managed through medication but it was observed that pharmacological treatment and long duration of hospitalization is not helpful to ameliorate the problem completely and make the person fully functional as before the illness rather problems related to psychological, behavioural and even biological continued for longer period even may be lifelong. Historically, the role of psychotherapeutic measures in post stroke care was to manage mood changes and various other emotional and personality problems are evident in 1970s (Heinstein, 1970). His suggestion is to involve the step wise psychological approach involving structured procedures and active participation of family members can help the person to regain their premorbid abilities rather than medication. The neuropsychological recognition of deficits the rehabilitation procedures can help the person to regain the previous ability for adaptation and other premorbid functioning (i.e. personality, self-esteem, intelligence, and experiences).

The neuropsychotherapy uses the process of operant conditioning through the help of electronic devices/ equipment that monitors and measures the electrical activity of the brain and TRAIN the brain to be more available to life requirements (neuroregulation). The use of neuropsychotherapy is variable as in seizure disorder the hyperactivity in the brain during the seizure is significantly reduced and as result the seizures reduced significantly (seizure reduced 66%). It is also evident that reduction in hyperactivity in brain significantly enhanced the academic performance in school children by use of beta (12-15 Hz). It has given the promising results on the cases of post traumatic disorder, addiction and management of autistic children. Hence, the neuropsychotherapy has resulted evidence based procedure which is visible/testable cross sectionally on electronic device result on enhancement of ability to access and maintains different state of physiological arousal and to navigate from high vigilance to rest. The neuropsychotherapy by reinforcing the equilibrium states successfully helps to produce the promising results in management of cases with ADHD, depression and anxiety and also in normalization of pain thresholds, appetite and various physical and biological problems. It is world wide researched and established fact today that brain training can improve concentration, coordination, creativity, happiness, immune system, inner peace, mental clarity, mental energy, mental stability, physical energy, ability to read and write, sleep quality, relaxation and memory etc. and various modality of psychotherapy too, specially neuropsychotherapy where brain training has been proved to bring potential changes in the neuropsychopathology. Researches in this area have further proved that various psychological procedures applied in the mangement of psychiatric problems and neuropsychological rehabilitation are not only evident in reporting significant changes in emotional area rather neuropsychological and structural changes also takes place in brain.

REFERENCES


Stable and satisfying marriages contribute to men's and women's improved physical and psychological health and longevity as well as their material wealth (Linda & Waite, 1995) and to better outcomes for children's wellbeing (Silburn et al., 1996; Amato & Booth, 1997). However, these protective benefits of marriage for adults and children appear to apply only in marriages that are not beset with severe mental health problems in a spouse (Halford & Bouma, 1997). Divorce (or the dissolution of marriage), on the other hand, is the final termination of matrimonial union and the legal duties and responsibilities of marriage. Divorce rate in India is one of the lowest in the world, but it is increasing progressively. Mental illness in one of the spouses are often alleged to be the ground of dissolution of marriages. There is increasing cases of such kind in the family courts. The law of the land pertaining to divorce on the ground of insanity, specially Hindu Marriage Act, 1955 has been discussed. Annulment of marriage due to absence of competency at the time of marriage and consent are important issue. Mental health professional may be called to authenticate the certificate issued by him and may be examined and cross examined as expert witness. An effort has been made to acquaint the mental health professional of the legal proceedings followed by the court in such cases and the role of mental health professional with reference to preparing reports has been delineated. Finally, court judgments which is often cited in such cases has been included and recent judgments in the Supreme court of India and various high courts has been reviewed.

Key Words: Divorce, Mental Illness, Dissolution, Marriage, Courts, Judgment.

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marriage law for Sikhs has been enacted recently. The Hindu Marriage Act, 1955 and the Special Marriage Act, 1954 consider insanity as a ground for divorce. In fact, the language that both the acts use is similar. According to the Dissolution of the Muslim Marriage Act (1939), a wife can file for a divorce if her husband has been insane for two years and he subjects his wife to intense cruelty.

DIVORCE & THE LAW

Hindu Marriage Act, 1955:

This is an Act to amend and codify the law relating to marriage among Hindus. This enactment of 1955 has been subsequently amended eight times from 1956 to 2003. This Act requires that for marriage to be valid, neither party must be incapable of giving valid consent because of unsoundness of mind. The expression 'unsoundness of mind' has to be understood as lack of a state of mind or capacity to understand one's affairs or marital obligations; neither party should be suffering from mental disorder of a type and to an extent as to render the party unfit for marriage and the procreation of children. A party would be unfit for procreation if the party would not be able to look after or maintain the children from the marriage or the children would be likely to be suffering from the same mental disorder or defect. The court can nullify the marriage if either condition or both the conditions contemplated exist. The unfitness for marriage and procreation of children contemplated here is one arising from mental disorder only, and not on account of any other disorder. Infertility or sterility as such is not a ground for annulment of marriage under Section 12 or for divorce under Section 13 the word 'procreation' includes the capacity to rear children besides the capacity to beget them. Lastly, neither party should have been subject to recurrent attacks of insanity meaning 'subject to an increase of the acuteness or severity of unsoundness of mind recurring periodically in its course'. A marriage in contravention of this condition is not void but voidable.

Divorce under Hindu Marriage Act:

Under Section 13 (1) of this Act, any marriage solemnized, whether before or after the commencement of this Act, may, on a petition presented by either the husband or the wife, be dissolved by a decree of divorce on the ground that the other party: has been incurably of unsound mind, or has been suffering continuously or intermittently from mental disorder of such a kind and to such an extent that the petitioner cannot reasonably be expected to live with the respondent.

The expression ‘mental disorder’ means mental illness, arrested or incomplete development of mind, psychopathic disorder or any other disorder or disability of mind and includes schizophrenia; the expression ‘psychopathic disorder’ means a persistent disorder or disability of mind (whether or not including subnormality of intelligence) which results in abnormally aggressive or seriously irresponsible conduct on the part of the other party, and whether or not it requires or is susceptible to medical treatment. The expression ‘incurably’ of unsound mind cannot be so widely interpreted as to cover feeble-minded persons or persons of dull intellect who understand the nature and consequences of the act and are therefore able to control them and their affairs, and their reaction in the normal way (A.S. Mehta versus Vasumathi (A.I.R. 1969) Guj–48; Parvathi Mishra versus Jagadhanantha Mishra (1994) 78 CLT 561). When there was sufficient evidence for the court to conclude that the slight mental disorder of the wife was not of such a kind and to such an extent that the husband could not reasonably be expected to live with her, divorce could not be granted (Rita Roy versus Sitesh Chandra, A.I.R. 1982) CAL 138, 86 CWL 167 (Each case has to be considered on its own merits. A Division Bench of the Andhra Pradesh High Court held in Hema Reddy versus Rakesh Reddy (2003) that psychological depression by itself is no ground for divorce under the Hindu Law.

Dissolution of Marriage Under the Muslim Law:

A Muslim marriage can be dissolved by divorce by the parties without recourse to the court and on certain grounds by recourse to the court.
The law as ordained by the Holy Quran is that talaq (divorce) must be for a reasonable cause and that it must be preceded by an attempt at reconciliation between the husband and the wife by two arbiters, one chosen by the wife from her family and the other by the husband from his family. If their attempts fail then talaq may be effective. According to the Muslim Marriage Act (1939) a woman married under the Muslim law shall be entitled to obtain a decree for the dissolution of her marriage (based on mental health issues) on the following grounds:

a) That the husband has been insane for a period of 2 years.

b) That husband subjected his wife to severe cruelty.

That the husband was impotent at the time of marriage and continues to be so. Inability of the husband to consummate the marriage is one pattern of impotence.

**Christian Law:**

On the demand of several Christian organizations, Section X of the Indian Divorce Act (1869), was amended by Act No. 51 of 2001. As per this amendment, the grounds for divorce are very much similar to those under the Special Marriage Act and the Hindu Marriage Act. Unsoundness of mind is a ground for divorce on two conditions: (i) the unsoundness of mind must be ‘incurable’ and medical evidence is required to prove it. (ii) It must be present for at least two years immediately before the filing of the petition. It is submitted that both the conditions must run together. If the respondent's unsoundness of mind was curable in the beginning, but later on became incurable, the period of two years will be counted from the date when the disease became incurable.

The Christian wife has some exclusive grounds for divorce: The three exclusive grounds for divorce that a wife can file are (i) rape, (ii) sodomy, and (iii) bestiality. Dissolution of marriage by mutual consent is now possible for Christians under Section X A of the IDA (Amendment Act), 2001.

The grounds for nullity of marriage as per the IDA Section 19. Impotence, lunacy or idiocy are among the five causes for nullity. Under Section 19 (3), it must be established that the respondent was a lunatic or idiot at the time of marriage

**Grounds for Divorce in the Parsi Marriage Act:**

Any married person may seek divorce on the following grounds: That the defendant at the time of the marriage was of unsound mind and has been habitually so up to the date of the suit; provided that divorce shall not be granted on this ground, unless the plaintiff (i) was ignorant of the fact at the time of the marriage, and (ii) has filed the suit within three years from the date of the marriage.

**Grounds of Annulment & Divorce Under Special Marriage Act:**

The Special Marriage Act was enacted to provide a special form of marriage by any person in India and all Indian nationals in foreign countries irrespective of the religion either party to the marriage may profess. The Special Marriage Act provides that for marriage to be valid, neither party should be incapable of giving a valid consent to it as a result of unsoundness of mind; or though capable of giving valid consent, has been suffering from mental disorder of such a kind or to such an extent as to be unfit for marriage and the procreation of children, or has been subject to recurrent attacks of insanity. According to the Marriage Laws (Amendment) Act, 1976, recurrent epilepsy was also a disqualification for marriage. Now that has been removed by the Marriage Laws (Amendment) Act (No. 39 of 1999) with effect from December 1999.

Under the Act petition based on ground of nullity of marriage has to be brought by the aggrieved party to the Court at the earliest opportunity and within a period of one year if possible. A sound mental condition is laid down as one of the essential qualifications to be possessed by either party to a marriage and decree of nullity of a marriage can be sought even at a time when parties may not have
begotten children. The procreation of children, therefore, in marital relationship must mean not merely giving birth to children, but capacity to look after them as well. The use of the two expressions together i.e. 'unfit for marriage' and 'procreation of children' permit such a wider interpretation to the latter expression used therein. A Hindu marriage, according to the customary law, is a sacrament and is also a contract which is now regulated by the Statute i.e. the Act. A contract to marry is simple and is a high degree of intelligence is not needed to understand what it implies. Weakness of mind, disorder of character or personality apart from associated mental illness are not sufficient to invalidate a marriage contract. The presence of mental disorder, which, at the time of marriage, made the individual concerned unable to comprehend the nature and implications of marriage, prevented him from fulfilling the physical conditions of the marriage contract, or prevented him from taking care of himself or his property, would render the marriage be declared null and void after application to the divorce Court. Mental disorder developing after marriage does not per se entitle either partner to a divorce or judicial separation.

Impotence as Ground of Annulment:
Impotence means the incapacity to perform sexual intercourse which is full and natural. Refusal to have sex is different from impotence. Impotence is different from sterility. Consummation means full penetration, not attempt to penetrate. Based on impotence at the time of marriage as per Section 19 (1) of the IDA and as per Section 30 of the Parsi Marriage Act and as per Section 24 (ii) of the Special Marriage Act (1954) and according to Section 12A of the Hindu Marriage Law, the marriage becomes null and void.

According to Section 2 (v) of the Dissolution of Marriage Act, one of the grounds for dissolution of marriage is impotence. The institution of suit should be applied for within one year for nullity and after one year for divorce.

Consent for Marriage:
'Consent' used in Section 12(1)(c) of Hindu Marriage Act,1955, need not be the consent given personally by the petitioner and without intervention of any mediator or any agent. In the context of Hindu Marriages the 'consent' as held by me includes a consent to marriage given by a spouse through his/her parents, elders in the family, other relations or friends. In the Calcutta case consent to the marriage given by the husband, through his father, to whom all necessary disclosures regarding wife were made by her, was treated to be a good consent binding on the husband although the husband had not personally negotiated, for marriage. (Ruby Roy v. Sudarshan Roy, AIR 1988 Cal 210. Under such circumstances, the disclosure to the father was obviously disclosure to the son and consent of the father on such disclosure was consent of the son on such disclosure." It cannot be disputed that the fact of mental unfitness and that she was taking mental treatment for it was material circumstance concerning the wife which ought to have been disclosed to the husband or his relations who had negotiated the marriage on his behalf (Smt. Alka Sharma vs Abhinesh Chandra Sharma, Madhya Pradesh High Court) Equivalent citations: AIR 1991, MP 205, I (1992) DMC 96, 1991 (MPLJ, 625).

MENTAL ILLNESS & DIVORCE: COURT PROCEEDINGS
The law presumes a person to be sane, unless proved otherwise. Insanity has to be proved. Preponderance of probabilities is the standard of proof. The burden of proving the insanity of the respondent rests on the petitioner. The court comes to a conclusion on the basis of not only medical evidence, but also other pieces of evidences. It is the responsibility of the psychiatrist to keep the documents sound. A certificate given by the psychiatrist is only an opinion, and it attains the status of evidence only when its author undergoes cross-examination. The law should not discourage persons from seeking treatment for mental disorders, rather it should perform a promotive and facilitative
role. It is suggested that an express legislative provision should be incorporated, which states that a past history of mental illness will be no bar to marriage; failure to disclose such past history or the fact of treatment would not amount to suppression of a material fact (Nambi, S., 2005). Most of the divorce cases are brought in the Family Courts. Family Court was established under Family Courts Act, 1984 with the view to promote conciliation in disputes concerning marriage and related disputes. Family courts and mental health personnel both do not want to promote the incidence of broken homes. The decision of the court either preserves or breaks a family. The psychiatrist must be aware of the legal provisions, in order to meet the legal requirements.

In all cases of this nature, it is evident that the Courts scrutinize evidence and documents before passing a judgment. The Court dismisses arguments that are backed only by reckless allegations unless they are supported and substantiated. For instance, merely proving an individual to be suffering from a mental disorder is not enough. While granting divorce, the Court looks at the circumstances on which divorce is being asked for and the degree and nature of the mental disorder. The court believes that the disorder should be of such a degree that it is becomes difficult to live with the person. Prognosis of the disorder, i.e., whether it is curable and controllable or not; is another important aspect that is often considered by the law. In cases of this nature, the opinion of a medical expert is always sought. Where mental condition of a spouse is the controversial issue, the Court has the authority to issue a direction for medical examination. The Court also looks at other circumstances before passing any judgment.

A matrimonial court has the power to order a person to undergo medical tests, including undergoing examination of his/her mental status, and it is not violation of the right to personal liberty under Article 21 of the Indian Constitution. However, the Court should exercise such a power if the applicant has a strong prima facie case and there is sufficient material before the Court (Sharda vs Dharmapal on 28 March, 2003, Equivalent citations: AIR 2003 SC 3450, 2003 (3) ALT 41 SC). If despite the order of the court, the respondent refuses to submit himself to medical examination, the court will be entitled to draw an adverse inference against him.

**ROLE OF MENTAL HEALTH PROFESSIONALS:**

If one is using ‘mental disorder’ as grounds for divorce, one must prove that his or her spouse is suffering from a mental illness and it is of an incurable nature and it has become impossible to live with, and for seeking annulment on the grounds of mental disorder, it is imperative to show that the spouse was suffering from mental disorder at the time of marriage and this very fact was not disclosed. When a case of divorce based on mental disorder arises, the court scrutinizes all evidence and documents provided before passing a judgment. All arguments that are simply reckless allegations are dismissed and only those that can be supported with substantial evidence are taken into consideration. For example, simply showing that a person is suffering from a mental disorder is not adequate. The court looks into the nature of the disorder and if it deems that the condition has reached such a degree that it is difficult to live with the person, then only does it pass judgment. Further, it delves into prognosis of the disorder, that is, whether or not the disorder is curable and controllable. Usually in such cases, the court takes the opinion of a medical expert. If there is a controversial issue at hand, the Court may even ask for a medical examination to be taken.

The medical evidence regarding the requisite degree of mental disorder is relevant, though not conclusive (Sharada versus Dharmapaul (2003), 4 SCC 493). In so far as granting the relief of divorce under Section 13 (1) (iii) of the Act is concerned, the nature and degree of mental disorder which meets the requirements has been clearly discussed and spelt out in one of the important cases (Ramnarayan Gupta vs Sreemathi Rajeshwari Gupta, Justice
Venkatachaliah [Supreme Court 1998]). 'Each case of mental illness or schizophrenia has to be considered on its own merits.' The judgment is significant because it gives importance to the effects and the impact rather that to the mere labelling of mental illness. The mental health professional who is treating the patient may be summoned.

When a person is referred to a psychiatrist or psychologist for examination and opinion, one must avoid shortcut method of issuing a four line certificate. One must give a detailed report. If the certificate does not bear the thumb impression or signature of the alleged patient, it cannot be said with certainty that the said certificate was issued after having examined the defendant as have been observed by apex court in Ram Narain Gupta vs Smt. Rameshwari Gupta. It must contain identifying information including identifying marks and a photograph of the person examined, the source of information and relation with the person being examined and reliability of the informant. The chronology of symptoms development and the social, personal and occupational problems caused by the illness may be clearly mentioned. History of past and family history of psychiatric illness and the diagnosis if available should be mentioned. Thorough mental status examination should be carried out to find whether the person has delusion, hallucination, signs of affective illness, obsession, compulsion etc. The treatment history and response to various treatments should be obtained. The insight and judgment should be invariably mentioned. The patient must undergo a detailed psychological diagnostic test and the test report may be attached. Psychological evaluations can be a double-edged sword. First and foremost, I would caution you that you should never expect an outright diagnosis of a personality disorder from a court ordered psychological evaluation. This may be because the criteria for the diagnosis are not very well defined, and there's also an unstated presumption that people are always a little crazy when they're involved in that kind of litigation. It is advisable that the evaluator might say that someone exhibits borderline "traits" or narcissistic "traits," if they even go that far. It is advised that the professional should have proper documentation. The content of this document should not be disclosed to the third party (Guidelines for Marriage & Mental, Health Issues in Women, preliminary Draft for Consensus, Speciality Section - Women’s Mental Health, Indian Psychiatric Society).

Based on the findings of the "history, clinical examination and diagnostic psychometry", the psychiatrist may give opinion that whether the patients suffers from "mental illness" or not; and if she suffers what is the diagnosis, and the severity of illness. The psychiatrist or the clinical psychologist may be called to witness box and they may be subjected to examination and cross examination. In the cross examination, the questions may be irritating regarding qualification and experience. More often than not the lawyers come prepared with printout of available literature on the internet about the illness and may test your knowledge. They may ask about the different text books and psychological tests and their validity. One should be prepared to answer these questions. The vital question the court will like to know your opinion about the diagnosis of the person examined and basis of your reaching to this conclusion, the severity of illness, and finally opinion whether the illness is curable? The court may ask your opinion whether the person can reasonably be expected to live with the spouse. In allowing a petition for divorce on the ground of unsoundness of mind, the expert opinion of mental health professional is an important evidence. Medical evidence regarding unsoundness of mind is not conclusive proof of such state but would be of great assistance to court in arriving at proper determination of state of mind of person concerned."²⁷(Parvathi Ammal vs Kamalammal And Others, Equivalent citations: 2003 (3) CTC 404, (2003) 3 MLJ 131. The court reaches to final conclusion by other evidences, documentary or verbal, circumstantial or otherwise and on the merit of individual cases.
IMPORTANT COURT JUDGEMENTS

Pankaj Mahajan vs Dimple:

The Supreme Court granted divorce to the appellant-husband who came to know that the respondent-wife was suffering from acute mental depression coupled with schizophrenia even prior to the marriage and was taking treatment for the same. The appellant-husband hoping that the respondent-wife would become alright took her to various doctors, but her mental condition did not improve and she became more and more violent and aggressive. She insulted and humiliated the appellant-husband in front of his colleagues and relatives. The Apex court ruled that “It is clear from the above that the respondent-wife was not of sound mind and she did not look after the household work rather she used to give threats to commit suicide. She did not even make, food for the appellant-husband and he had to arrange the same from outside. Apart from this, she, used to embarrass the appellant-husband before his landlord's family and because of her weird behavior and threats to commit suicide, the appellant-husband was forced to leave the rented accommodation. In the case on hand, the appellant-husband has placed adequate materials to show that the respondent-wife used to give repeated threats to commit suicide. She did not even make, food for the appellant-husband and he had to arrange the same from outside. Apart from this, she, used to embarrass the appellant-husband before his landlord's family and because of her weird behavior and threats to commit suicide, the appellant-husband was forced to leave the rented accommodation. In the case on hand, the appellant-husband has placed adequate materials to show that the respondent-wife used to give repeated threats to commit suicide. She did not even make, food for the appellant-husband and he had to arrange the same from outside. Apart from this, she, used to embarrass the appellant-husband before his landlord's family and because of her weird behavior and threats to commit suicide, the appellant-husband was forced to leave the rented accommodation. In the case on hand, the appellant-husband has placed adequate materials to show that the respondent-wife used to give repeated threats to commit suicide. She did not even make, food for the appellant-husband and he had to arrange the same from outside.

Vinod Kumari vs Major Surinder Mohan:

There was an admission on the part of the lady that she used to lose temper and she used to be given medicines. It was also established that the wife was suffering from Schizophrenia. She was aggressive and prone to abusing and she used to curse her husband and neglected him with food and she used to sleep separately at odd hours. She was under the impression that her food had been mixed with poison. Divorce was granted. Similarly, in Balwinder Singh's case, it was proved that wife was suffering from mental disorder even before the marriage and she was so greatly excited that she tried to commit suicide. (Balwinder Kaur vs Baldev Singh, 1985 (1) HLR 97).

Asa Rani vs Raj Kumar:

In Asa Rani's case, the wife was a case of insanity and it was proved by oral and documentary evidence that the wife had been mentally sick and it was impossible for the husband to live with her under those conditions and hence divorce petition was allowed.

Ayyalasomayajula Satyanandam vs Ayyalasomayajula Ushadevi:

A Division Bench of this Court in a case for divorce on the ground of unsound mind observed that it is for the petitioner to establish either of incurable unsoundness of the respondent or that the mental disorder is such a kind and to such an extent that the other spouse cannot reasonably be expected to live with the respondent.

Pronab Kumar Ghose vs Krishna Ghose:

The standard of proof in matrimonial cases is not such as is required in a criminal case, but the Court need only be satisfied on preponderance of probabilities. The Division Bench of Calcutta High Court, in the case of Pronab Kumar Ghose's case (AIR 1975 Cal 109) granted a decree in favour of the husband holding that "the events which preceded, attended and followed the marriage unmistakably go to show that at the relevant time i.e. on the date of the marriage the wife must have suffered from Schizophrenia".
Sharada vs Dharampal:

The Supreme Court observed as under:
"The decisions rendered by various Courts of this country lead to a conclusion that a decree for divorce in terms of Section 13 (1) (iii) of the Act can be granted in the event unsoundness of mind is held to be not curable. A party may behave strangely or oddly inappropriate and progressive in deterioration in the level of work may lead to a conclusion that he or she suffers from an illness of slow growing developing over years. The disease, however, must be of such a kind that the other spouse cannot reasonably be expected to live with him or her. A few strong instances indicating a short temper and somewhat erratic behavior on the part of the spouse may not amount to his/her suffering continuously or intermittently from mental disorder.

Ram Narayan Gupta vs Smt. Rameshwari:

The Supreme Court observed that that "mere branding of a person as schizophrenic will not be sufficient for purposes of Section 13(1) (iii) of the Act, and "schizophrenia is what schizophrenia does to a patient". The High Court referred to and relied upon the decision of the Calcutta High Court in Smt. Rita Roy v. Sitesh Chandra, AIR 1982 (Cal.) 138. In; that case the Division Bench of the Calcutta High Court observed: " each case of schizophrenia has to be considered on its own merits and that "two elements are necessary to get a decree (i) The party concerned must be of unsound mind or intermittently suffering from schizophrenia or mental disorder and (ii) that disease must be of such a kind and of such an extent that the other party cannot reasonably be expected to live with her. Only one element of that clause is insufficient to grant a decree. The court observed that "Giving something a name seems to have a deadening influence upon all our relations to it". It brings matter to finality. Nothing further seems to need to be done. The disease has been identified. The necessity for further understanding of it has ceased to exist." This medical-concern against too readily reducing a human being into a functional non-entity and as a negative- unit in family or society is law's concern also and is reflected, at least partially, in the requirements of Section 13 (1) (iii). Apex Court cautioned that Sec. 13 (1) (iii) of the Act does not make a mere existence of a mental disorder of any degree sufficient in law to justify the dissolution of a marriage.

Kollam Padma Latha (Dr.) vs Kollam Chandra Sekhar (Dr.):

Hob’le Andhra High Court in 2006 observed that husband cannot simply abandon his wife because she is suffering from sickness. The expert witness stated that schizophrenia can be put on par with the diseases like hypertension and diabetes on the question of treatability, thereby meaning that constant medication is required, in which event, disease would be under control. In this case, first of all, there is no positive material to show that appellant was suffering from any kind of schizophrenia as already referred. No doubt, there is no dispute that she was suffering from slight mental disorder like depression. For that reason, respondent-husband cannot divorce appellant-wife. Can a husband divorce his wife suffering from diabetes or hypertension? Certainly, not. No doubt, mental disorder cannot be equated with diabetes or hypertension. When schizophrenia is not of such a serious nature and particularly when it is treatable, it cannot be a ground for divorce under Section 13(1) (iii) of the Act.

Samar Ghosh vs. Jaya Ghosh

In the decision reported in 2007 (3) CTC 464, the Supreme Court observed on ‘Mental Cruelty’ “The married life should be reviewed as a whole and a few isolated instances over a period of years will not amount to cruelty. The ill-conduct must be persistent for a fairly lengthy period, where the relationship has deteriorated to an extent that because of the acts and behavior of a spouse, the wronged party finds it difficult to live with the other party any longer, may amount to mental cruelty. Unilateral decision of refusal to have intercourse for considerable period without there being any physical incapacity or valid reason may amount to mental cruelty.
CONCLUSION

Divorce court cases are common. One must have knowledge of prevalent laws of land and the different court proceedings. The role of mental health professionals in such cases needs to be properly delineated including proper documentation, preparation of report for the court and certification. The judgements may be important and may prove beneficial to mental health professional when he or she deposes as witness and undergoes cross examination in courts in such cases.

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Reducing Internalized Stigma of Mental Illness among Patients with Schizophrenia Using Acceptance and Commitment Therapy

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ABSTRACT
Schizophrenia is still considered to be a chronic and debilitating illness. Stigma refers to loss of status and discrimination triggered by negative stereotypes about people labeled as having mental illness. It produces more harmful consequences to the patient when it is internalized and this internalized form of stigma is regarded as ‘internalized stigma’. Acceptance and commitment therapy is a type of mindfulness therapy which aims to maximize human potential for a rich, full and meaningful life through acceptance, defusion, mindfulness, and values methods. Present study is aimed to reduce internalized stigma of mental illness among patients with schizophrenia using acceptance and commitment therapy. 24 patients diagnosed with schizophrenia according to ICD-10 DCR were chosen from different inpatient departments of RINPAS, Kanke using the simple random sampling technique. After taking informed consent from the patients, socio-demographic and clinical data sheet, PANSS, BPRS and ISMI were administered and then they were randomly assigned to TAU+ACT group and TAU group. Acceptance and commitment therapy was given to TAU+ACT group, total 10-12 sessions of 45 minutes each with a frequency of twice a week. After completion of the therapy sessions, post assessment was done and follow up assessment was done after four months of post assessment. Data was analyzed with the help of Mann-Whitney U test, Wilcoxon Sign Rank Test and Chi-square Test was used for statistical analysis. The significant reduction was found in internalized stigma of the schizophrenic patients in the post intervention phase which was maintained at follow up. Results have been discussed in the light of supportive studies, limitations and future directions.

Key Words: Schizophrenia, Internalized Stigma, Acceptance and Commitment Therapy.

INTRODUCTION
Schizophrenia and other psychotic disorders are still chronic and debilitating conditions despite the advances in pharmacological treatments (Pratt & Mueser, 2002). Research suggests that between 25 to 60 percent of the patients continue to experience psychotic symptoms even after satisfactory drug adherence (Curson et al., 1988).

Apart from the psychotic features, patients with schizophrenia and other psychotic disorder have several other issues such as stigma, poor self esteem and cognitive deficits etc. that contributes further, in worsening of symptoms, relapses and poor outcome. Out of these adverse conditions “Stigma” is a widely studied construct that has been studied in terms of mental illness. It refers to loss of status and discrimination triggered by negative stereotypes about people labeled as having mental illness (Link & Phelan, 2001). Stigma produces more harmful consequences to the patient when it is internalized and this internalized form of stigma is regarded as ‘internalized stigma’. Corrigan, Watson, and Barr (2006) suggested that internalized stigma is the devaluation, shame, secrecy, and withdrawal triggered by applying negative stereotypes to oneself.

There are different interventions targeting self stigma. These intervention strategies are based on two approaches. First approach focuses on changing the self stigmatizing...
beliefs and attitudes while the second approach focus on encouraging the individuals to accept the existence of stigmatizing stereotypes without challenging them and that enhance stigma coping skills through improvements in self esteem, empowerment and help seeking behavior (Mittal, Sullivan, Lakshminarayana, Elise, & Corrigan, 2012). Present study focuses on second type of intervention known as Acceptance and Commitment introduced by Bach and Hayes (2002). This therapy utilized acceptance, defusion, mindfulness, and values methods in the treatment of psychiatric disorders and other ailments (Hayes et al., 2004).

**METHOD**

**Sample:**

In this study initially 24 schizophrenic patients meeting various inclusion and exclusion criterions were selected from different inpatient wards of RINPAS, Kanke, Ranchi, Jharkhand through simple random sampling. In due course of study four patients (2 from each group) drop out from the study as two were prematurely discharged from the hospital on care giver request and 2 did not turned up for follow up assessment. Hence, final analysis was done only for 20 patients. Both groups were comparable in socio-demographic characteristics and clinical variables. Hence, possible effects of these variables were controlled prior to the intervention. Patients were in the age range of 20 to 35 years. Most of them were educated up to at least 9th std. To control confounding variable patients with history suggesting – mental retardation, general medical conditions, substance abuse and having acute medical condition or florid psychosis or other co-morbid psychiatric condition at the time of selection were excluded.

**Research Design:**

A Pre-test and post test with control group design was used in this study. Equal number of patients was randomly assigned to acceptance and commitment therapy group (TAU + ACT) and treatment as usual group (TAU).

**Measures:**

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

It will consist of all areas of socio-demographic details like age, sex, domicile, education, employment, marital status etc., and questions related to nature of illness, substance dependence, co-morbid psychiatric disorder, age of onset of illness, duration of illness, hearing & visual impairment and severe physical illness in the near past.

**Brief Psychiatric Rating Scale (BPRS):**

The BPRS, one of the most widely used psychiatric rating scales, is an 18-item semi-structured clinical interview used to assess general psychopathology, positive and negative symptoms, as well as disorganization and mood problems (Lukoff, et al., 1986; Overall & Gorham, 1962). The BPRS has been shown to consist of four independent factors, and Thinking Disturbance (positive symptoms), Anergia (negative symptoms), Affect (depression, anxiety, hostility), and Disorganization subscales can be computed (Long & Brekke, 1999; Mueser et al., 1997). Furthermore, the BPRS is a valid measure that is sensitive to change in acute inpatient care settings (Varner et al., 2000). The median inter-rater reliability for the total psychopathology score has been reported to be 0.85 and for different subscales ranging from 0.86 to 0.94.

**The Positive and Negative Syndrome Scale (PANSS) (Kay et al., 1987):**

PANSS is a 30-item rating instrument evaluating the presence/absence and severity of positive, negative and general psychopathology of schizophrenia. This evaluates the patient, based on the severity of positive, negative, and general psychopathological features. The scale was developed from the BPRS and the Psychopathology Rating Scale. All 30 items are rated on a 7-point scale (1=absent; 7= extreme). It takes 30–40 minutes to complete. Alpha coefficient analysis indicated high internal reliability and homogeneity among items with coefficient ranging from 0.73 to 0.83 for each of the scale.
Internalized Stigma of Mental Illness Scale (Ritsher et al., 2003):

Internalized Stigma of Mental Illness Scale was developed by Ritsher et al. (2003). In this scale there are twenty-nine items grouped into five subscales reflecting, Alienation, Stereotype endorsement, Perceived discrimination, Social withdrawal, and Stigma resistance. The Alienation subscale, with six items, measures the subjective experience of being less than a full member of society. The Stereotype Endorsement subscale, with seven items, measures the degree to which respondents agreed with common stereotypes about people with a mental illness. The Discrimination Experience subscale, with five items, measures respondents’ perceptions of the way they tend to be treated by others. The Social Withdrawal subscale, with six items, measures aspects of social withdrawal such as; I don’t talk about myself much because I don’t want to burden others with my mental illness. The Stigma Resistance Subscale, with five items, measures a person’s ability to resist or be unaffected by internalized stigma. All items are measured on a 4-point Likert-type agreement scale (1 = strongly disagree to 4 = strongly agree). The 29-item ISMI had an internal consistency reliability coefficient was found 0.90 (N=127). The test-retest reliability coefficient was found 0.92. Further construct validity of this instrument was found ranging from 0.35 to 0.59.

Procedure:

In this study patients diagnosed with schizophrenia as per ICD-10 (DCR) and meeting the inclusion and exclusion criterions were selected from different units of Ranchi Institute of Neuro-Psychiatry and Allied Sciences. Potential and interested candidates were approached. Once patients agreed to participate, informed consent was taken and demographic and clinical information was collected by using socio-demographic and clinical data sheet. Immediately after obtaining consent and collecting socio-demographic and clinical data, PANSS, BPRS (screening tools), and ISMI were administered to collect baseline data. After this they were randomly assigned to TAU+ACT or TAU group. Patients in the TAU condition received standard treatment on the unit, which includes psycho-educational, supportive therapy and pharmacotherapy. Patients in the TAU+ACT condition received approximately 8-10 one hour long sessions of individual ACT twice in a week during their stay in the hospital. The ACT protocol based on Bach and Hayes (2002) work was developed so that patients could participant in treatment as their stay will dictate. Specifically, each 1-hour session contained a core set of components that allowed participants to participate in the number of individual sessions appropriate to their length of stay. Each session was started with an educational component that addressed psychotic symptoms. Next, goals and valued behaviours were elicited and the role of disturbing thoughts/emotions as barriers to goal attainment was discussed. After this ACT model was presented to provide a rationale for treatment. Various mindfulness and acceptance exercises were practiced to decrease avoidance or struggle with internal experiences. Patients were taught to accept and experience symptoms non-judgmentally without allowing them to interfere with goal-directed behavior. Each session was ended with a review and suggestions for practice of exercises to be attempted between sessions. A core set of mindfulness/acceptance exercises were rotated through sessions. Prior to discharge, participants were evaluated again on the same measures as it was on baseline. At a 4-month follow-up, participants were again evaluated on the same measures of this study complete.

Statistical Analysis:

As sample size in this study was small, hence obtained data was analyzed by using non-parametric statistics, namely, Chi-square test, Mann Whitney U test (for between group comparison) and Wilcoxon Sign Rank test (for within group comparison).

RESULTS

Table 1 is showing the comparison between
patients with schizophrenia in treatment as usual group and patients in treatment as usual plus acceptance and commitment therapy group (TAU+ACT) at baseline, post and follow up scores on internalized stigma of mental illness (ISMI). To compare both groups on baseline, post and follow up assessment scores Mann Whitney ‘U’ test was calculated.

Table 1: Comparison between Treatment as usual plus Acceptance and Commitment Therapy Group (TAU+ACT) and Treatment as usual Group (TAU) on Baseline Assessment, Post Assessment, and Follow up Assessment.

<table>
<thead>
<tr>
<th>Variable</th>
<th>Group (Mean ± SD)</th>
<th>Mean Rank</th>
<th>U</th>
<th>Z</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>TAU+ACT</td>
<td>TAU</td>
<td>TAU+ACT</td>
<td>TAU</td>
</tr>
<tr>
<td>Internalized Stigma Total</td>
<td>75.80 ±16.11</td>
<td>81.00 ±14.22</td>
<td>9.30 11.70 38.00</td>
<td>0.90</td>
</tr>
<tr>
<td>Alienation</td>
<td>15.20 ±3.85</td>
<td>17.60 ±3.30</td>
<td>8.70 12.30 32.00</td>
<td>1.37</td>
</tr>
<tr>
<td>Stereotyped Endorsement</td>
<td>17.40 ±4.19</td>
<td>18.90 ±3.41</td>
<td>9.45 11.55 39.50</td>
<td>0.79</td>
</tr>
<tr>
<td>Discrimination Experience</td>
<td>13.60 ±2.75</td>
<td>14.30 ±3.20</td>
<td>9.75 11.25 42.50</td>
<td>0.57</td>
</tr>
<tr>
<td>Social Withdrawal</td>
<td>15.80 ±3.39</td>
<td>17.00 ±3.62</td>
<td>9.50 11.50 40.00</td>
<td>0.76</td>
</tr>
<tr>
<td>Stigma Resistance</td>
<td>13.80 ±2.65</td>
<td>13.20 ±3.36</td>
<td>11.00 10.00 45.00</td>
<td>0.38</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Variable</th>
<th>Group (Mean ± SD)</th>
<th>Mean Rank</th>
<th>U</th>
<th>Z</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>TAU+ACT</td>
<td>TAU</td>
<td>TAU+ACT</td>
<td>TAU</td>
</tr>
<tr>
<td>Internalized Stigma Total</td>
<td>54.70 ±7.68</td>
<td>82.00 ±11.02</td>
<td>5.75 15.25 2.50</td>
<td>3.59***</td>
</tr>
<tr>
<td>Alienation</td>
<td>10.50 ±1.77</td>
<td>16.70 ±2.98</td>
<td>8.70 12.30 1.00</td>
<td>3.72***</td>
</tr>
<tr>
<td>Stereotyped Endorsement</td>
<td>11.50 ±3.10</td>
<td>18.40 ±2.54</td>
<td>5.90 15.10 4.00</td>
<td>3.48***</td>
</tr>
<tr>
<td>Discrimination Experience</td>
<td>10.80 ±1.81</td>
<td>15.90 ±3.67</td>
<td>9.75 11.25 12.50</td>
<td>2.86**</td>
</tr>
<tr>
<td>Social Withdrawal</td>
<td>11.50 ±2.71</td>
<td>16.30 ±4.00</td>
<td>7.05 13.95 15.50</td>
<td>2.62**</td>
</tr>
<tr>
<td>Stigma Resistance</td>
<td>10.40 ±2.22</td>
<td>14.70 ±2.75</td>
<td>6.75 14.25 12.50</td>
<td>2.85**</td>
</tr>
</tbody>
</table>

By observing the first part of Table 1 it is evident that there was no significant difference between both the groups in terms of total scores on ISMI and its various domains. This suggests that both groups were similar in terms of total scores on ISMI and scores on its various domains. Second part of the Table 1 shows the comparison between both groups on post assessment scores. From this part it is clear that statistically significant difference was found between both groups on total ISMI score (U = 2.50, Z = 3.59, p<0.001) as well as on its various domains i.e. alienation (U = 1.00, Z = 3.72, p<0.001), stereotype endorsement (U = 4.00, Z = 3.48, p<0.001), discrimination experience (U = 12.50, Z = 2.86, p<0.01), social withdrawal (U = 15.50, Z = 2.62, p<0.01) and stigma resistance (U = 12.50, Z = 2.85, p<0.01)).

Looking at the provided mean value, standard deviations, U value, Z valve and significant level it is evident that patients in acceptance and commitment therapy group scored lower on all the domains of ISMI. It indicates towards the significant effect of ACT in reducing internalized stigma of mental illness in patients with schizophrenia.

Third part of the Table 1 shows the comparison between both groups on follow up assessment in terms of total ISMI scores and its various domains. On this comparison statistically significant difference was found between both groups on different measures of internalized stigma of mental illness scale i.e. ISMI total score (U = 0.00, Z = 3.78, p<0.001), alienation (U=5.00, Z = 3.41, p<0.01), stereotype endorsement (U = 10.50, Z = 2.99, p<0.01), discrimination experience (U = 21.50, Z = 2.21, p<0.05), social withdrawal (U = 11.00, Z = 2.96,
p<0.01), and stigma resistance (U = 6.00, Z = 3.34, p<0.01).

Follow up assessment’s mean value, standard deviation value, U value, Z value and significance level indicates that even on follow up, therapy group scored lower in comparison to non therapy group on all the domains of internalized stigma scale. This proves that ACT effect that was gained during post assessment was maintained for longer durations.

Table 2: Comparison Between Baseline and Post Scores across both Groups.

<table>
<thead>
<tr>
<th>Variable</th>
<th>Group (Mean + SD)</th>
<th>Mean Rank</th>
<th>Z</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Baseline Post</td>
<td>-ve Ranks</td>
<td>+ve Rank</td>
</tr>
<tr>
<td>TAU+ACT Group</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Internalized stigma total</td>
<td>75.80 ±15.41</td>
<td>54.70 ±7.68</td>
<td>5.50 0.00 2.80**</td>
</tr>
<tr>
<td>Alienation</td>
<td>15.20 ±3.85</td>
<td>10.50 ±1.77</td>
<td>6.00 1.00 2.71**</td>
</tr>
<tr>
<td>Stereotyped endorsement</td>
<td>17.40 ±4.19</td>
<td>11.50 ±3.10</td>
<td>5.50 0.00 2.81**</td>
</tr>
<tr>
<td>Discrimination Experience</td>
<td>13.60 ±2.75</td>
<td>10.80 ±1.81</td>
<td>6.00 1.50 2.33*</td>
</tr>
<tr>
<td>Social withdrawal</td>
<td>15.80 ±3.39</td>
<td>11.50 ±2.71</td>
<td>5.00 0.00 2.69**</td>
</tr>
<tr>
<td>Stigma resistance</td>
<td>13.80 ±2.65</td>
<td>10.40 ±2.22</td>
<td>5.50 1.00 2.57**</td>
</tr>
<tr>
<td>TAU Group</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Internalized stigma total</td>
<td>81.00 ±14.22</td>
<td>82.00 ±11.01</td>
<td>4.90 6.10 .307</td>
</tr>
<tr>
<td>Alienation</td>
<td>17.60 ±3.30</td>
<td>16.70 ±2.98</td>
<td>5.42 4.17 1.19</td>
</tr>
<tr>
<td>Stereotyped endorsement</td>
<td>18.90 ±3.41</td>
<td>18.40 ±2.54</td>
<td>6.10 4.90 .308</td>
</tr>
<tr>
<td>Discrimination Experience</td>
<td>14.30 ±3.19</td>
<td>15.90 ±3.66</td>
<td>4.25 5.21 1.68</td>
</tr>
<tr>
<td>Social withdrawal</td>
<td>17.00 ±3.62</td>
<td>16.30 ±4.00</td>
<td>7.30 3.70 .926</td>
</tr>
<tr>
<td>Stigma resistance</td>
<td>13.20 ±3.35</td>
<td>14.70 ±2.75</td>
<td>3.00 7.17 1.60</td>
</tr>
</tbody>
</table>

p<0.05*, p<0.01**

Table 2 shows the comparison between pre and post scores across both groups. First part of the table shows the comparison between pre and post scores of treatment as usual group. Second part of the table shows the comparison between pre and post scores of acceptance and commitment therapy group. From the first part of the table it is evident that no statistically significant difference was found between baseline assessment scores and post assessment scores of TAU group which indicates that this group did not improved significantly on the measures of internalized stigma of mental illness rather showed slightly increased scores.

Second part of the Table 2 shows the comparison between baseline and post assessment scores of ACT group. Results of this table shows that significant difference was found between baseline assessment scores and post assessment scores on total score of internalized stigma of mental illness scale (Z = 2.80, p<0.01) and on its various domains i.e. alienation (Z = 2.71, p<0.01), stereotyped endorsement (Z = 2.81, p<0.01), discrimination index (Z = 2.33, p<0.05), social withdrawal (Z = 2.69, p<0.01), and stigma resistance (Z = 2.57, p<0.01). These findings suggests that after acceptance and commitment therapy this group showed significant reduction in internalized stigma of mental illness and in its various domains.

Table 3 shows comparison between post and follow scores across both groups. For this comparison Wilcoxon Sign Rank test was calculated for both the groups.

Table 3: Comparison Between Post and Follow up Scores across both Groups.

<table>
<thead>
<tr>
<th>Variable</th>
<th>Group (Mean + SD)</th>
<th>Mean Rank</th>
<th>Z</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Post Follow up</td>
<td>-ve Ranks</td>
<td>+ve Rank</td>
</tr>
<tr>
<td>TAU+ACT Group</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Internalized stigma total</td>
<td>54.70 ±7.68</td>
<td>55.90 ±7.66</td>
<td>4.17 4.70 .772</td>
</tr>
<tr>
<td>Alienation</td>
<td>10.50 ±2.04</td>
<td>10.80 ±2.04</td>
<td>3.70 6.63 .478</td>
</tr>
<tr>
<td>Stereotyped endorsement</td>
<td>11.50 ±2.97</td>
<td>12.20 ±2.97</td>
<td>5.75 4.79 1.32</td>
</tr>
<tr>
<td>Discrimination Experience</td>
<td>10.80 ±1.83</td>
<td>10.90 ±2.51</td>
<td>5.75 4.40 .060</td>
</tr>
<tr>
<td>Social withdrawal</td>
<td>11.50 ±2.50</td>
<td>11.60 ±2.50</td>
<td>5.50 5.50 .00</td>
</tr>
<tr>
<td>Stigma resistance</td>
<td>10.40 ±1.83</td>
<td>10.40 ±1.83</td>
<td>5.63 4.50 .00</td>
</tr>
</tbody>
</table>
Results of both parts of Table 3 indicates that no significant difference was found between the post and follow up scores across both groups and none of the groups showed further improvement or worsening of internalized stigma on follow up in comparison of post assessment. Further both group maintained their previous position in terms of severity of internalized stigma. While ACT group showed stability in improvement or gains previously achieved due to acceptance and commitment therapy, TAU group showed stability in term of further deterioration.

Table 4: Comparison between TAU Group and TAU Plus ACT Group on Difference Scores on Baseline – Post Assessment and Post-Follow up Assessment.

<table>
<thead>
<tr>
<th>Variable</th>
<th>Group (Difference Mean ± SD)</th>
<th>Mean Rank</th>
<th>U</th>
<th>Z</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>TAU + ACT</td>
<td>TAU</td>
<td>TAU + ACT</td>
<td>TAU</td>
</tr>
<tr>
<td><strong>Baseline-post differences</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Internalized stigma total</td>
<td>21.10 ±9.40</td>
<td>1.00 ±8.47</td>
<td>15.20</td>
<td>5.80</td>
</tr>
<tr>
<td>Alienation</td>
<td>4.70 ±2.94</td>
<td>0.90 ±2.33</td>
<td>14.05</td>
<td>6.95</td>
</tr>
<tr>
<td>Stereotyped endorsement</td>
<td>5.90 ±2.18</td>
<td>0.50 ±4.11</td>
<td>14.50</td>
<td>6.50</td>
</tr>
<tr>
<td>Discrimination Experience</td>
<td>2.80 ±2.78</td>
<td>1.60 ±2.71</td>
<td>14.25</td>
<td>6.75</td>
</tr>
<tr>
<td>Social withdrawal</td>
<td>4.30 ±2.49</td>
<td>0.70 ±2.98</td>
<td>13.75</td>
<td>7.25</td>
</tr>
<tr>
<td>Stigma resistance</td>
<td>3.40 ±2.71</td>
<td>1.50 ±2.54</td>
<td>14.65</td>
<td>6.35</td>
</tr>
</tbody>
</table>

Results of first part of Table 4 revealed that ACT group showed significantly higher difference on the measures of internalized stigma of mental illness in comparison to TAU group. It indicates that ACT group observed significant changes in internalized stigma of mental illness after therapy i.e. on post assessment. Contrary to this TAU group showed consistency in their internalized stigma of mental illness on post assessment. Both group differed significantly in terms of changes in internalized stigma of mental illness scale scores from baseline assessment to post assessment. Significant difference was found between both groups in terms of total internalized stigma of mental illness scale score (U = 3.00, Z = 3.55, p<0.001) and on its various domains i.e. alienation (U = 14.50, Z = 2.70, p<0.01), stereotyped endorsement (U = 10.00, Z = 3.03, p<0.01), discrimination experience (U = 12.50, Z = 2.87, p<0.01), social withdrawal (U = 17.50, Z = 2.48, p<0.01), and stigma resistance (U = 8.50, Z = 3.16, p<0.01).

Second part of the Table 4 revealed that changes from post to follow up scores in both groups were not significant which means that after post assessment both grouped did not changed much in comparison to each other and that their follow up assessment scores were more or less same as they were on post assessment.

**DISCUSSION**

Present study was conducted to evaluate the significance of Acceptance and commitment therapy in reducing internalized stigma of mental illness. The results of this study indicate that Acceptance and commitment therapy is effective in reducing internalized stigma of mental illness. The study showed that ACT group showed significant improvement in all domains of internalized stigma of mental illness, while TAU group showed stability in their previous position. The results of this study are in line with previous studies that have shown the effectiveness of Acceptance and commitment therapy in reducing internalized stigma of mental illness.

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*Results of both parts of Table 3 indicates that no significant difference was found between the post and follow up scores across both groups and none of the groups showed further improvement or worsening of internalized stigma on follow up in comparison of post assessment. Further both group maintained their previous position in terms of severity of internalized stigma. While ACT group showed stability in improvement or gains previously achieved due to acceptance and commitment therapy, TAU group showed stability in term of further deterioration.*

*Results of first part of Table 4 revealed that ACT group showed significantly higher difference on the measures of internalized stigma of mental illness in comparison to TAU group. It indicates that ACT group observed significant changes in internalized stigma of mental illness after therapy i.e. on post assessment. Contrary to this TAU group showed consistency in their internalized stigma of mental illness on post assessment. Both group differed significantly in terms of changes in internalized stigma of mental illness scale scores from baseline assessment to post assessment. Significant difference was found between both groups in terms of total internalized stigma of mental illness scale score (U = 3.00, Z = 3.55, p<0.001) and on its various domains i.e. alienation (U = 14.50, Z = 2.70, p<0.01), stereotyped endorsement (U = 10.00, Z = 3.03, p<0.01), discrimination experience (U = 12.50, Z = 2.87, p<0.01), social withdrawal (U = 17.50, Z = 2.48, p<0.01), and stigma resistance (U = 8.50, Z = 3.16, p<0.01).*

*Second part of the Table 4 revealed that changes from post to follow up scores in both groups were not significant which means that after post assessment both grouped did not changed much in comparison to each other and that their follow up assessment scores were more or less same as they were on post assessment.*

**DISCUSSION**

Present study was conducted to evaluate the significance of Acceptance and commitment therapy in reducing internalized stigma of mental illness. The results of this study indicate that Acceptance and commitment therapy is effective in reducing internalized stigma of mental illness. The study showed that ACT group showed significant improvement in all domains of internalized stigma of mental illness, while TAU group showed stability in their previous position. The results of this study are in line with previous studies that have shown the effectiveness of Acceptance and commitment therapy in reducing internalized stigma of mental illness.
illness among patients with schizophrenia.

In this study it was found that ACT group improved significantly on all the domains of internalized stigma of mental illness, i.e., alienation, stereotype endorsement, discrimination, social withdrawal, stigma resistance and total score of internalized stigma of mental illness scale after completion of therapy at post assessment. They showed significant improvement on all of these measures. This proves that ACT is effective in reducing internalized stigma of mental illness. Significant difference was found between both groups on all the domains of internalized stigma at post assessment where, ACT group score significantly lower in comparison to TAU group. This finding again supports the significance of ACT in reducing internalized stigma.

Comparison between both groups on follow up assessment revealed that on follow up also ACT group scored significantly lower on all the domains of internalized stigma in comparison to TAU group. This finding suggests that ACT was effective in reducing stigma.

Comparison between both groups on difference (base line – post) scores suggests that on post assessment ACT group showed significantly sharp decline in internalized stigma as compared to TAU group. Further no significant difference was found between both groups on difference scores of post – follow assessment. This finding indicates that none of the group showed significant changes in internalized stigma and previous position was maintained in both the groups. The reason seems to be that after post assessment both group maintained more or less same status as it was on post assessment. ACT group though did not improve further but maintained the therapeutic gains that were achieved during post assessment on follow up. Similarly, TAU group also maintained the post assessment status on follow up assessment.

Only very few studies have focused on acceptance and commitment therapy as a formal intervention strategy to reduce internalized stigma in schizophrenia patients but similarities were found between different techniques and acceptance and commitment therapy e.g., psycho-education, and cognitive behavior therapy. McCay et al. (2010) found that psycho-educational programs are effective in reducing or minimize self-stigmatizing attitudes, develop hope, and helps the individual to interpret the illness and in pursuing life goals. Similarly in ACT focused is paid in eliciting life goals and attempts are made towards their achievement. Lumo et al. (2008) evaluated the effect of ACT in reducing the self-stigma in substance abuse patients and found it effective in reducing stigma. Findings of the present study are consistent with these findings. ACT also shares some elements with cognitive behavior therapy though its orientation is different to see the psychopathology. Empowering the individual is primary focus of ACT and it was found that empowering is inversely related to self-stigma (Brohan et al., 2010). Similar findings were reported by Masuda et al. (2007) who reported effectiveness of ACT in reducing stigma in people with psychological disorders and suggested that acceptance and commitment therapy is an important avenue of exploration for stigma researchers.

Findings of present study supports the use of acceptance and commitment therapy and new avenue in reducing the internalized stigma of mental illness in schizophrenia patients, however, the study has certain limitations. The sample size was small due to which parametric analysis was not done despite randomized control design and only male patients were selected which limits its generalization for female group. Further research is required on larger sample using double-blind procedure on various sub-groups of schizophrenia.

REFERENCES:

Brohan, E., Elgie, R., Sartorius, N., & Thornicroft, G. (2010). Self-stigma, empowerment and perceived discrimination among people with schizophrenia in...


Concurrency in Skill Enhancement and Problem Behavior Reduction Following Customized Behavioural Interventions in Children with Autism

Kadambari N¹ and Venkatesan S²

ABSTRACT
Concurrency is simultaneous occurrence of two or more events at the same time or in the same location. Most behavior change programs attempted on children with autism have been carried out separately for reducing problem behavior followed by enhancement of skill behavior or vice versa. Even as there are admitted challenges in identifying problem behaviors as distinct from skill behaviours, this study examines the feasibility, efficacy and benefits of a customised, time-bound and synchronized intervention in ameliorating the behavioural repertoire in eight children on autism spectrum. The targeted sample underwent a randomly blinded baseline assessment on two standardized behavior assessment scales, viz., ‘Problem Behavior Survey Schedule’ and ‘Activity Checklist for Preschool Children with Developmental Disabilities’ before being subjected to the 8-week long interventions spread over 12-one hour one-to-one and small group based sessions in home as well as therapy settings. The interventions used procedures derived from applied behavior analysis, environmental manipulation, direct instruction on identified individual skill deficits, structured teaching and parent guidance covering play, receptive-expressive communication, sensory-motor, pre-academics and self help activities. Even though there was observable-measurable changes in skill and problem behaviours as reflected by their test scores following the behavior interventions, the overall results were statistically insignificant (p: >0.05). A next level domain analysis showed that only ‘sensory’ items under skill behaviours were maximally gained as under problem behaviours, ‘temper tantrums’, ‘hyperactivity’ and ‘rebellious behavior’ reduced most (p: <0.01) over all other behavioural domains in children with autism. There are indications to show that greater skill behavior scores are inversely correlated to their problem behavior scores, both, in terms of intensity as well as frequency. The results are presented and discussed in the light of a growing need or value for concurrent use of customised behavioural interventions in skill enhancement and problem behaviour reduction to optimise benefits for children with autism.

Key Words: Concurrency, Behavioural Intervention, Skill behavior, Problem behavior

INTRODUCTION
The efficacy of individualised behavioural interventions in facilitating clinically significant gains in intellectual, language, social, emotional and adaptive functioning of children with autism has been severally demonstrated against matched control-groups receiving other interventions (Cohen, Amerine-Dickens, & Smith, 2006; Howard et al. 2005; Beadle-Brown, Dorey & Murphy, 2004; Anderson & Romanczyki, 1999). The location of these interventions have varied from homes (Anderson et al., 1987), mainstream preschool and kindergartens (Eikeseth, Klintwall, Jahr & Karlsson, 2012; Eikeseth, Smith, Jahr & Eldevik, 2002) to community-based settings (Stahmer, Collings & Palinkas, 2005). Studies have explored the viability of using parents as co-therapists (McConachie & Diggle, 2007; Smith, Buch & Gamby, 2000; Holmes, Hemsley, Rickitt & Likierman, 1982; McClannahan, Krantz & McGee, 1982).

Behavioural interventions applied on children with autism cover two aspects:

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acquisition, maintenance or enhancement of positive asset driven skill behaviours; and, 
(b) reduction, elimination or extinguishing of negative problem behaviours. Whereas 
‘behaviours’ are defined as ‘observable and measurable actions’, they are assumed to be 
learned due to environmental contingencies by which they get elicited and maintained. By 
the same school of thought, every behavior is understood to serve immediate functional-utilitarian purpose for the organism, which 
when analysed become the basis for engineering behavior change programs. There are antecedent 
driven and/or consequence controlled behaviours whose precise manipulations is the essence of 
‘Applied Behavior Analysis’ (ABA) programs that have been tried successfully on children with autism (Matson et al, 2012; 1996). Ideally, 
behavioural interventions come from research-based organizations and are implemented by 
certified experts. A few reasons why such programs may fail could be that the treatment 
is not sufficiently intensive and the intervention period is too brief or even that it does not 
meet the standard in terms of program quality (Reichow, 2012; Humphrey & Parkinson, 2006; 

Despite the apparently overwhelming evidence favouring behavioural interventions, 
critical methodological issues related to research design, randomization, heterogeneity of sample 
populations, case controls, recovery indices, measurement issues, generalization, and outcome 
evaluation involved in such studies have been raised (Kuppens & Onghena, 2012; Dawson et al., 2009; Matson & Smith, 2008; Matson, 2007; 
Hume, Bellini & Pratt, 2005). Issues related to cost-benefits in terms of behavior intervention 
services, its implementation and teacher or therapist training, how to integrate it with 
other treatments and how best to fill the gaps between research and practice have also been 
posed (Jacobson & Mulick, 2000). There are controversies regarding who responds best and 
to what degree. Despite the widespread notion that these programs result in long term benefits 
for the child with autism, there are marked holes in our knowledge largely due to methodological 
considerations (Matson et al, 2012a). A recent study argued that the 20–40 hours per week 
prescribed for behavioural interventions is much more than what is described in most ABA 
studies or that the children treated are typically between 2-3 years which is much younger than 
the samples of most ABA studies (Matson et al., 2012 b). Hence, there is little wonder that results 
of such interventions are generally reported as positive.

Ideally, there is need to combine, integrate and develop a holistic approach to behavioural interventions. Remediation 
must target decrement of problem behaviours with simultaneous increment in scores of skill behaviours for individual or groups of children. Against the background of this need, rationale and justification, it was the aim of this study to 
examine the feasibility, efficacy and benefits of a customised, time bound and synchronized 
behavioural intervention in ameliorating the behavioural repertoire on a treatment group of 
children on the autism spectrum. The specific objectives of this study were:

- To identify, list and record a baseline on the different types and specific instances of problem behaviours as distinct from deficits in their skill behaviours in children diagnosed as autism;
- To evolve and implement an individualized and/or small group based interventions on the target behaviours in children with autism for specified time frame and/or across envisaged sessions in home or school settings;
- To undertake a final evaluation of the intervention effects upon different types and specific instances of skill and problem behaviours in home or school settings for the identified children diagnosed as autism; and,
- To establish the reliability and validity indices of the measured indices.
METHOD

The study uses 2-group pre test post test comparative intervention-cum-correlation research design covering the period of data collection between June-July, 2013. The key terms used in this enquiry are: ‘Concurrency’, ‘Behavioural Intervention’ and targeted variables are: ‘skill behavior’ and ‘problem behavior’ as applied on a clinical sample of children with autism.

Operational Definitions

(a) Concurrency:

Concurrency, as used in this study, is simply the co-occurrence of two or more events or variables simultaneously at the same time, in the same location or in the same children with respect to their ‘skill behavior’ and ‘problem behavior’.

Skill & Problem Behaviours:

Skills or adaptive behavior contrasts maladaptive, dysfunctional, non-productive problem behaviours. It is age appropriate behavior necessary for an individual to function safely and independently in daily life. Problem behaviours, on the other hand, are negative, undesirable, maladaptive, or challenging although observable-measurable actions of people which may be deemed as not being age or situation appropriate, unproductive, interfering in their learning of new behaviours, harmful to self or others, occurring in magnitude sufficient to cause stress to others (Venkatesan, 2004). Typical categories of such behaviours are: ‘violent and destructive’, ‘self injurious’, ‘odd’ ‘antisocial’, ‘repetitive’, ‘temper tantrums’, ‘misbehaviour with others’, ‘anxieties or fears’, ‘hyperactivity and rebellion’ (Peshawaria & Venkatesan, 1992 b).

Sample:

The study covered 8 children (Age Range: 3-6 years; Mean: 4.97; SD: 0.98) diagnosed as autism without any co-morbid conditions. The ICD-10 official criteria (WHO, 2012) were followed in classification or categorization of cases in this study. They were drawn on the basis of convenience sampling from special/mainstream schools located in Mysore, Karnataka.

Tools:

Behavior assessment protocols typically use of psychometrically valid and standard tools to appraise, both, skill/positive as well as negative/problem behaviours. Some well known western and Indian tools for assessment of problem behaviours are listed in a related publication (Ganesh & Venkatesan, 2012). Most of them use parent/teacher ratings or estimations of problem behaviours in children with an acceptable measure of congruence between such respondents (Glaser, Kronsnoble & Forkner, 1997; Peshawaria, Venkatesan & Menon, 1990; 1988). Among the standardized behavior assessment scales developed in our country, the two most relevant tools opted for use in this study are: Activity Checklist for Preschool Children with Developmental Disabilities (ACPC-DD; Venkatesan, 2004) and Problem Behavior Survey Schedule (PBSS; Venkatesan, 2013).

The ACPC-DD is a standardized behavior assessment device to elicit systematic and comprehensive information on current level of skill behaviours in preschool aged children (0-72 months) with developmental disabilities. The tool consists of 400 items distributed evenly across 8 behavioural domains relevant to daily activities of such infants, toddlers and preschoolers, viz., Sensory, Gross-Motor, Fine-Motor, Communication, Play, Self-Help Activities, Cognitive Activities and Pre-academics. The specific number of items under each domain is intentionally fixed at 50. As per the procedure laid down for administration of ACPC-DD, each child is assessed and a behavioural profile of assets/deficits (i.e., behaviours s/he “could” and/or “could not” perform) are enlisted as baseline. The items are scored on 0-5 and maximum score can be 250 under each domain and 2000 on the whole for any given child.
The PBSS consists of 100 items grouped under 11 domains. The scoring of each child on PBSS is carried out on two counts: ‘Frequency Count Score’ (FCS) based on presence or absence of given problem behaviours; and ‘Intensity/Severity Count Score’ (I/SCS) of problem behavior for a given child. The former is marked as ‘present’ (score: one) or ‘absent’ (score: zero). The latter is calculated on a 3-point rating scale: ‘never’ (score: zero), ‘occasionally’ (score: one), and ‘frequently’ (score: two). Thus, the maximum possible FCS on PBSS is 100 and I/SCS is 200 for a given child. Additionally, PBSS facilitates for each child another ‘Directionality Score’ (DS) in terms of ‘internalizing’ and/or ‘externalizing’ patterns of problem behavior. The inter-rater reliability coefficient for PBSS is reported as 0.91 (p: <0.001) and 3-week test-retest reliability is 0.89 (p: <0.001).

**Procedure:**

Each child included in this study underwent baseline (BL) assessment on ACPC-DD and PBSS before a short list of 5-10 behavioural objectives simultaneously covering, both, skill and problem behaviours (if any) was identified for intervention on a clinic and home based intervention module. Supporting verbal and written guidelines on how to train the child on the chosen target behaviour or managing problem behavior, simple or pragmatic record keeping procedures, behavioural techniques to be implemented, bibliotherapeutic materials, reward or incentive systems to be used, were also given to each enlisted caregivers. Teaching aids/materials relevant to the chosen behavioural objectives were exemplified. Written instructions accompanied the verbal explanations such that record keeping was simple, pragmatic, direct and immediate during home training. The standardized “toy-kit” to go with ACPC_DD (Venkatesan, 2012; 2010) was also used as part of this program. There was at least one follow up in 4 weeks ranging for a period of two months. The entire intervention was implemented across 12 structured sessions including 4 sessions of group work. The behavioural achievements of each child was recorded during every follow up along with information on items not achieved or those marked as “ongoing” activities for further training.

The scores on the two checklists were compiled into discrete or meaningful categories during data analysis and statistical treatment. To determine covariance between acquisitions of skills as reflected on ACPC-DD and decrement of problem behaviours as measured on PBSS, correlation coefficients were calculated. By consensus, based on content and directionality, the classification, categorization and cataloguing of raw data on reported behavior changes vis-à-vis children with autism was carried out by 3 independent mutually blinded raters including the parent, teacher and therapist. The inter-rater reliability exercises measured range of 95.6-97.2 across the three respondents. All analysis was done on SPSS/PC (George & Mallery, 2003).

**Behavioural Interventions:**

This intervening variable in this study involved strategies that enable children to acquire certain behaviours to cover deficits and/or tone down excesses in a typically contrived environment before such changes are generalized. The emphasis was on analysis of here-and-now antecedents and/or consequences, which when identified and manipulated was used to alter any given behavior. Key elements in effective behavioural interventions typically included involvement of parents, peers and significant others as co-teachers or co-therapists, adoption of certain characteristic teaching methods, covering the particular curriculum spread across different environments, multiple settings, levels and variety of skills, and simultaneously addressing reduction of aberrant behaviours. The ground techniques involved use of rewards, careful selection of instructional materials and procedures like environmental manipulation, operant techniques like shaping, chaining, prompting or fading, contingency contracting, token economy, time out, extinction, etc. The stress was on customised or individualized instruction. Thereafter, the children as well
as the caregivers were continuously shadowed across real-life settings like school, home or community to achieve transfer of learning and generalization, integration and mainstreaming.

Broadly, the 8-week long customised behavioural intervention spread over 12-one hour sessions in home, school and therapy settings comprised of one-to-one as well as small group based sessions using procedures derived from ABA, environmental manipulation, direct instruction on identified individual skill deficits, structured teaching and parent guidance covering play, receptive-expressive communication, sensory-motor, pre-academics and self help activities. An exclusive and simultaneous focus was laid on identification and management of problem behaviours wherever present in each child. This was carried out by listing the observed or reported problem behaviours, prioritizing, analysing their antecedents and consequences, mapping their perceived ‘causes’ and/or ongoing ‘handling’ strategies, eliciting the constraints involved in implementation of home based programs etc. The overall long term objective of the intervention program was to enable the targeted children to internalize what is being trained or remedied and thereby reach a level of sufficient independent mastery. Similarly, the locus of control was not to be an external parent, school, teacher, parent or therapist driven initiative, but more of internally self-driven behaviours in the caregiver as well as the child.

The specific skill training procedures or techniques used in this study included activity scheduling, task analysis, prompting, shaping, chaining, fading, reinforcement, contingency contracting, token economy, modelling, etc. The individualised remediation techniques implemented after functional analysis of each problem behavior included extinction, differential reinforcement, time out, physical restraint, restitution or overcorrection, conveying displeasure, etc. Additional guidelines given to parents on home based program applications included resolving disagreements between caregivers, enabling them on correct identification of functions underlying specific problem behaviours, recommending them to desist against use of ad hoc, arbitrary or counter-productive techniques like false inducements, nagging, pleading, begging or bargaining with children. Counselling focused on assuaging doubts and elimination of felt or reported sense of guilt in few parents to use certain behavioural techniques (Humphrey & Parkinson, 2006; Gresham & MacMillan, 1998; 1997; Peshawaria & Venkatesan, 1992b; Lovaas, 1987).

RESULTS & DISCUSSION

The results are presented and discussed sequentially under the following heads:

Comparative Pre and Post-treatment Scores on Skill & Problem Behaviour

A comparative pre to post-treatment scores (Table 1) and their percentage gain (or increment) in skill behavior scores and/or concurrent percentage decrement of scores for problem behaviours as reported across informants (Table - 2) is given with graph (Figure - 1).

<table>
<thead>
<tr>
<th>Score (N: 8)</th>
<th>Skill Behaviours</th>
<th>Problem Behaviours Intensity Score</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Baseline</td>
<td>Final</td>
</tr>
<tr>
<td>Total</td>
<td>8192</td>
<td>8878</td>
</tr>
<tr>
<td>Mean</td>
<td>1024</td>
<td>1109.8</td>
</tr>
<tr>
<td>SD</td>
<td>142.9</td>
<td>147.6</td>
</tr>
<tr>
<td>p-value</td>
<td>T: 1.18; df: 14; p: 0.26</td>
<td>X2: 2.21; Df: 2; p: 0.3312</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Score (N: 8)</th>
<th>Problem Behaviours Frequency Score</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Baseline</td>
</tr>
<tr>
<td></td>
<td>P</td>
</tr>
<tr>
<td>Total</td>
<td>225</td>
</tr>
<tr>
<td>Mean</td>
<td>28.1</td>
</tr>
<tr>
<td>SD</td>
<td>8.7</td>
</tr>
<tr>
<td>p-value</td>
<td>X2: 0.03; Df: 2; p: 0.9851</td>
</tr>
</tbody>
</table>

(P: Parent; T: Teacher; Th.: Therapist)

The BL mean for overall sample (N: 8) on ACPC-DD is 1024 (51.2%; SD: 142.87) out of maximum possible score of 2000 for any given child assessed on this tool (Table 1). This improved following behavioural intervention to 1110 (55.5%; SD: 147.55) by a clear margin of 86 points (4.3 %). Concurrently, out of maximum possible score of 200, there is decrement on pre-to-post intervention mean Problem Behavior
Intensity Scores (PBIS) of 40.12 (20.06%; SD: 16.94) to 30.75 (15.38%; SD: 16.03) measuring decrease by 9.37 points (4.69%) for parents; 48.87 (24.44%; SD: 14.15) to 31.87 (15.94%; SD: 9.20) showing decrease by 17 points (8.5%) for teachers; and from 46.37 (23.16%; SD: 12.73) to 30.87 (15.44%; SD: 8.82) with decrease by 15.5 points (7.72%) for therapists respectively.

In terms of Problem Behavior Frequency Score (PBFS), based on presence or absence of given problem behaviours, out of maximum possible score of 100, there is decrement between pre-to-post intervention from 28.13 (SD: 8.71) to 25 (SD: 10.42) by 3.13 points (3.13%) for parents; 30.8 (SD: 7.70) to 26.8 (SD: 6.20) by 4 points (4%) for teachers; and from 29.5 (SD: 6.32) to 26.8 (SD: 5.73) by 3.5 points (3.5%) for therapists respectively. Thus, the trend of reported decrements for both, PBIS and PBFS is highest in teachers, followed by therapists and least by parents of the children although none of the gains are statistically significant (p: >0.05) (Table 2).

### Table 2: Concurrent Percentage Increment/Decrements for Skill & Problem Behavior Scores across Informants

<table>
<thead>
<tr>
<th>Domain</th>
<th>SB</th>
<th>PBIS-P</th>
<th>PBIS-T</th>
<th>PBIS-Th</th>
<th>PBFS-P</th>
<th>PBFS-T</th>
<th>PBFS-Th</th>
</tr>
</thead>
<tbody>
<tr>
<td>BL</td>
<td>51.2</td>
<td>20.06</td>
<td>24.44</td>
<td>23.16</td>
<td>28.13</td>
<td>30.75</td>
<td>29.50</td>
</tr>
<tr>
<td>FL</td>
<td>55.5</td>
<td>15.38</td>
<td>15.94</td>
<td>15.44</td>
<td>25.00</td>
<td>26.75</td>
<td>26.0</td>
</tr>
</tbody>
</table>

(Note: Values as converted to common point of reference as percentage gain or loss)

#### Domain Wise Distribution of Pre & Post-treatment Scores on Skill Behaviour:

<table>
<thead>
<tr>
<th>Domain</th>
<th>Sensory</th>
<th>Gross Motor</th>
<th>Fine Motor</th>
<th>Communication</th>
<th>Play</th>
<th>Self-Help</th>
<th>Cognitive</th>
<th>Pre Academic</th>
</tr>
</thead>
<tbody>
<tr>
<td>BL</td>
<td>1654</td>
<td>1512</td>
<td>1338</td>
<td>1418</td>
<td>1215</td>
<td>1271</td>
<td>913</td>
<td>986</td>
</tr>
<tr>
<td>FL</td>
<td>206.8</td>
<td>213.8</td>
<td>167.3</td>
<td>177.3</td>
<td>151.9</td>
<td>158.9</td>
<td>114.1</td>
<td>123.3</td>
</tr>
<tr>
<td>SD</td>
<td>5.3</td>
<td>5.5</td>
<td>11.5</td>
<td>10.4</td>
<td>18.5</td>
<td>16.0</td>
<td>37.4</td>
<td>40.4</td>
</tr>
<tr>
<td>T-value</td>
<td>2.59; 14</td>
<td>0.24; 14</td>
<td>0.81; 14</td>
<td>0.47; 14</td>
<td>1.53;14</td>
<td>1.01;14</td>
<td>0.59;14</td>
<td>1.78;14</td>
</tr>
<tr>
<td>p-value</td>
<td>0.02; S</td>
<td>0.81; ns</td>
<td>0.43; ns</td>
<td>0.64; ns</td>
<td>0.15; ns</td>
<td>0.33; ns</td>
<td>0.56; ns</td>
<td>0.10; ns</td>
</tr>
</tbody>
</table>

Even though there was overt changes in skill behaviours as reflected by increased test scores in the studied sample of children following behavior interventions, the overall results did not throw up statistically significant gains (p: >0.05). There are also forward moving skill behavior scores in all the measured domains of ACPC-DD. A further and deeper probe undertaken across the eight skill behavior domains (Table 3) reveal statistically significant gains only in area of ‘sensory’ behaviours between pre-test (Mean: 206.8; SD: 5.3) to post treatment (Mean: 213.8; SD: 5.5) scores (t: 2.59; df: 14; p: <0.02). Probably, the program focus, content, and/or even the demand of behavior change agents were on sensory issues in the studied children with autism. In a related study, it has been shown that sensory-motor efficacy of children with autism can be improved through tailor-made interventions (Baranek, 2002; Dawson & Watling, 2000).
### Table 4A: Domain Wise Distribution of Pre & Post-treatment Intensity Scores on Problem Behaviour

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<tbody>
<tr>
<td>BL FL BL FL BL FL BL FL BL FL BL FL BL FL BL FL BL FL BL FL BL FL</td>
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<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>50</td>
<td>37</td>
<td>33</td>
<td>18</td>
<td>33</td>
<td>25</td>
<td>29</td>
<td>24</td>
<td>53</td>
<td>35</td>
<td>65</td>
</tr>
<tr>
<td>Mean</td>
<td>6.4</td>
<td>4.6</td>
<td>4.1</td>
<td>2.3</td>
<td>3.1</td>
<td>3.6</td>
<td>3</td>
<td>6.6</td>
<td>4.4</td>
<td>8.1</td>
<td>4.9</td>
</tr>
<tr>
<td>SD</td>
<td>3.5</td>
<td>2.3</td>
<td>1.6</td>
<td>1.0</td>
<td>2.4</td>
<td>2.1</td>
<td>2.8</td>
<td>2.9</td>
<td>2.6</td>
<td>2.2</td>
<td>2.7</td>
</tr>
<tr>
<td>t-value</td>
<td>1.22; 14</td>
<td>2.70; 14</td>
<td>0.95; 14</td>
<td>0.421; 14</td>
<td>1.83; 14</td>
<td>2.84; 14</td>
<td>7.06; 14</td>
<td>2.76; 14</td>
<td>0.111; 14</td>
<td>0.162; 14</td>
<td></td>
</tr>
<tr>
<td>P</td>
<td>0.24; ns</td>
<td>0.01; s</td>
<td>0.36; ns</td>
<td>0.09; ns</td>
<td>0.01; ns</td>
<td>0.001; s</td>
<td>0.01; s</td>
<td>0.91; ns</td>
<td>0.91; ns</td>
<td>0.874; ns</td>
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</table>


### Table 4B: Domain Wise Distribution of Pre & Post-treatment Frequency Scores on Problem Behaviour

<table>
<thead>
<tr>
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<tbody>
<tr>
<td>BL FL BL FL BL FL BL FL BL FL BL FL BL FL BL FL BL FL BL FL BL FL</td>
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<tr>
<td>Total</td>
<td>39</td>
<td>34</td>
<td>20</td>
<td>17</td>
<td>24</td>
<td>20</td>
<td>19</td>
<td>18</td>
<td>30</td>
<td>26</td>
<td>37</td>
</tr>
<tr>
<td>Mean</td>
<td>4.9</td>
<td>4.3</td>
<td>2.5</td>
<td>2.1</td>
<td>3</td>
<td>2.4</td>
<td>2.3</td>
<td>3.8</td>
<td>3.3</td>
<td>4.6</td>
<td>4.3</td>
</tr>
<tr>
<td>SD</td>
<td>2.5</td>
<td>2.0</td>
<td>0.9</td>
<td>0.8</td>
<td>1.5</td>
<td>1.8</td>
<td>1.5</td>
<td>1.2</td>
<td>1.5</td>
<td>1.6</td>
<td>1.5</td>
</tr>
<tr>
<td>T-value; df</td>
<td>0.53; 14</td>
<td>0.94; 14</td>
<td>0.69; 14</td>
<td>0.11; 14</td>
<td>0.74; 14</td>
<td>0.39; 14</td>
<td>0.44; 14</td>
<td>1.46; 14</td>
<td>0.15; 14</td>
<td>0.00; 14</td>
<td></td>
</tr>
<tr>
<td>P</td>
<td>0.60; ns</td>
<td>0.36; ns</td>
<td>0.50; ns</td>
<td>0.91; ns</td>
<td>0.47; ns</td>
<td>0.71; ns</td>
<td>0.67; ns</td>
<td>0.17; ns</td>
<td>0.88; ns</td>
<td>1.00; ns</td>
<td></td>
</tr>
</tbody>
</table>


In above table there are no statistically significant differences elicited in respect to Problem Behavior Frequency Score (PBFS) (Table 4B), such differences emerge only with respect to certain domains only in relation to Problem Behavior Intensity Score (PBIS).

As with scores on overall skill behavior changes, the same trend is seen even with regard to improvements in their problem behaviours without statistically significant (p: > 0.05). The PBSS covers ten sub-categories of behavior problems. This gives an opportunity for undertaking a concurrent domain analysis on intensity and frequency of problem behaviours in this sample of children with autism across two dimensions, viz., Problem Behavior Intensity Score (PBIS) and the Problem Behavior Frequency Score (PBFS).

Table 4A; as in case of ‘temper tantrums’ (BL Mean: 4.1; BL SD: 1.6; FL Mean:2.3; FL SD:1.0), ‘hyperactivity’ (BL Mean: 6.6; BL SD: 0.9; FL Mean:3.9; FL SD:0.6) and ‘rebellious behavior’ (BL Mean: 3.4; BL SD: 1.4; FL Mean:1.6; FL SD:1.2)(P: <0.01). The score gains are insignificant for all the other problem behavior domains. Interestingly, ‘anti-social behaviours’ are not reported at all in children with autism. This implies that the behavioural intervention program has been probably successful only to the extent of reducing the intensity (not so much the frequency) of the problem behaviour in this sample of children with autism. problem behaviour in this sample of children with autism.

### Reliability & Validity:

Inter observer reliability between teachers, parents and therapists involved in
planning, implementation and reporting of gains accrued with behavioural intervention against its baseline was undertaken by calculating Pearson’s Correlation Coefficients and drawing the matrix between ratings given by the three independent mutually blind respondents. The inter-rater reliability coefficients for overall ratings on skill and problem behaviours are found to be in upper range of r: 0.85 to r: 1.00 (p: <0.001). Cronbachs alpha-internal consistency coefficients of reliability is measured as 0.73, split half (odd-even) reliability is 0.81, Spearman-Brown Prophecy is 0.89 and KR 20 is 0.82 respectively. Similarly, for domain wise distribution of pre to post-treatment scores on skill behaviour, Cronbachs alpha coefficients of reliability is found to be -0.31, Split-Half (odd-even) r: -0.08, Spearman Brown Prophecy is -0.17 and KR 20 is 0.69. The negative signs are indicating that the mean of all inter-item correlations is negative. Is this a reflection of measurement error? Or is it suggestive that the sample size is too small? Or is it an indication that the respondents have underplayed all skill behavior areas except ‘sensory’ domain, which is characteristically read and/or more frequently attributed for children with autism? Similarly, with regard to problem behavior intensity and frequency, while correlation coefficients of the three raters (parents, teachers and therapists) cluster consistently above or higher than r: 0.90 for baseline to final evaluation; for skill behaviours, they are low (r: <0.35) before and after treatment. Are these indications that greater the skill behavior scores of children, lower are their problem behavior scores in terms of intensity as well as frequency? While no definite conclusions may be drawn until more research is undertaken exclusively along these lines, the indications, if any, appear to be so. Although not in the ambit of this investigation, another post-interventional terminal evaluation reflected significant quantitative and qualitative gains which were also maintained after a 4-week follow thereby testifying the value of customised behavioural techniques in skill enhancement and problem behaviour reduction simultaneously.

In sum, the results of this study has demonstrated the feasibility for identifying, listing and recording a baseline on the different types and specific instances of problem behaviours as distinct from deficits in their skill behaviours in children diagnosed as autism. It has shown that it is possible to evolve or carry out case-by-case topological mapping of situations, triggers, antecedents, functions, maintaining aspects and consequences of the identified or observed problem behaviours for the identified children autism before undertaking strategic individualized and/or small group based behavioural interventions within specified time frame and/or across envisaged sessions in home or school settings. The results indicate increments in post intervention scores measuring skill behavior acquisition and concurrent decrease in scores measuring problem behaviours as reported independently by parents, teachers as well as therapists following individualized and/or small group based behaviours interventions on the targeted children with autism for a specified time frame and/or across envisaged sessions in home or school settings. Further, related reliability and validity indices of the measured variables are also calculated and found to be high. However, admittedly, there may be issues related to treatment fidelity in home-based interventions, compliance, difficulties in accurately measuring the extent of interventional inputs especially in naturalistic and parent-based interventions and the need for their independent monitoring that may all require more in-depth and systematic explorations in near future.

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REFERENCES


INTRODUCTION

Schizophrenia is commonly considered to be among the most intractable of mental illnesses with a chronic course and relatively stable neurocognitive deficits. Cognitive deficits are highly prevalent in schizophrenia, with estimates that as many as 98% of schizophrenia patients demonstrate impairment relative to their premorbid cognitive functions (Harrison and Weinberger, 2005). The use of neuropsychological tools in patients with schizophrenia have revealed wide-ranging neurocognitive deficits involving working memory, attention/vigilance, verbal learning and memory, visual learning and memory, reasoning and problem solving, speed of processing, and social cognitions (Green, Kern, Braff & Mintz, 2000). The degree of impairment has been reported to be one and a half to two standard deviations below healthy controls on several...
key dimensions of neurocognitive functions. (Heinrichs & Zakzanis, 1998). The findings of the meta-analyses of the various neuropsychological tests have found that, the executive functions and working memory are typically affected in patients with schizophrenia (effect sizes ranging from 0.61 to 1.18) (Dickinson, Ramsey & Gold, 2007). The findings of the MATRICS project again suggests maximum deficits in the domains of vigilance, more marked deficits in verbal learning than retention or recall (Green, Kern, Braff & Mintz, 2000).

The neurocognitive deficits have an impact on functional outcome as they are correlated with poor functional abilities including skills acquisition, problem solving and community living. The advent of atypical antipsychotics has made it possible to reduce psychotic symptoms, but their impact on cognitive or functional impairments have not been encouraging (Harvey & Keefe, 2001). In view of the limited efficacy of antipsychotics, remediation of cognitive deficits through cognitive retraining by psychological methods has shown promising results (Brenner et al., 1992; Hodel et al., 1997).

WCST (Wisconsin Card Sorting Test) is a complex problem-solving task, which requires multiple cognitive processes including memory, auditory and visual attention, motor skills, learning, abstraction, categorization and executive control (Banno et al., 2012). Many studies have focused that the deficits in WCST could be improved by providing the subjects various training strategies such as Didactic Instructional Training (Kern et al., 1996), Instructional and Learning-based Techniques (Young, et al., 1995) and Enhanced strategy formation (Spaulding, Reed, Sullivan, Richardson, & Weiler, 1999). WCST training in subjects has been found to produce generalization effect and improve performance in other non-trained neuropsychological tasks involving executive functions (Bellack, Blanchard, Murphy & Podell, 1996; Goldberg & Weinberger, 1994). The present study was designed to evaluate the efficacy of WCST retraining on the domains of attention, vigilance and working memory in patients with schizophrenia.

**METHOD AND MATERIAL**

This was a prospective, hospital-based, randomized, double blind controlled study conducted at RINPAS, Ranchi, India, over a period of 15 months. Patients with the diagnosis of Schizophrenia according to ICD-10 DCR (WHO, 1992), aged between 20-50 years, having at least 5 years of formal education and giving informed consent, were included in the study. Patients with co-morbid mental retardation, substance use, any medical or neurological illness, having received electroconvulsive therapy in the past, were excluded from the study. The study sample involved 34 patients with schizophrenia (n=34). The relevant socio-demographic and clinical data were collected. Positive and negative symptom scale (PANSS) was administered to evaluate the severity of positive and negative symptoms. The patients were initially administered ESDST (Eysenck’s Series of Digit Span Test), and N-Back (Verbal) test (1-back and 2-back), to measure the baseline deficits in attention, vigilance and working memory respectively. The selected 34 patients were divided into 2 equal groups (17 patients in experimental and 17 in control group) by block randomization. Four patients dropped out of the study. The experimental group was given WCST retraining for cognitive remediation by a clinical psychologist, till they were error free. The control group was kept wait listed without giving any intervention. In order to prevent bias, the interventional psychologist was blind to the nature of randomization.

WCST retraining was done in the patients of the experimental group, by administering the 128-card version of WCST. The test required the patients to match a series of cards beneath four reference cards according to shape, color, and number of geometric shapes and infer the sorting rule from feedback to their responses. The results were scored using the WCST: Computer Version 3: Research Edition (WCST: CV-3). The Didactic
method was used for the purpose of WCST retraining (Goldberg & Weinberger, 1994).

**Didactic Method of WCST Retraining:**

The retraining was conducted on cards 1 to 5 and repeated for cards 32 to 37 adjusting for the correct sorting rule, so participants received 2 sets of training per 64-card deck. If the participant did not understand the concept even after training, the examiner was allowed to provide the following corrective steps: (a) explain the concept of number, (b) rephrase by explaining that only one principle is correct at a time, (c) explain that choosing the correct category again would be correct, and (d) explain that if the response is “Wrong”, it is probably true that it will continue to be wrong and he/she should try either shape or number. However, if after two sets of training (cards 1 to 5 and 32 to 37) the participant was still unable to correctly respond, the test was discontinued ((Goldberg & Weinberger, 1994)).

Following cognitive remediation with WCST in the experimental group and nil intervention in the waitlisted control group, PANSS, ESDST and N-Back (Verbal) test were again administered to observe the changes in the scores. In order to minimize bias, the rater remained blind to the nature of intervention provided to the subjects. Throughout the study the subjects received the pharmacological treatment as decided by the treating team.

**Statistical Analysis:**

The data was analyzed using the computer software program, SPSS-20.0 for Windows®, with different parametric and nonparametric tests. The level of significance was taken as \( p < 0.05 \) (two tailed). The description of sample characteristics was done with descriptive statistics: percentage, mean and standard deviation. Group differences for sample characteristics were examined with independent t-test, chi-square test and Fischer’s exact test wherever applicable. Group differences in baseline scores (Pre-WCST administration) of PANSS, ESDST, and N-Back test (1- and 2-Back), and the changes in scores (Post-WCST administration) were done using Mann-Whitney U test. Pearson’ correlation was done to see any correlation between various socio-demographic, clinical variables and performance in the various Cognitive function tests.

**RESULTS**

In present study, the experimental group consisted of 15 patients with a mean age of 35.60 (SD 9.68) years and the control group consisted of 15 patients with a mean age of 32.13 (SD 9.63) years. The mean year of formal education was 11.80 (SD 2.56) years for the experimental group and 9.93 (SD 2.68) years for the control group, with a trend towards significant difference between the two groups (p= 0.062). In the experimental group, all the patients were male, whereas, in the control group, 3 out of the 15 patients were female. No statistically significant between group differences were observed in any socio-demographic variables.

In the experimental group, with regard to the initial WCST trial administered, the median total number of trials administered was 128 (Q1=121, Q3=128), with the total number of correct responses being 74 (Q1=7, Q3=80), Perseverative errors were 29 (Q1=25, Q3=39) and Non-Perseverative errors being 19 (Q1=14, Q3=21). The conceptual responses were 60 (Q1=52, Q3=70) and the number of failures to maintain set was 3 (Q1-2, Q3-3). The subjects were WCST retrained by didactic method, till they were error free.

**Table 1: Descriptive Statistics (Median and Percentiles) of the Various Parameters of the First WCST Trial Administered in the Experimental Group**

<table>
<thead>
<tr>
<th>WCST</th>
<th>Total trials</th>
<th>Total correct responses</th>
<th>Persev errors</th>
<th>Non-Perserv errors</th>
<th>Concept Respon</th>
<th>Cat. Comp.</th>
<th>Fail. Maint. Set</th>
</tr>
</thead>
<tbody>
<tr>
<td>Median</td>
<td>128</td>
<td>74</td>
<td>29</td>
<td>19</td>
<td>60</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>Percentile</td>
<td>25</td>
<td>121</td>
<td>70</td>
<td>25</td>
<td>14</td>
<td>52</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>75</td>
<td>128</td>
<td>80</td>
<td>39</td>
<td>21</td>
<td>70</td>
<td>6</td>
</tr>
</tbody>
</table>
Legend: Total correct respon.- Total correct responses; Persev.- Perseverative; Concep Respon- Conceptual responses; Cat. Comp.- Categories completed; Fail. Main. Set- Failure to maintain set.

With regard to the severity of psychopathology, at baseline itself, there was significant between group difference in PANSS Positive scale score (p= .058*), and this difference was maintained between the two groups after WCST training (p= .050*). However, there was no significant difference between the two groups in PANSS Negative scale score, General Psychopathology scale score and total score, both before and after WCST retraining. The findings suggest the lack of any therapeutic effects of WCST retraining on the severity of psychopathology measures in patients with schizophrenia.

Table 2: Comparison of Digit Span Test Scores between the Experimental and Control Group at Baseline and After WCST Training

<table>
<thead>
<tr>
<th>Variable</th>
<th>WCST (n=15) Mean Rank</th>
<th>Non-WCST (n=15) Mean Rank</th>
<th>Mann-Whitney U</th>
<th>Z</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pre-WCST</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>DF</td>
<td>15.47</td>
<td>15.53</td>
<td>112.00</td>
<td>-.022</td>
<td>.982</td>
</tr>
<tr>
<td>DB</td>
<td>16.37</td>
<td>14.63</td>
<td>99.500</td>
<td>-.616</td>
<td>.538</td>
</tr>
<tr>
<td>Post-WCST</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>DF</td>
<td>17.70</td>
<td>13.30</td>
<td>79.500</td>
<td>-1.441</td>
<td>.149</td>
</tr>
<tr>
<td>DB</td>
<td>15.97</td>
<td>15.03</td>
<td>105.500</td>
<td>-.313</td>
<td>.754</td>
</tr>
</tbody>
</table>

Legend: DF-Digit forward, DB- Digit backward; P= Not significant

In ESDST (Eysenck’s Series of Digit Span Test) for measurement of attention and vigilance, there were no significant differences between the groups in DF and DB scores at baseline. Even after WCST training of patients in the experimental group, no significant between group differences were observed in DF and DB scores.

Table 3: Comparison of N-Back (1-Back) Test Scores Between the Experimental and Control Group at Baseline and after WCST Training:

<table>
<thead>
<tr>
<th>Variable</th>
<th>WCST (n=15) Mean Rank</th>
<th>Non-WCST (n=15) Mean Rank</th>
<th>Mann-Whitney U</th>
<th>Z</th>
<th>P</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pre-WCST</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hits</td>
<td>20.80</td>
<td>10.20</td>
<td>33.000</td>
<td>-3.424</td>
<td>.001**</td>
</tr>
<tr>
<td>Err. Omis. (O)</td>
<td>14.40</td>
<td>16.60</td>
<td>96.000</td>
<td>-.700</td>
<td>.484</td>
</tr>
<tr>
<td>Err. Commis (C)</td>
<td>14.00</td>
<td>17.00</td>
<td>90.000</td>
<td>-1.175</td>
<td>.240</td>
</tr>
<tr>
<td>Total Error (O+C)</td>
<td>13.83</td>
<td>17.17</td>
<td>87.500</td>
<td>-1.058</td>
<td>.290</td>
</tr>
<tr>
<td>Post-WCST</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hits</td>
<td>20.77</td>
<td>10.23</td>
<td>33.500</td>
<td>-3.750</td>
<td>.000**</td>
</tr>
<tr>
<td>Err. Omis. (O)</td>
<td>13.40</td>
<td>17.60</td>
<td>81.000</td>
<td>-1.397</td>
<td>.162</td>
</tr>
<tr>
<td>Err. Commis. (C)</td>
<td>14.00</td>
<td>17.00</td>
<td>90.000</td>
<td>-1.795</td>
<td>.073</td>
</tr>
<tr>
<td>Total Error (O+C)</td>
<td>13.80</td>
<td>18.00</td>
<td>75.000</td>
<td>-1.645</td>
<td>.100</td>
</tr>
</tbody>
</table>

Legend: (O) - Errors of Omission, (C) - Errors of Commission, (O+C) - Total Error Score

**Significance at p<.001, *Significance at p<.05 (2-tailed)

In the N-back test (1-back), at baseline itself, there was highly significant difference between the two groups in the Hits score (p= 0.001), and this difference was maintained between the groups (p=0.000), even after WCST training in the experimental group. However, there was no significant between the group differences in the Error of Omission, Error of Commission and Total error score at baseline and post WCST rating.

Table 4: Comparison of N-Back (2-Back) test scores between the Experimental and Control Group at Baseline and After WCST Training:

<table>
<thead>
<tr>
<th>Variable</th>
<th>WCST (n=15) Mean Rank</th>
<th>Non-WCST (n=15) Mean Rank</th>
<th>Mann-Whitney U</th>
<th>Z</th>
<th>P</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pre-WCST</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hits</td>
<td>16.83</td>
<td>14.17</td>
<td>92.500</td>
<td>-.848</td>
<td>.397</td>
</tr>
<tr>
<td>Err. Omis. (O)</td>
<td>14.73</td>
<td>18.27</td>
<td>101.000</td>
<td>-.490</td>
<td>.624</td>
</tr>
<tr>
<td>Err. Commis. (C)</td>
<td>14.30</td>
<td>16.70</td>
<td>94.500</td>
<td>-.850</td>
<td>.396</td>
</tr>
<tr>
<td>Total Error (O+C)</td>
<td>14.57</td>
<td>16.43</td>
<td>98.500</td>
<td>-.594</td>
<td>.553</td>
</tr>
<tr>
<td>Post-WCST</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hits</td>
<td>16.67</td>
<td>14.33</td>
<td>95.000</td>
<td>-.753</td>
<td>.452</td>
</tr>
<tr>
<td>Err. Omis. (O)</td>
<td>14.67</td>
<td>16.33</td>
<td>100.000</td>
<td>-.539</td>
<td>.590</td>
</tr>
<tr>
<td>Err. Commis. (C)</td>
<td>13.47</td>
<td>17.53</td>
<td>82.000</td>
<td>-1.477</td>
<td>.140</td>
</tr>
<tr>
<td>Total Error</td>
<td>12.40</td>
<td>18.60</td>
<td>66.000</td>
<td>-1.981</td>
<td>.048*</td>
</tr>
</tbody>
</table>

*Significance at p<.05 (2-tailed)
In N-back test (2-back), at baseline, there was no significant between group difference in the total error score, but following WCST training in the experimental group, a statistically significant difference (p=0.048) was observed in the total error score between the two groups. This reflects the therapeutic benefits of WCST retraining in the domain of working memory deficits in patients with schizophrenia.

Pearson correlation coefficients between the various socio-demographic, clinical variables and performance in Cognitive function tests in the study sample at baseline (before WCST training), reflect the possible influences of the various socio-demographic and clinical variables on the performance in Cognitive function assessment tests. With regard to the WCST trial parameters, in the experimental group, the years of education was found to have a negative correlation with the number of perseverative errors (r= -.519, p= .047). However, the years of education was found to have positive correlation with the number of conceptual responses (r=0.515, p= 0.049) and the number of categories completed (r=0.709, p=0.003).

In the experimental group, age of the patient was found to have positive correlation with the score obtained or performance in DF test (r=0.558, p=0.031). Similarly, the years of education was positively correlated with the score obtained or performance in DB test (r=0.611, p=0.015). However, past history of psychiatric illness was found to have negative correlation with the score obtained or performance in both DF test (r=-0.732, p=0.002) and DB test (r=-0.601, p=0.018). The history of significant head injury in the past was found to negatively correlate with the errors of commission in N-Back test (r= -.535, p=.040).

In the control group, history of significant head injury was found to have negative correlation with the number of hits (r=0.524, p=0.45), but, positive correlation with the errors of omission (r=0.533, p=0.041) and total number of errors (Errors of omission and commission) (r=0.543, p=0.036) in the N-Back test. Similarly, family history of psychiatric illness was found to positively correlated with the total number of errors (r=0.538, p=0.039) in the N-Back test.

Regression analysis was done to observe the effect of education (in years) on the various WCST trial parameters. A significant relationship was observed between the covariate duration of education (in years) and the various WCST trial parameters (β= 1.872; P= 0.014), suggesting the influence of education (in years) on WCST trial performance. The Cox & Snell R Square value (= 0.544) and Nagelkerke R Square (=1.000) were suggestive of the appropriateness of the model.

**DISCUSSION**

The sample of our study comprised of 34 patients with schizophrenia, out of which 4 patients dropped out, and finally 30 patients were recruited, which is comparable to previous studies on other methods of WCST retraining in schizophrenic patients (Young, Freyslinger & Scaffolded, 1995; Choi, & Kurtz 2009). The dropout rate was 11.8 %, which is less as compared to the above mentioned studies, the reason being non-cooperation to carry out the retraining procedures. In the experimental group, all the patients were male, whereas, in the control group, 3 out of the 15 patients were female. The rest 30 patients cooperated to be retrained on WCST by didactic method, till they were error free. Initial PANSS and the neuropsychological tests such as ESDST, and N-Back (Verbal) test (1- test and 2- test), could be administered at baseline and following intervention in all the patients.

The mean age of patients in the experimental group was 35.60 (SD 9.68) years and 32.13 (SD 9.63) years in the control group, which is similar to the previous studies involving WCST retraining (15, 16). The mean years of formal education was 11.80 (SD 2.56) years for the experimental group and 9.93 (SD 2.68) years for the control group, which is consistent with
the previous studies involving other methods of WCST retraining: 10.89 (SD 1.96) years (Didactic retraining method), 11.31 (SD 2.35) years (Self-monitoring method) (Bell, Bryson, Greig, Corcoran & Wexler, 2008).

In relation to the performance in the initial WCST administration in the experimental group, the parameters were similar to the previous studies involving WCST performance in schizophrenic patients, the findings suggesting greater perseverative errors, perseverative responses, trials to succeed at the first category, and lower conceptual level responses in patients with schizophrenia (Bromley, 2007). An attractive hypothesis proposed to explain these deficits is that the patients with schizophrenia show a diminished capacity to generate or apply cognitive inhibition, which manifests as cognitive control deficits and frequent distraction by non-pertinent stimuli (Young & Freyslinger, 1995; Bromley, 2007).

The changes in the PANSS score following WCST retraining in the experimental group were statistically insignificant, suggesting towards the lack of therapeutic efficacy of WCST retraining on the severity of psychopathology measures. ESDST is a measure of attention & concentration and indirectly reflects the influence of working memory. In the present study, no significant between group differences were observed in the Digit Span test scores between the experimental and control group, both at baseline and after WCST training, indicating the lack of therapeutic gains of WCST retraining on attention and vigilance in patients with schizophrenia. N-Back Test (verbal) is a measure of verbal working memory and comprises of ‘1 Back’ and ‘2 Back’ task (Gazzaniga, Ivry, Richard, Mangun, & George, 2009). In the N1-Back Test, at baseline itself, there was highly significant difference between the two groups in the Hits score (p=0.001), and this difference was maintained between the groups (p=0.000), even after WCST training in the experimental group. There was lack of significant between group differences in the other parameter scores such as Error of Omission/Commission and Total Error Score, both at baseline and post WCST rating. However, in the N2-Back Test, there was no significant difference between the group difference in the total error score at baseline, but following WCST training in the experimental group, a statistically significant difference (p=0.048) was observed in the total error score between the two groups. The result suggests that WCST retraining improved the verbal working memory measure in patients with schizophrenia. Since, sustained attention or concentration is again influenced by working memory (Lewis & Lieberman, 2000), and there was improvement in verbal working memory with WCST retraining, the beneficial effect of WCST retraining on attention and concentration could be possible, which was statistically not reflected in our study. Previous studies involving other methods of WCST retraining have consistently reported generalization of improvement to psychomotor speed, performance in divided attention tasks, tests of proverb interpretation and other untrained test of executive function (Bellack et al., 1996; Choi et al., 2009). In present study the improvement observed in the verbal working memory, and the indirect beneficial evidence on attention and vigilance, is possibly the generalization of improvement effect, which could be the resultant of the repeated didactic method of WCST retraining.

The findings of correlation tests and regression analysis suggested that with greater years of education in patients with schizophrenia, during the performance on WCST, the number of conceptual responses and categories completed increased, while, there was decrease in the number of perseverative errors. The performance on WCST depends on various cognitive skills including memory, learning, abstraction, categorization and executive control, which are again influenced by the years of education (Banno et al., 2012). The correlation coefficients again suggested that with increase in age and years of education, there was improvement of performance in
Digit span test in patients with schizophrenia. Like in WCST, the performance on Digit span test depends on attention & immediate memory, which have been reported to improve with age and years of education (Banno et al., 2012). History of psychiatric illness probably has a negative influence on immediate or working memory, which is reflected in the poor performance on Digit Span Test in the study population (Braff, 1999). In the control group, H/o significant head injury resulted in decrease in the number of hits and increase in the Errors of omission and commission. To accomplish the task in N-Back Test, the patient needs to both maintain and manipulate information in working memory which can be seriously compromised depending on the nature and site of head injury (Gazzaniga, et al., 2009). Similarly, family history of psychiatric illness was found to positively correlate with the total number of errors in the N-Back Test, again suggesting the influence of genetic factors on working memory in patients with schizophrenia. Other unmeasured confounders such as motivation, awareness of having a disease and stage of the schizophrenic process, and learning potential of the individual could have an indirect bearing on the task performance in WCST and the other cognitive measurement tools employed in our study population. These factors could also have influenced the outcome revealed in the cognitive remediation by WCST retraining method in our study.

CONCLUSIONS

The results of the present study show the didactic method of WCST retraining in patients with schizophrenia was found to produce statistically significant improvement in verbal working memory, but not on the measures of attention and vigilance. Since, sustained attention or concentration is again influenced by working memory, and there was improvement in verbal working memory with WCST retraining, the beneficial effect of WCST retraining on attention and concentration cannot be completely negated. The finding suggests that enhanced task instruction on the WCST by didactic method could possibly result in longer and generalization of the improvement effects to other cognitive test performance. Again, the study provides clues that neuropsychological approaches to cognitive remediation could be potentially useful as a therapeutic tool for cognitive deficits in schizophrenia.

REFERENCES:


Migraine and Tension-type headache in Indian adolescents: Psychosocial causes and its Psychosocial Correlates.

Pragya Sharma¹, Manju Mehta² and Rajesh Sagar³

ABSTRACT

The present study aimed to explore the psychosocial causes of migraine and tension-type headache in Indian adolescents and its impact on their daily living. Data on headache was gathered from 10 participants by in-depth interviews about headache history, headache impact test (HIT) and the maintenance of headache diary. Youth Self Report was used to assess behavioural and emotional problems by measuring the intensity and frequency of externalizing, internalizing, social, thought, and attention problems. It was found that stress is one of the major triggering factors of migraine and tension-type headache. Headache diary showed that more stress occurs prior to a headache. Other causes were found to be peer and parental pressure; performance, social and stage anxiety; conflicts with peers, parents and in romantic relationships; and stressful family environment. Headache was found to lead to impairment in physical wellbeing (somatic complaints), psychological well-being (anxiety, depression, and emotional inhibition), daily functioning (school absence and social dysfunction), and the global evaluation of health and of happiness. Thus it’s important to come up with an intervention module that will address its causes and bring about an improvement. Transdiagnostic Cognitive behavior therapy is a field new to Indian therapeutic context. However, looking at its advantages, it’s beneficial to bring about these changes in the existing therapeutic module.

Key Words: Adolescents, Migraine, Tension Type Headache, Psychosocial Causes

INTRODUCTION

Headache is a common complain among adolescents (Perquin et al. 2000, Petersen et al., 2003; Roth-Isigkeit et al., 2004). World Health Organization has given migraine the disability score of 0.7 and referred to it as one of the most debilitating illnesses (Leonardi et al., 2005). Headache leads to significant disruption of adolescent’s normal daily activities at home, school and social settings. It may also result in emotional changes like anxiety or sadness. These disruptions create significant disability thus affecting the quality of life of the adolescent. Early recognition and management of headache can improve their quality of life and normalize their daily activities.

The International Classification of Headache Disorders – 2 (2004) categorizes headache as either primary or secondary which are further divided into specific headache types. Primary headache disorders are not associated with an underlying pathology and include migraine, tension-type and cluster headache. Primary headaches are the most commonly occurring in children and adolescents, especially migraine, tension type headache and chronic daily headache. Secondary headache disorders are attributed to an underlying pathological condition and can be due to various organic etiologies or drug induced origin.

Primary headaches are among the first 20 major causes of disability as per World Health Organization (Pini, 2006). An increase has also been seen in tension type headache in children and adolescents (Just et al., 2003).

The prevalence rate of headache ranged from 37 to 51 percent in those who were at least
seven years of age and gradually rose to 57 to 82 percent by age 15. Frequent episodic tension-type headache was the most common (25.9%) headache followed by migraine (14.5%) (Karli et al., 2006). In tension-type headache, the prevalence rates in adolescents have varied from 10% to 25%, being higher in girls than in boys (Zwart et al., 2004; Laurell et al., 2004).

In a twin study by Russell et al. (2006), the prevalence of adolescent tension-type headache has been shown to be as high as 81-91% among girls, and 79% among boys.

In India, Gupta et al. (2009) found 57.5% adolescents to be suffering from recurrent headaches. Tension type headache was found to be most common (51%) followed by migraine (Malik et al., 2012). Average age of headache onset was 11 years. In a questionnaire based survey done on undergraduate dental students by Nandha et al. (2013) headache prevalence of 64% was seen – higher in females (74%) as compared to males (33%).

**Causal Factors in Primary Headache:**

Stress is the most common triggering factor in tension type headache and migraine. Prospective studies have shown that more stress occurs the day before a migraine attack (Passchier et al., 1993). School-related stress including problems with peers, teachers and cognitive demands are a potent source of strain for adolescents (Hjern et al., 2008). Family conflict also emerges as a stressor and correlate of headache (Kashikar-Zuck et al., 2011). Lack of sleep and missed meals are other causal factors of migraine in adolescents.

**Impact:**

Migraine or chronic headache is associated with impairment in physical wellbeing (somatic complaints), psychological well-being (anxiety, depression, and emotional inhibition), daily functioning (school absence and social dysfunction), and the global evaluation of health and of happiness (Passchier and Knippenberg, 1991).

Caring for a child with a physical disease puts a strain on the child's family. School absence and frequent somatic complaints due to frequent headache or migraine may lead to what Breslau et al. (1982) describe as "perceived role restriction" in the parents. They define perceived role restriction as "The extent to which a person feels unable to pursue one's own personal interests due to the responsibilities involved with raising a child with a chronic physical condition". Perceived role restriction is related to the extent to which the child's family perceives social support from their social network. Therefore, though severe tension headache and migraine are not regarded as disabling physical diseases, these disorders may lead to a perceived role restriction in the family to the same degree as a disabling disease. As such, it can be expected that the quality of life related to the young headache patients' role functioning in his or her family will be decreased.

**METHOD**

The present study aimed to explore the psychosocial causes of migraine and tension-type headache in Indian adolescents and its impact on their daily functioning.

**Sample:**

The sample comprised of 10 adolescents aged 10-19 year old (4 males and 6 females) who met current primary diagnosis of primary headache (tension type headache and migraine) as per International Headache Society (IHS) criteria (minimum duration 6 months), having average Intellectual Ability (above 90 MISIC) and basic reading and writing ability with no significant change in medication regime since past four weeks.

Those with a history of head injury, epilepsy, history suggestive of organic disorder or concurrent primary diagnosis of any major psychotic disorders, eating disorders, conduct disorder, pervasive developmental disorders, substance abuse and mental retardation were excluded from the study.

**Procedure:**

The research proposal was approved by the ethics committee of the institute (All India Institute of Medical Sciences, New Delhi).
Sample was chosen by purposive sampling and assessments were carried out.

**Measures:**

**Socio-demographic and Clinical Data Sheet:** This data sheet was developed for the present study by the researcher to obtain socio-demographic details of the participants. A brief clinical history with reference to the onset of the problem, nature of the problem, treatment history, family history, past history, personal history was assessed.

**Malin's Intelligence Scale for Indian Children (MISIC) (Malin, 1971):**

It is an adaptation of Wechsler Intelligence Scale for Children (WISC) used to assess the cognitive abilities of the child. There are 11 sub-tests which generate a verbal IQ, performance IQ and a total IQ score.

**Youth Self Report (YSR) (Achenbach & Rescorla, 2001):**

It is used to measure behavioural and emotional functioning of adolescents between the ages of 12 and 18. It has two sub-areas: (a) 20 competence items and (b) 112 items that measure eight sub-scale symptoms: withdrawn, somatic complaints, anxiety and depression, social problems, thought problems, attention problems, aggressive behavior, and delinquent behaviours.

**Headache History (Steiner et al., 2007):**

It consisted of questions about headache types, time, character, cause and response of headache; and health state.

**Headache Diary:**

It is used to record frequency, duration and intensity of headache - Whether they had headache attacks (yes/no), Intensity (Visual Analogue Scale: 0-10; 0 – no pain; 10 -strong pain), Duration of the attack (in hours).

**Headache Impact Test (HIT) (Kosinski et al., 2003):**

It is a composite measure consisting of six items used to measure the impact headache have on ability to function at school, home and in social situations. It is useful for screening and monitoring change in headache impact. It has a high reliability with internal consistency ranging from 0.82-0.92.

**RESULTS**

Headache history revealed various common predisposing factors/ triggers and aggravating factors. These were found to be conflicts within home, with peers, in school/ romantic relationships; stress related to examination; peer and parental pressure; performance, social and stage anxiety; and stressful family environment.

**Table 1: Results on Youth Self Report**

<table>
<thead>
<tr>
<th>Syndrome Scale</th>
<th>% of adolescents (n=10)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Anxious</td>
<td>80%</td>
</tr>
<tr>
<td>Withdrawn/depressed</td>
<td>30%</td>
</tr>
<tr>
<td>Somatic complaints</td>
<td>40%</td>
</tr>
<tr>
<td>Social problems</td>
<td>30%</td>
</tr>
<tr>
<td>Thought problems</td>
<td>10%</td>
</tr>
<tr>
<td>Attention problems</td>
<td>40%</td>
</tr>
<tr>
<td>Rule-breaking behaviour</td>
<td>10%</td>
</tr>
<tr>
<td>Aggressive behaviour</td>
<td>10%</td>
</tr>
</tbody>
</table>

Headache diary revealed that the preceding event was either stressful (like exam/homework related or personal, peer and family stressors) or threatening (self or social image). These findings corroborate with those on headache history.

**Table 2: Results on Headache Impact Test**

<table>
<thead>
<tr>
<th>Scores on HIT</th>
<th>% of adolescents (n=10)</th>
</tr>
</thead>
<tbody>
<tr>
<td>60 and above</td>
<td>40%</td>
</tr>
<tr>
<td>56 - 59</td>
<td>40%</td>
</tr>
<tr>
<td>50 - 55</td>
<td>20%</td>
</tr>
<tr>
<td>49 or less</td>
<td>0%</td>
</tr>
</tbody>
</table>

For 40% of the adolescents, headache had a severe impact on their lives disrupting daily activities. For another 40%, headache had a substantial impact on their lives while in case of 20% adolescents, some impact of headache on their lives was seen.

**DISCUSSION**

Prevalence of headache is common in childhood and increases in frequency in adolescence. Stress is one of the major triggering factors of migraine and tension-type headache in adolescents. It also leads to aggravation...
of symptoms. Headache diary kept by the adolescents revealed that the event immediately preceding headache was in most situations, stressful. Bjorling (2009) in his study of 31 female adolescents found a strong correlation between perceived stress and headache.

Some possible triggers identified during history taking were conflicts within home, with peers, in school/romantic relationships; stress related to examination; peer and parental pressure; performance, social and stage anxiety; and stressful family environment. A change in section or school, birth of a new sibling, being bullied, lack of friends, being overweight, learning difficulties, change in residence and death of a family member were some other triggers and aggravating factors that came up during the headache history taking. These causes were reiterated by the headache diary managed by the adolescents. Economic hardship (Holstein et al., 2009), parental separation (Bugdayci et al., 2005), poor family environment (Juang et al., 2004), abuse (Fuh et al., 2010; Zafar et al., 2012) and bullying (Luntamo et al., 2012) have been seen to have a positive association with headache.

YSR answers were scored on two profiles. The competence profile composed of three scales (Activities, Social, and Academic) was found to be low in 80% of the adolescents indicating poor functioning in academic, social and extracurricular activities. On the syndrome scale, 80% of the adolescents were seen to have anxiety, 40% had somatic complaints and attention problems each, 30% scored high on withdrawn/depressed scale and social problems scale while 10% each had thought problems, rule-breaking behavior and aggressive behavior. Overall, the adolescents were seen to score higher on internalizing syndrome (Anxious, Depressed, Somatic Complaints) than externalizing syndrome (Rule Breaking Behavior, Aggressive Behavior scales). They scored high on mixed scales of social problems, thought problems and attention problems scales.

Several researches show an association between adolescent headache, psychological stress and internalizing problems (Anttila et al., 2004; Bag et al., 2005; Just et al., 2003; Mazzone et al., 2006) such as withdrawal, anxiety, depression, inhibition, passiveness and fear of disease. A few studies (Mazzone et al., 2006; Santalahiti et al., 2005; Virtanen et al., 2004) also focus on the relation between headache and externalizing behaviours (environmental conflict, impulsiveness, anger and antisocial behavior).

Research studies show that adolescents with frequent headaches also suffered from anxiety, depression, somatic and attention problems (Egger et al., 1998; Karwautz et al., 1999; Hunfeld et al., 2001). They were found to report more psychosocial problems and higher levels of psychiatric disorders (such as anxiety and depression) as compared to those who did not suffer from headache (Boz et al., 2004; Mazzone et al., 2006). As far as the cause of these disorders is concerned, few researches consider chronic pain to be causing or being a consequence of emotional distress while others indicate stress, environmental or genetic factors trigger a poor regulation of neurochemicals which leads to the disorder (Bag et al., 2005; Boz et al., 2004; Venable et al., 2001; Rhee, 2000).

Adolescents suffering from headache often report unpleasant social relations (Karwautz et al., 1999; Martin & Soon, 1993; Martin & Theunissen, 1993) and strong reactions to stress. They also report high stress related to scholastic achievement caused by truancy and tiredness (Sarioglu et al., 2003).

On Headache Impact Test, for 40% adolescents, headache had a severe impact on their lives disrupting daily activities while for another 40%, headache had a substantial impact on their lives and in case of 20% adolescents, some impact of headache on their lives was seen. These daily activities included household chores, school or social activities. Further, headache had an impact on adolescent’s energy level and concentration, reducing both. It also
led to feelings of irritation and frustration. Adolescent headache has been found to lead to impaired psychosocial functioning in various areas of life (family, productivity at school and leisure time activities) (Woer et al., 2000) and seen to frequently lead to anxiety and depression in adulthood (Guidetti et al., 1998). Headache is the third topmost reason for school absenteeism and results in substantial functional impairment (Newacheck et al., 1992).

Adolescents suffering from headache or migraine report a maladaptive behavioural functioning compared to no-headache controls (Passchier et al., 1993). Migraine attacks lead to short but strong interruption of daily life activities while tension headache affects emotional functioning in a negative manner (increased fatigue, depression). Headache contributes to a large burden of disability, reduced school attendance, diminished quality of life and causes a substantial cost to parents and the healthcare system.

Cognitive behavior therapy has been successfully applied to pediatric headaches (Kroener-Herwig and Denecke, 2002; Palermo et al., 2009, 2010; Trautmann and Kroener-Herwig, 2010). Further, Transdiagnostic Cognitive Behavior Therapy (TCBT), a therapy made available to individuals with a wide range of diagnosis (Mansell et al., 2008) may also be helpful in treating headache. As headache frequency is significantly associated with externalizing and internalizing problem behaviours (Virtanen et al., 2008), its comorbidity with other disorders renders it suitable for application of TCBT as it focuses on all aspects of problem behavior. TCBT reduces burden on the client as well as the therapist by being time and cost effective and can be done in a group setting.

CONCLUSION

Stress is seen to be intricately linked as a triggering and aggravating factor for headache. Headache leads to impairment in physical, psychological well-being and daily functioning of the adolescent. Thus it’s important to come up with an intervention module that will address headache causes and bring about an improvement. Transdiagnostic Cognitive behavior therapy is a field new to Indian therapeutic context, has certain advantages and may prove beneficial in the treatment of adolescent headache and comorbid disorders.

REFERENCES


A Study on Parent-Child Relationship, Ego Identity and Expression of Aggression in Juvenile Delinquents

Sreetama Chatterjee and Tilottama Mukherjee

ABSTRACT

The alarming escalation in youth crime has become a major impediment to the well being of society. Though, literature reveals importance of bio-psycho-social factors, yet specific studies comparing juvenile delinquents’ varied psychopathology with that of normal children is still scarce in Indian context. Hence, to probe further, the present study was done by following a matched group design. Purposive sampling was used to take a sample of thirty (15 juvenile delinquents and 15 normal controls without any OTHER behavioral problems) between 9 to 13 years of age. A specially designed Socio demographic data sheet was given to both groups, Child Behaviour Questionnaire (CBQ) was used as a screening tool for selection of control group, children’s perception of parents was assessed by using Parent Child Relationship Scale (PCRS), ego-identity was assessed by Ego-identity Scale and lastly aggression was evaluated by Rosenzweig Picture Frustration Test. The mean values, standard deviation and students-t test was used. Results indicated that the juvenile delinquents perceived their parents more negatively than control group. Although no significant difference was found between the two groups in dimension of ego-identity, however mean scores of normal children were comparatively higher. Also, they had significantly low ego defense and impunitiveness but significantly higher need persistence. This indicates that low ego defense and impunitiveness, high need-persistence, coupled with poor ego-identity and negative perception of parents, might predispose juvenile delinquents act more impulsively on their needs and commit acts against law.

Key Words: Juvenile delinquents, Perception of Parents, Ego-identity, Aggression

INTRODUCTION

The juvenile delinquent or the juvenile in conflict with law has quite become the demon of the twenty-first century. He has always been considered a source of “threat or trouble”, but it was not until the previous century that he has been thrust to the forefront of social concern. Usually, a delinquent is referred to as a person who breaks the law habitually or persistently and their activities involve violation of the law of the land, committing offences like thefts, gambling, cheating, pick-pocketing, murder, robbery, dacoity, destruction of property, violence and assault, intoxication, vagrancy, begging, kidnapping, abduction and sexual offences. Apart from that it also connotes other deviations in areas such as motivation, moral development, personality, social class, parenting and shows future-risk, since it refers to someone who deviates seriously from the norms of his culture or society. Therefore what may start as a simple designation of law-breaking may end up as wide ranging attribution of complex difficulties which warrant disproportionate intervention. In India, for legally labeling an individual in the age-group seven to eighteen as a delinquent, he must be convicted by the court for violating the provisions of the Children’s Acts, the IPC and the CPC. The matter of concern, however is that the phenomenon of delinquency is definitely on the rise (Farrington, 2001). Like other social behaviour, delinquency also has complex roots which cannot be explained so simply. Since it is an acknowledged fact that parents have an
unrivalled significance in the life of a child, hence naturally the question arises whether poor parent-child relationship might give rise to increased occurrence of delinquency. This is considered important since some researchers believe that significance of intense relationship between parents and children directly affects pro-social behavior and that most of us refrain from anti-social act, not because of the direct consequences but also because they are likely to upset people who are significant to us. For example, (Hawkins et al., 1998) had found harsh, non-supportive and non-responsive parenting has been identified as a risk factor for developing early anti-social behavior, though this was earlier proposed by (Coleman, 1976) that parental rejection tends to foster low self-esteem, feelings of insecurity and inadequacy, increased aggression and inability to give and receive love. Related to this, another pertinent question that might arise in this domain is, whether a person’s "identity" is in any way related to the activities that he does. By identity here one refers to the idiosyncratic things that make a person unique or as Erikson described “a sense of what we are and what we stand for.” On some readings of Erikson, it is mentioned, that the development of a strong ego identity, along with the proper integration into a stable society and culture, leads to a stronger sense of identity in general. Conversely, a deficiency in either of these factors may increase the chance of an identity crisis or confusion resulting in a profound sense of futility, personal disorganisation and aimlessness (Cote & Levin, 1983). Gul kem and Gul (2004) had studied the relationship between the identity-formation of Turkish adolescents with familial variables and family interaction, and found it to be significantly influential in identity formation of adolescents. These results supported the psychodynamic and cognitive theories and empirical studies that disturbances in self representations and ego identity are related to many different mental disorders. Unfortunately still, after more than 30 years of research on identity, the links between identity and disruptive behaviours are not clear. Lastly another question that has intrigued researchers studying this phenomenon for quite long is why and how the aggression exhibited by these delinquents is different from that shown by normal children. Mostly in psychology, as well as other social and behavioural sciences, aggression refers to behavior exhibited between members of the same species that is intended to cause pain or harm. Some other researchers stated that in order to be classified as aggression, actions must involve the intention of harm or injury to others and not simply the delivery of such consequences.

Hence coming back to the fact that the phenomenon of juvenile delinquency is on a disproportionate rise, and keeping in view all the aforesaid points, it appeared convenient to probe further into these domains and delineate factors such as quality of parent-child interactions, development of ego-identity and finally assess whether their way of showing aggression is any different and if how. Thus, the present study aimed to assess the parent child relationship, ego identity and expression of aggression among the juvenile delinquents with the following objectives:

1. To ascertain whether there exists any significant difference between the 2 groups of children, namely juvenile delinquents and normal children with respect to the perception of their parents.
2. To ascertain whether there exists any significant difference between the 2 groups of children, namely the juvenile delinquents and normal children with respect to their ego-identity.
3. To ascertain whether there exists any significant difference between the 2 groups, namely the juvenile delinquents and normal children with respect to their direction and type of aggression.

**METHOD**

**Sample:**

The study comprised of two groups, namely juvenile delinquents charged with theft (N=15) and normal control children (N=15)
thus making the total sample size 30 (N=30). The evaluation of the juvenile delinquents was carried out in a Juvenile Delinquency Home called Dhrubashram in Aryadaha, West Bengal, after being approved by The West Bengal Social Welfare Society. The approval was obtained only after the researcher had agreed to abide strictly to regulations of Section 21 of the J.J Act (Care and Protection of Children) Act,2000 read with amendment of J.J. Act;2006. A cross-sectional design was used, where male children between 9 to 14 years of age and currently residents of Dhrubashram were screened. After that only 15 such individuals, convicted under Section 378 and 380-382, that is for theft and those giving consent were included. For the control group, 15 children matched on age and sex with the study group, and with a score of 9 or below the cut-off of 9 on Child Behaviour Questionnaire were selected. The participants were tested individually. Efforts were made to keep the testing conditions constant for both the groups.

**Inclusion Criteria:**
- For both the groups the age-range was kept strictly between 9 to fourteen years of age.
- All the subjects chosen were males only.
- Gave consent for data collection.
- For the juvenile delinquent group, only those implicated under the charge of theft who were currently residing in the rehabilitation home during the time of data collection were taken.

**Exclusion Criteria:**
Presence of any psychiatric illness, chronic physical illness, organic illnesses, mental retardation and those from families having a history of divorced parents were excluded from the sample.

**Tools:**

**Information Schedule:**
An information blank was administered to both groups that elicited information regarding socio-demographic details like name, age, sex, religion, education, number of siblings, father’s education and occupation, mother’s education and occupation, family history, socio-demographic status and lastly also about the nature of relationship of the individual in the family through points like kind of emotional load with family members, average number of hours spent with family members.

2. **Child Behaviour Questionnaire (CBQ, Performa-B, Rutter, 1967):**
This scale was used as screening instrument to identify children having psychological disturbance. It has high degree of test-retest reliability (0.89) and inter-rater reliability of 0.72 to discriminate between children of any psychiatric clinic and children in the general population and to differentiate between many types of psychiatric disorder was found. (Rutter, 1967; Rutter et al., 1975). A score of 9 and above was used as the cut-off for delineating the control group.

3. **Parent Child Relationship Scale (Rao, 1989):**
It was administered to children of each groups for assessing perception of both their parents. This particular tool contains 100 items categorized into ten dimensions namely, protecting, symbolic punishment, rejecting, object punishment, demanding, indifferent, symbolic reward, loving, object reward, and neglecting. Each respondent score the tool for both father and mother separately. The scale is scored separately for each of the parent meaning every respondent obtains ten scores for ‘father form’ and ten scores for ‘mother form’ on the ten dimensions of the scales.

4. **Ego-Identity Scale (Tan et al, 1977):**
This scale was administered to measure the ego identity of both groups. The EIS is a 12-item scale that measures Erik Erikson’s concept of ego identity and is defined as acceptance of self and a sense of direction. Conversely identity diffusion implies doubts about one’s self, lack of sense and continuity over time, and inability to make decisions and commitments. The EIS has fair internal consistency, with a split-half reliability coefficient of .68.

5. **Rosenzweig Picture Frustration Study (Indian Adaptation- Children Form by Pareek, 1959):**
It is a controlled projective technique,
primarily intended to measure reactions to frustrating situations which was administered on the children of both the groups to assess direction of aggression and reaction to frustrating situations. The inter-scorer reliability of the P-F study is reportedly in the range of .80 to .85 . However, the test-retest stability of the instrument is somewhere between fair and marginal (Rosenzweig & Adelman, 1977). Under the category of direction of aggression, fall 3 types, namely extrapunitiveness, intropunitiveness and impunitiveness. Under type of reaction obstacle-dominance, ego-defence and need-persistence form the three types.

Statistical Analysis:
1. Descriptive statistics (Mean and SD) were done to analyse the data.
2. Students t-test was done to assess significant difference if any between the groups and the alpha level of p<.01 and p<.05 were considered significant.

RESULTS
Section I: Perception of Parents :
The first section has been divided into two parts for convenience. The first part shows perception of children in case of their father and the second part shows perception of children in case of their mother.

Table 1: Table Showing Mean, S.D and t-value of Variables of Parent-Child Relationship Scale in Both Groups (Relating to Perception of Father)

<table>
<thead>
<tr>
<th>PCRS - Father</th>
<th>Sample</th>
<th>Mean</th>
<th>S.D</th>
<th>t-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Loving</td>
<td>JD</td>
<td>29.73</td>
<td>8.53</td>
<td>3.05**</td>
</tr>
<tr>
<td></td>
<td>NC</td>
<td>39.00</td>
<td>8.19</td>
<td></td>
</tr>
<tr>
<td>Object Reward</td>
<td>JD</td>
<td>22.86</td>
<td>9.65</td>
<td>3.338**</td>
</tr>
<tr>
<td></td>
<td>NC</td>
<td>33.06</td>
<td>8.65</td>
<td></td>
</tr>
<tr>
<td>Neglect</td>
<td>JD</td>
<td>22.93</td>
<td>6.68</td>
<td>1.598</td>
</tr>
<tr>
<td></td>
<td>NC</td>
<td>19.06</td>
<td>6.57</td>
<td></td>
</tr>
</tbody>
</table>

* Significant at 0.05 level, ** Significant at 0.01 level

Results of the study indicated a significant mean difference between the perceptions of two groups with respect to their father’s protective function, symbolic and object punishment, rejection, symbolic and objective reward and loving function. That is, the father of juvenile delinquents were perceived as more symbolically as well as objectively punishing, and rejecting, while they were perceived to be less rewarding (in a symbolical as well as objectively) and less loving as well.

Table 2: Table Showing Mean, S.D and t-value of Variables of Parent-Child Relationship Scale in Both Groups (Relating to Perception of Mother).

<table>
<thead>
<tr>
<th>PCRS – Mother</th>
<th>Sample</th>
<th>Mean</th>
<th>S.D</th>
<th>t-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>PROTECTING (PRO)</td>
<td>JD</td>
<td>39.53</td>
<td>5.96</td>
<td>4.81</td>
</tr>
<tr>
<td></td>
<td>NC</td>
<td>44.93</td>
<td></td>
<td></td>
</tr>
<tr>
<td>SYMBOLIC PUNISHMENT (SP)</td>
<td>JD</td>
<td>28.46</td>
<td>3.81</td>
<td>.634</td>
</tr>
<tr>
<td></td>
<td>NC</td>
<td>27.13</td>
<td></td>
<td></td>
</tr>
<tr>
<td>REJECTION (REJ)</td>
<td>JD</td>
<td>21.00</td>
<td>7.09</td>
<td>5.00</td>
</tr>
<tr>
<td></td>
<td>NC</td>
<td>16.93</td>
<td></td>
<td></td>
</tr>
<tr>
<td>OBJECT PUNISHMENT (OP)</td>
<td>JD</td>
<td>20.33</td>
<td>5.48</td>
<td>4.77</td>
</tr>
<tr>
<td></td>
<td>NC</td>
<td>18.06</td>
<td></td>
<td></td>
</tr>
<tr>
<td>DEMANDING (DEM)</td>
<td>JD</td>
<td>32.60</td>
<td>4.03</td>
<td>.224</td>
</tr>
<tr>
<td></td>
<td>NC</td>
<td>32.06</td>
<td></td>
<td></td>
</tr>
<tr>
<td>INDIFFERENT (IND)</td>
<td>JD</td>
<td>23.06</td>
<td>7.25</td>
<td>4.88</td>
</tr>
<tr>
<td></td>
<td>NC</td>
<td>24.13</td>
<td></td>
<td>.472</td>
</tr>
<tr>
<td>SYMBOLIC REWARD (SR)</td>
<td>JD</td>
<td>32.06</td>
<td>8.55</td>
<td>3.096**</td>
</tr>
<tr>
<td></td>
<td>NC</td>
<td>40.20</td>
<td></td>
<td>5.50</td>
</tr>
<tr>
<td>LOVING (LOV)</td>
<td>JD</td>
<td>33.06</td>
<td>7.47</td>
<td>4.401**</td>
</tr>
<tr>
<td></td>
<td>NC</td>
<td>43.13</td>
<td></td>
<td>4.74</td>
</tr>
<tr>
<td>OBJECT REWARD (OR)</td>
<td>JD</td>
<td>23.46</td>
<td>6.49</td>
<td>5.312**</td>
</tr>
<tr>
<td></td>
<td>NC</td>
<td>35.80</td>
<td></td>
<td>6.22</td>
</tr>
<tr>
<td>NEGLECT (NEG)</td>
<td>JD</td>
<td>19.93</td>
<td>5.35</td>
<td>2.558*</td>
</tr>
<tr>
<td></td>
<td>NC</td>
<td>15.66</td>
<td></td>
<td>3.61</td>
</tr>
</tbody>
</table>

* Significant at 0.05 level, ** Significant at 0.01 level

Results revealed that delinquents tend to perceive their mother as less protective, less rewarding (both symbolically and objectively), less loving, and more neglecting than normal children.
SECTION II: EGO-IDENTITY

Table 3: Table Showing Mean, S.D and t-value of Ego-Identity in Both Groups

<table>
<thead>
<tr>
<th>Sample</th>
<th>Mean</th>
<th>S.D</th>
<th>t-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>JD</td>
<td>7.00</td>
<td>1.51</td>
<td>1.447</td>
</tr>
<tr>
<td>NC</td>
<td>8.2</td>
<td>2.83</td>
<td></td>
</tr>
</tbody>
</table>

* Significant at 0.05 level, ** Significant at 0.01 level

Though no significant difference has been found among the juvenile delinquents and normal children in the dimension of ego-identity, however the relatively higher mean scores of normal children as compared with mean scores of the juvenile delinquents indicate that the normal children have a strong sense of who they are and what they stand for. It might also indicate that they have been able to develop a strong sense of ego-identity in general along with integration into a stable society or culture. However in the case of juvenile delinquents their non-acceptance by the society might have led them to have an identity-crisis or confusion.

SECTION III: NATURE AND DIRECTION OF AGGRESSION

Table 4: Table Showing Mean, S.D and t-Value of Dimensions of Aggression in Both Groups.

<table>
<thead>
<tr>
<th>RPFS</th>
<th>Sample</th>
<th>Mean</th>
<th>S.D</th>
<th>t-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>OBSTACLE-DOMINANCE (O-D)</td>
<td>JD</td>
<td>15.27</td>
<td>4.69</td>
<td>.446</td>
</tr>
<tr>
<td></td>
<td>NC</td>
<td>14.57</td>
<td>3.65</td>
<td></td>
</tr>
<tr>
<td>EGO-DEFENCE (E-D)</td>
<td>JD</td>
<td>39.85</td>
<td>9.14</td>
<td>2.373*</td>
</tr>
<tr>
<td></td>
<td>NC</td>
<td>48.05</td>
<td>9.75</td>
<td></td>
</tr>
<tr>
<td>NEED-PERSISTENCE (N-P)</td>
<td>JD</td>
<td>44.85</td>
<td>8.51</td>
<td>2.318*</td>
</tr>
<tr>
<td></td>
<td>NC</td>
<td>37.35</td>
<td>9.19</td>
<td></td>
</tr>
<tr>
<td>EXTRA-PUNITIVENESS (E)</td>
<td>JD</td>
<td>43.60</td>
<td>11.45</td>
<td>1.122</td>
</tr>
<tr>
<td></td>
<td>NC</td>
<td>38.19</td>
<td>14.78</td>
<td></td>
</tr>
<tr>
<td>INTRO-PUNITIVENESS (I)</td>
<td>JD</td>
<td>24.85</td>
<td>5.53</td>
<td>1.686</td>
</tr>
<tr>
<td></td>
<td>NC</td>
<td>21.38</td>
<td>5.64</td>
<td></td>
</tr>
<tr>
<td>IMPUNITIVENESS (M)</td>
<td>JD</td>
<td>31.52</td>
<td>10.58</td>
<td>2.053*</td>
</tr>
<tr>
<td></td>
<td>NC</td>
<td>40.41</td>
<td>13.00</td>
<td></td>
</tr>
</tbody>
</table>

* Significant at 0.05 level, ** Significant at 0.01 level

With respect to the nature and direction of aggression it was found that the juvenile delinquents showed less ego-defense and more need persistence than the normal children. In contrast, the control group showed significantly more impulsive responses than juvenile delinquents.

DISCUSSION

Keeping in mind the absolute necessity of probing deeper into the phenomenon of juvenile delinquency, the present study aimed to understand whether there exists any significant difference between juvenile delinquents and normal children with respect to the perception of parents, ego-identity and expression of aggression. The results have been discussed under the following sections:

Section I: Perception of Parents:

Results interestingly indicated a significant mean difference between the perceptions of two groups with respect to their father’s protective function, symbolic and object punishment, rejection, symbolic and objective reward and loving function. That is, the father of the study group were perceived as less protective, less symbolically and objectively rewarding, and also less loving. They were also perceived as more symbolically as well as objectively punishing, and rejecting. These finding are in corroboration with the findings that harsh, non-supportive and non-responsive parenting might be a risk factor for developing early antisocial behaviour (Hawkins et al., 1998). Hence it can be assumed, that the delinquent group’s negative perception of father might result in a poor attachment and poor identification with the father, and interfere with adequate development of their super-ego. This might consequently predispose them to adopt deviant models of social interaction and prompt them to act in a delinquent manner. Another credible explanation could be that when the father is perceived as less loving and less protective then it can also result in aggression towards the father-figures. To add to this, their sense of inadequacy might make them perceive fathers as a superior and stronger opponent, and culminate in anger that might later be generalized to others.

Another significant finding that deserves explanation is how their perception of father as less objectively rewarding might affect their behavior. It is generally assumed, that whether
parents respond reliably and contingently to the infant will affect his trust, security of his attachment, and shall later get manifested in a range of behavior; that is whether the parents reinforce aggressive or friendly behaviour will influence the children’s future as well. So naturally when parents tend to focus more on the child’s negative and Oversees the positive behaviour then the child may become vulnerable to develop delinquency as a conduct.

The next important finding, that the delinquents perceive their mother as less protective, less rewarding (both symbolically and objectively), less loving, and more neglecting than normal children is consistent with the homeostasis model of adjustment (Miller et al., 1990). The aforementioned study also attributed children’s maladaptive behaviour to be the outcome of their inappropriate adaptation to a distorted family atmosphere. The observed inconsistency in parenting by mother could be thus instrumental in developing and maintain a tendency to acting out by these children.

**Section II: Ego-identity**

Although the findings show no significant difference between the two groups in dimension of ego-identity, however the relatively higher mean scores of normal children in comparison to that of the juvenile delinquents indicate that the normal children have a stronger sense of who they are and what they stand for. This indicates that they have been able to develop a stronger sense of ego-identity in general along with integration into a stable society or culture. However in the case of delinquent group, their non-acceptance by the society might have further led them to have an identity-crisis or confusion, a finding consistent with previous findings (Erikson, 1963).

**SECTION III: NATURE AND DIRECTION OF AGGRESSION**

Lastly the finding showed a significant difference between juvenile delinquents and normal children with respect to the nature and direction of aggression. That is, the juvenile delinquents showed less ego-defense and more need persistence than the normal children, meaning they have difficulty in evading their pressing needs. So it is likely that when they are faced with situations that block their need gratification, then they might act out aggressively without bothering to adhere to the sanctions of the society or law. In contrast, the control group has shown significantly more impunitive responses indicating they might harbor more patience to evade a frustrating situation. The present findings are consistent with study conducted by Kundu and Basu (1991).

**CONCLUSION**

In general, the results showed a trend that the juvenile delinquents perceive both their parents as exhibiting lesser positive behaviour towards them, like showing lesser affection, love or rewarding them for appropriate conduct. Instead they perceived that their parents are more rejecting, punishing and neglectful. Though no significant difference was found between the two groups with respect to their ego-identity, yet the control group showed a relatively higher score. Lastly a significant difference emerged between the scores of juvenile delinquents and normal children with respect to the nature and direction of aggression, where the former showed lesser ego-defense and more need persistence than latter. Interestingly enough, on the other hand, the normal children showed significantly more impunitive responses than the juvenile delinquents.

In sum, from the findings of the study, it has been suggested that low ego defense, high need-persistence and low tendency to evade the source of frustration and gloss over, coupled with a negative perception towards their parents and low ego-identity of the juvenile delinquents might make them more intolerant to the tensions caused by frustrating situations. This could probably result in the acting out behavior by these children, thus rendering them to become a juvenile delinquent.

The findings derived from this study can
be further investigated to gain an insight into this area. Yet some limitations of the present study are, the present study has been done on a relatively small sample, which may cause hindrance to the generalisation of the results. Also, only a single group of juvenile delinquents that is, ones who were convicted with theft were included in the present study, due to time constraint. Juvenile delinquents convicted with greater and more varied form of offences could also have been included. Nonetheless implications of the present study are it has determined the perception of parents from the delinquent children’s view-point, along with probing into their ego-identity and dimensions of their aggression. Naturally this observation provides some validations for children’s negative perception of their parent’s behaviour towards them. It also provides a practical significance for undertaking future research work for the purpose of formulating an adequate intervention program. It can be useful for the purpose of rehabilitation and prevent recidivism for juvenile delinquents, both at an individual level as well as within family settings. Future directions of this research could be any standard intelligence test can be administered for the children, since it might yield useful information regarding their intellectual functioning, Comparative studies may be carried out between the different forms of juvenile crimes in relation to their normal counterparts, Comparative trends may be investigated between juvenile crimes and adult crimes committed by the same person in a longitudinal study. Also socio-economic condition also has a major impact upon juvenile crimes, so effect of socio-economic conditions on juvenile delinquency can be probed further. Lastly, whether affiliation to particular types of peer-groups or religion has any bearing on committing delinquent acts can also be probed further.

REFERENCES


Executive Functions in Patients with Obesity: Impact of Bariatric Surgery

K Praveen Kumar¹, M Thomas Kishore² and K S Lakshmi³

ABSTRACT
Obesity is associated with various kinds of cognitive impairments among which executive dysfunctions are very prominent. Alternatively, weight reduction through structured program is known to improve cognitive functions. Bariatric surgery is reported to improve cognitive functions. But no studies are in Indian context in this regard. Therefore, this preliminary study examined the impact of bariatric surgery on executive functions in Indian setting. Twenty patients with morbid obesity who opted for bariatric surgery and 20 patients with morbid obesity who were advised but did not opt for bariatric surgery were recruited through convenient sampling. Both groups were matched for age, gender, years of education and comorbid conditions. Each participant was individually assessed with Modified Wisconsin Card Sorting Test (M-WCST), Digit Span Test (DST) and Comprehensive Trail Making Test (TMT) both at baseline and again after 40 days from the initial assessment. At baseline, a large number of participants from both the groups showed abnormal executive functioning. But after the intervention period, significant improvement was noted on all the selected cognitive variables. Weight reduction due to bariatric surgery will have positive impact on executive functions. The findings have implications for neurocognitive evaluations in pre-surgery and post-Surgery conditions.

Key Words: Bariatric surgery, Cognition, Executive Functions, Obesity

INTRODUCTION
Obesity is a state of excess adipose tissue and presents a risk to both physical and psychological health. It may also affect the cognitive functions independent of the level of intelligence, associated conditions, environmental factors and personal characteristics such as age and gender (Anstey, Cherbuin, Budge, & Young, 2010; Boeka, & Lokken, 2008; Cournot et al., 2006; Gunstad et al., 2008; Lokken, Boeka, Yellumahanthi, Wesley, & Clements, 2010; Smith, Hay, Campbell, & Trollor 2011; Verdejo-Garcia et al., 2010). Among the cognitive functions, impairments related to attention, memory, language and executive functions were reported (Cserjesi, Molnar, Luminet, & Lenard, 2007; Gallucci et al., 2013; Gunstad et al., 2007; Fergenbaum et al., 2009; Khodapanah, Moradi, Vosough, & Khodapanah, 2010). Among the cognitive functions executive functions received much attention as they are related to goal directed behaviours. Commonly studied executive functions are: behavioural planning, monitoring, response inhibition, motivation, judgment, flexibility and decision making. But there are some contradictory findings with regard to the role of obesity in cognitive impairment. Some studies suggest that obese individuals are at fourfold risk for cognitive impairments (Verdejo et al., 2010) though it is argued that the effect sizes are too modest to accept the relationship between obesity on cognitive impairment (Roberts, Demetriou, Treasure, & Chanturia, 2007). Further, a few studies indicate that obesity is not a risk factor for cognitive impairment (Singh et al., 2012) and rather people with obesity perform well on executive functioning tests related to working memory,
planning and analogical reasoning (Gallucci et al., 2013). Despite these conflicting evidences, it is generally accepted that obesity is a risk factor for cognitive impairment. A pertinent issue in this context is whether management of obesity leads to restoration of cognitive functions. Indeed there are few important studies in this regard, which indicate that weight reduction through bariatric surgery leads to improvement in cognitive functions (Gunstad et al., 2011).

Bariatric surgery includes two common procedures namely, sleeve gastrectomy and gastric bypass procedure. Sleeve gastrectomy is a surgical weight-loss procedure in which the stomach is reduced to about 25% of its original size, by surgical removal of a large portion of the stomach. Whereas the gastric bypass procedures first divide the stomach into a small upper pouch and a much larger lower pouch and then re-arrange the small intestine to connect to the proximal pouch. Both the procedures alter the functional volume of the stomach and thereby alter the physiological and physical response to food. Studies from the West indicate that weight reduction due to bariatric surgery has positive impact on cognition (Dhabuwala, Cannan, & Stubbs, 2000; Frigg, Peterli, Peters, Ackermann, & Tondelli, 2004; Gunstad et al., 2011; Siervo et al., 2012; Stanek & Gunstad, 2012). As the prevalence of obesity is increasing in India along with the number of people from this group opting for bariatric surgery, this preliminary study was designed to understand the impact of bariatric surgery on executive functions in Indian setting by case-control method.

METHOD

Participants:

The sample consisted of 20 patients opting for bariatric surgery (hereafter, surgical group) and 20 obese patients not opting for surgery (hereafter, control group) in the age group of 18 to 50 years. These patients came from all over the country, with nearly 50% of them from the city where the authors are based. They were recruited from two local, private hospitals through purposive sampling. Each group consisted of 10 males and 10 females, matched for age, years of education and comorbid conditions. Those with a Body Mass Index BMI of 35 Kg/M2 and above were included in the study. History of neurological disorder, head injury, major psychiatric illnesses, alcohol or substance abuse, developmental disabilities and impaired sensory-motor functions were the exclusion criteria.

Tools:

Wisconsin Card Sorting Test (M-WCST; Schretlen, 2010), Digit Span Test (DST; Wechsler, 2008) and Comprehensive Trail Making Test (TMT; Reynolds, 2002) were used as measures of executive functions. M-WCST yields several indices of executive functions among which the following were selected: number of categories, number of preservative errors, and number of total errors and percent of preservative errors were taken. High scores on all indices except the ‘number of categories’ indicate greater impairment of executive functions. Low DST scores indicate impairment in attention and working memory. Though TMT has five sub-tests, only the first and last sub-test was used as they reportedly yield the same results as the full TMT. Time taken to complete the trails is the measure, with lesser time indicating better cognitive performance.

Procedure:

The authors contacted the prospective participants by the surgeons when they came for consultations. Informed consent was obtained after explaining the purpose of the study. Relevant socio-demographic variables were collected by direct interviewing. Minimal demographic data, clinical details such as the medical diagnosis, BMI, associated comorbidities, type of surgery were collected from the hospital records. Executive functions were assessed by administering the tools individually in a convenient environment. The pre-test was done two days prior to the surgery and the post-test was done 40 days after surgery, that is, during the first follow-up after surgery. Same procedure
was followed with the control group where there was an interval of 40 days between assessment and reassessment. Thus both the groups were assessed at equivalent time points.

**Statistical Analysis:**

The data was analyzed using Statistical Package for Social Sciences for Windows-Version 20.0 (SPSS). Descriptive statistics (Mean, SD, percentages) an inferential statistics (ANCOVA) were applied as per their basic assumptions. ANCOVA was calculated using the pre-test score as a covariate and post-test score as an independent variable to measure the difference between the two groups and their status after intervention where the group affiliation was kept constant. Chi-square was used to see the improvement in the categorical variables, as applicable.

**RESULTS**

Descriptive data indicates that 18 had opted for sleeve gasterectomy and the remaining for gastric bypass.

**Table 1: Group Differences in Age, BMI and Education**

<table>
<thead>
<tr>
<th>Comorbid condition</th>
<th>Surgical group</th>
<th>Control group</th>
<th>t</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age (in years)</td>
<td>32.25±8.10</td>
<td>33.20±8.88</td>
<td>.32</td>
<td>.75</td>
</tr>
<tr>
<td>BMI</td>
<td>43.34±5.86</td>
<td>40.12±6.16</td>
<td>1.69</td>
<td>.09</td>
</tr>
<tr>
<td>Education (in years)</td>
<td>13.90±2.17</td>
<td>13.20±2.96</td>
<td>1.85</td>
<td>.40</td>
</tr>
</tbody>
</table>

Table 1 indicates that there were no significant differences between the groups in age (t= .32; df= 38; p = .75), BMI (t= 1.69; df= 38; p = .09) and education (t=1.85; df= 38; p = .40).

**Table 2 : Group Differences in Comorbid Hypertension**

<table>
<thead>
<tr>
<th>Comorbid condition</th>
<th>Surgical group</th>
<th>Control group</th>
<th>χ² (df=2)</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>None</td>
<td>14 (70)</td>
<td>15 (75)</td>
<td>.12</td>
<td>.95</td>
</tr>
<tr>
<td>Present</td>
<td>8 (30)</td>
<td>5 (25)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Table 2 indicates that 30% of the surgical group and 25% of the control group had comorbid hypertension, which indicates that the groups did not differ significantly with reference to the comorbidities (χ²=.12; p =.95). These results indicate that the groups were well matched for age, education, BMI and comorbid conditions.

Table 3: Summary of Executive Functioning (Baseline) in Surgical and Control Groups.

Results of baseline assessment presented in table 3 shows that there were no significant difference between the surgical and control groups on executive functioning tests; and a substantial proportion of participants from both groups were in the abnormal category as far as the executive functions were concerned. Specific results are as following: executive function composite (χ²= 5.67; df=2; p =.056), number of categories (χ²=.52; df=2; p =.77), number of perseverative errors (χ²= 3.01; df=2; p =.22), number of total errors (χ²= .49; df=2; p =.78), percentage of perseverative errors (χ²= 4.86; df=2; p =.09), time taken for TMT trail 1 (χ²= 1.60; df=2; p =.21) and time taken for TMT trail 5 (χ²=.00; df=2; p =1.00).
Table 4: Summary of Executive Functioning in Surgical and Control Groups after the Intervention Period

<table>
<thead>
<tr>
<th>Executive functions</th>
<th>Surgical</th>
<th>Control</th>
<th>p</th>
<th>χ² (df = 2)</th>
<th>n (%</th>
<th>n (%)</th>
<th>n (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Executive Function Composite</td>
<td>Improved</td>
<td>13 (65)</td>
<td>7 (35)</td>
<td>0 (0)</td>
<td>12 (60)</td>
<td>8 (40)</td>
<td>23.32</td>
</tr>
<tr>
<td>Number of Categories</td>
<td>Improved</td>
<td>9 (45)</td>
<td>10 (50)</td>
<td>0 (0)</td>
<td>2 (10)</td>
<td>4 (20)</td>
<td>14 (70)</td>
</tr>
<tr>
<td>Number of Perseverative Errors</td>
<td>Improved</td>
<td>14 (70)</td>
<td>6 (30)</td>
<td>0 (0)</td>
<td>3 (15)</td>
<td>9 (45)</td>
<td>8 (40)</td>
</tr>
<tr>
<td>Time Taken for TMT Trail 1</td>
<td>Improved</td>
<td>11 (55)</td>
<td>8 (40)</td>
<td>1 (5)</td>
<td>17 (85)</td>
<td>2 (10)</td>
<td>11.91</td>
</tr>
</tbody>
</table>

Table 4 indicates the status of improvement in the cognitive status after the intervention period. The results indicate that the surgical patients significantly improved on all dimensions of executive functioning than their counterparts. Results of specific indices are as following: executive function composite (χ² = 23.32; df = 2; p = .000), number of categories (χ² = 12.36; df = 2; p = .002), number of perseverative errors (χ² = 18.29; df = 2; p = .000), number of total errors (χ² = 15.71; df = 2; p = .000), percentage of perseverative errors (χ² = 9.09; df = 2; p = .011), time taken for TMT trail 1 (χ² = 10.33; df = 2; p = .006) and time taken for TMT trail 5 (χ² = 11.91; df = 2; p = .001).

Table 5: Results of ANCOVA Comparing Pre-test and Post-test Scores of Executive Functions between Surgical and Control Groups (N=40).

<table>
<thead>
<tr>
<th>Executive Functions</th>
<th>Group</th>
<th>Pre-test scores</th>
<th>Post-test scores</th>
<th>F (df-1,37)</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of Categories</td>
<td>Non-surgical</td>
<td>3.25</td>
<td>1.74</td>
<td>3.30</td>
<td>1.68</td>
</tr>
<tr>
<td>Surgical</td>
<td>3.20</td>
<td>1.98</td>
<td>3.95</td>
<td>1.60</td>
<td></td>
</tr>
</tbody>
</table>

Table 5 shows the results of ANCOVA, which indicate that there was improvement in all domains of executive functioning after bariatric surgery viz. number of categories (F = 13.93; df=1,37; p = 0.01), number of perseverative errors (F = 54.31; df=1,37; p <.000), number of total errors (F = 55.06; df=1,37; p <.000), percentage of perseverative errors (F = 16.12; df=1,37; p <.000), time taken for TMT trail 1 (F = 33.77; df=1,37; p <.000), time taken for TMT trail 5 (F = 25.39; df=1,37; p <.000), digit forward (F = 50.68; df=1,37; p <.000), digit backward (F = 9.94; df=1,37; p = .003) and digit span (F = 31.92; df=1,37; p <.000).

DISCUSSION

Current understanding is that obesity is a risk factor for many cognitive disorders (Boeka & Lokken, 2008; Cournot et al., 2006; Cserjesi et al., 2007; Gunstad et al., 2010). But weight reduction through bariatric surgery would show cognitive gains (Siervo et al., 2012; Gunstad, Mueller, Stanek, & Spitznagel, 2012). In this context the present study was designed as a preliminary effort to understand the cognitive
outcome of bariatric surgery in Indian context. This study indicates that both the groups were statistically similar on baseline assessment of executive functions except for complex visuo-motor speed besides sustained attention measured by TMT Trail 5. Baseline performance on TMT Trail 1 indicates that 40% of surgical group and 60% of control group showed abnormality on tasks related to attention. Similarly baseline performance on M-WCST and TMT indicate that executive functions and visuo-motor speed is affected in morbid obesity. High perseverative errors indicate poor mental flexibility in obesity. These findings are consistent with recent studies suggesting that morbid obesity is strongly associated with impaired executive functions, visuo-spatial functions and attention (Boeka & Lokken, 2008; Cserjesi, Luminet, Poncelet, & Lenard, 2009).

Gunstad et al., 2010; Fagundo et al., 2012; Lokken et al., 2010; Roberts et al., 2007; Smith et al., 2011; Verdejo-García et al., 2010) and assume importance as most of these functions, particularly, those related to executive domain, implicated in the pathology of disordered eating and obesity (Maayan, Hoogendoorn, Sweat, & Convit, 2011; Reinehr, 2011). Post-test evaluations indicate that the surgical group fared well on majority of the tasks of executive functions after the bariatric surgery. The surgical patients performed better on all the dimensions of M-WCST i.e. the perseverative errors, number of total errors and percentage of perseverative errors significantly decreased when compared to the obese patients from the control group. Time taken for completing TMT has significantly improved after the surgery, which may imply that mental flexibility and visuo-motor skills would improve after bariatric surgery. But majority of the control group was either static or worsened. These findings support earlier studies that weight reduction in obesity corresponds with improvement in executive functions, working memory and visuo-motor processing skills (Gunstad et al., 2012). Both pre-surgical and post-surgical findings of this study corroborate the findings of a recent study that pre-surgical patients experience serious cognitive impairments but they significantly improve after bariatric surgery when compared to the controls (Alosco et al., 2013). The finding are significant in the backdrop that Alosco et al. (2013) have reported cognitive gains after three months of intervention and are maintained up to 24 months. This study establishes that cognitive gains could be noticed from around one and half month after surgery. Though, present study provides evidence for cognitive gains after bariatric surgery, it cannot be conclusively stated that all gains are due to surgery alone because of small sample size. Present study from India adds to the existing knowledge that neuropsychological evaluations should be part of evaluation and outcome measures of obesity and bariatric surgery.

REFERENCES


Research Article

Reasons for Smoking among College Students

L. N. Suman1 R. M. Nagalakshmi2 and K. Thennarasu3

ABSTRACT

The aim of the study was to examine reasons for smoking among college students as well as reasons that may make them consider quitting smoking. The sample consisted of 66 undergraduate students identified as smokers in a survey of 1000 undergraduate students (488 boys and 512 girls) in the age range of 17 to 21 years studying in thirteen colleges in Bangalore City. The survey used the Susceptibility to Smoking Scale (Pierce, et al, 1998) to detect smokers. A semi-structured interview schedule was used to examine four domains of smoking related issues: (i) Pathways to Smoking (ii) Smoking Expectancies (iii) Negative Smoking Consequences (iv) Motivation to Quit Smoking. Results revealed that peer influence, academic stress and problems in the family context were important reasons for initiating smoking. Positive expectancies such as beliefs that smoking reduces tension and gives pleasure, maintained the smoking behaviour. Two thirds of the sample was unaware of the adverse consequences of smoking while one third had contemplated quitting smoking. The findings have implications for planning early interventions for smoking among college students.

Key Words: Smoking, College Students, Smoking Expectancies; Smoking Consequences, Quitting Smoking

INTRODUCTION

Smoking and other forms of tobacco use have been linked to a number of serious diseases which places an enormous burden not only on the individual sufferer but also on the health care system. Tobacco smoke when inhaled severely damages the internal organs and other parts of the human body. The consequences range from gum diseases, loss of sense of smell, premature ageing, pneumonia and osteoporosis to cardiovascular diseases and cancers. Smoking heightens the risk of heart attacks and stroke; lung cancer and oral cancers; cancer of the liver and kidneys; cancer of stomach, pancreas and colon (Ryu, et al., 2001; Vineis, et al., 2004). Health professionals have repeatedly noted that it will not be possible to reduce tobacco-related deaths over the next 30-50 years, unless adult smokers are encouraged to quit.

India is the world’s second highest tobacco growing and tobacco consuming country. Tobacco is consumed primarily through smoking in urban areas while chewing tobacco in addition to smoking tobacco is more widespread in rural areas. In the National Sample Survey of 1998-1999, the all India figures for youth aged above 10 years were: 45.3% for male rural tobacco users; 29.9% for male urban tobacco users; 11.8% for female rural tobacco users and 5.1% for female urban tobacco users (Reddy & Gupta, 2004). Agrawal and Agrawal (2011) analysed a cross sectional data of 1,11,077 adolescents aged 10-19 years who had been included in India’s second National Family Health Survey (NFHS-2, 1998-99). They found that the prevalence of tobacco chewing, smoking and drinking among adolescents was 3.3%, 1.2% and 0.9% respectively. They opined that comprehensive prevention and control programs, especially community based interventions, are required in India for addressing the risk-taking behaviour among adolescents.

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Sharma, Singh, Ingle, and Jiloha (2006) examined reasons for smoking among 800 male college students. They observed that lifetime stress score was significantly higher among smokers than non-smokers. The mean lifetime stress score of heavy smokers was significantly higher than low to moderate smokers. The findings of the study indicated the need to counsel male college students so as to deter them from taking up smoking as a mechanism against stress. Siziya, et al. (2008) carried out a study on reasons for smoking among 2014 school going children in Punjab. They found that the following factors were positively associated with smoking: presence of smokers in the family, friends who smoked, positive attributions to smoking and enough pocket money to buy tobacco products. The authors recommend public health interventions aimed at reducing adolescent cigarette smoking.

The problem of tobacco use among youngsters has been noted in Karnataka also. Gururaj and Girish (2007) carried out the Global Youth Tobacco Survey in Karnataka (GYTS-K) among children aged 13 to 15 years. In a sample of 4110 students, the prevalence of tobacco use was 4.90% (Males: 8% and Females: 2.10%). In a cross sectional study in Karnataka by Hemagiri, Vinay and Muralidhar (2011), 1536 adolescents between the ages of 10-19 years were interviewed about tobacco use. It was found that prevalence of tobacco use was 11.13%. Further, prevalence increased from 14.81% in the age group of 14-15 years to 68.42% among the age group of 18-19 years. Results revealed that adolescents perceived their parents, relatives and friends as important factors for their tobacco use. The authors recommend tobacco education to be initiated in schools and colleges to prevent and control tobacco use among adolescents.

Reasons for tobacco use among 1587 male college youth in Karnataka were examined by Nichter, et al (2004). Results indicated that forty-five percent of college students surveyed had used tobacco products. In interviews, students reported that smoking a cigarette enhanced one’s manliness, relieved boredom and eased tension. Affordability and accessibility were also cited as factors related to smoking. 40% reported that they had been influenced by advertisements, which promoted tobacco products. The authors note that in order to develop culturally appropriate prevention and cessation interventions for youth, data is required on trajectories of tobacco use and non-use, changes in the age of initiation, and transition points to increased use. More recently, Shaniya and Sharma (2012) in a college student study of 76 smokers and 76 non-smokers in the age range of 16 to 19 years found that tobacco users had low self-esteem and low life satisfaction in comparison to non-users. The authors noted that the findings have implications in tobacco cessation programs and community level tobacco prevention programs for adolescents.

Considering the paucity of research on reasons for smoking among adolescents in India, the aim of the study was to examine reasons for smoking among college students as well as reasons that may make them consider quitting smoking.

METHOD

Sample:

The sample consisted of 66 established smokers (51 boys and 15 girls) who gave written informed consent for a personal interview related to their smoking behavior. They were identified as smokers in a survey of 1000 undergraduate students (488 boys and 512 girls) in the age range of 17 to 21 years studying in thirteen colleges in Bangalore City. The colleges were selected by stratified cluster random sampling method. The survey used the Susceptibility to Smoking Scale (Pierce, et al, 1998) to detect established smokers. A total of 306 students (30.60%) were identified as established smokers, of whom 178 (58.17%) were boys and 128 (41.83%) were girls. Out of the 306 students, 240 students (78.43%) did not give consent for the interview and the 66 students who gave consent (21.57%) were interviewed.
Inclusion Criterion:
Subjects who gave written informed consent for a personal interview

Exclusion Criterion:
Subjects who had undergone any tobacco cessation or smoking related programs

Measures:

i) Socio-demographic Data Sheet:
This was developed by the investigator to obtain details regarding the subject’s age, gender, education and family details. It was also used to obtain information about smoking by the subject’s family members and peers.

ii) Susceptibility to Smoking Scale:
The scale developed by Pierce, et al (1998), helps in putting adolescents into exclusive categories: non-susceptible never smokers, susceptible never smokers, experimenters, and established smokers. An established smoker is defined as an adolescent giving a positive response to the question, “Have you smoked at least 100 cigarettes in your life?” The scale was used in the present study to screen for established smokers among college students.

iii) Semi-structured Interview Schedule:
This was developed by the researchers to examine four domains of smoking related issues: (i) Pathways to Smoking (ii) Smoking Expectancies (iii) Negative Smoking Consequences (iv) Motivation to Quit Smoking. Within each domain, open-ended questions were used to encourage the subjects to freely express their answers. The interview is meant for students who have initiated smoking. It takes about 20 minutes to complete. All interviews were conducted in individual sessions.

Procedure:
Ethical clearance for the study was obtained from the Institutional Ethics Committee. Permission to contact the students was obtained from the college managements. Written informed consent was obtained from all the participating subjects who met the inclusion and exclusion criteria laid down for the study. Interviews were carried out in individual settings in classrooms provided by the colleges. Subjects were assured that confidentiality would be maintained. Results were analyzed using qualitative analysis and descriptive statistics such as percentages.

RESULTS
Pathways to smoking behaviours are given in Table 1.

Table 1: Pathways to Smoking
<table>
<thead>
<tr>
<th>Sl. No</th>
<th>Pathway</th>
<th>Total</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Peer Pressure to Smoke</td>
<td>49</td>
<td>74.24%</td>
</tr>
<tr>
<td>2</td>
<td>To Cope with Family Problems</td>
<td>37</td>
<td>56.06%</td>
</tr>
<tr>
<td>3</td>
<td>To Cope with Academic Stress</td>
<td>31</td>
<td>46.97%</td>
</tr>
<tr>
<td>4</td>
<td>Modeling Smoking Behaviours of Family Members</td>
<td>21</td>
<td>31.82%</td>
</tr>
<tr>
<td>5</td>
<td>For Enjoyment</td>
<td>20</td>
<td>30.30%</td>
</tr>
</tbody>
</table>

# Students reported more than one pathway for initiating smoking

Results indicate that peers who are smokers have a tremendous influence on their friends with regard to initiation of smoking behaviours. Peer acceptance and peer approval are important determinants for cigarette smoking as they provide group support and group identity. Tension reduction by using nicotine to induce relaxation is another important reason for smoking. Smoking to cope with family problems and academic stress indicates poor problem solving and stress management. In line with social learning theory, it was found that modelling smoking behaviours of family members constitutes a risk for nicotine dependence along with smoking to experience its pleasurable effects.

Students had significant positive smoking expectancies which maintained the behaviour. These are listed in Table 2 which indicates that smoking is perceived to be beneficial in many ways. Smoking was experienced as providing quick relief from stress and leading to a calm state. It was also experienced as pleasurable and enjoyable, especially in the company of friends during recreational breaks. These expectancies and perceived benefits contribute to high risk for both current smoking practices and the possibility of continued future smoking.
Table 2: Smoking Expectancies

<table>
<thead>
<tr>
<th>Sl. No</th>
<th>Expectancy</th>
<th>Total</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Relief from Tension</td>
<td>56</td>
<td>84.84%</td>
</tr>
<tr>
<td>2</td>
<td>Pleasure and Enjoyment</td>
<td>45</td>
<td>68.18%</td>
</tr>
<tr>
<td>3</td>
<td>Increased Alertness</td>
<td>20</td>
<td>30.30%</td>
</tr>
<tr>
<td>4</td>
<td>Feeling Superior</td>
<td>19</td>
<td>28.79%</td>
</tr>
<tr>
<td>5</td>
<td>Impressing Others</td>
<td>10</td>
<td>15.15%</td>
</tr>
</tbody>
</table>

# Students reported more than one Smoking Expectancy

It can be seen from Table 3 that only about one third of the students were aware of the health hazards from smoking. The same one third of the students elaborated on various risks from smoking such as problems related to appetite, weight and conflicts with parents. They were unaware of serious diseases related to smoking tobacco such as cancer and heart disease. More than 60% were completely unaware of negative consequences of smoking and downplayed the risks involved. Health warnings on cigarette packets did not matter significantly to them and smoking was perceived to be a harmless pastime.

Table 3: Negative Smoking Consequences#

<table>
<thead>
<tr>
<th>Sl. No</th>
<th>Consequence</th>
<th>Total</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Harmful to Health</td>
<td>37</td>
<td>56.06%</td>
</tr>
<tr>
<td>2</td>
<td>Decreases Appetite</td>
<td>28</td>
<td>42.42%</td>
</tr>
<tr>
<td>3</td>
<td>Causes Weight Problems</td>
<td>10</td>
<td>15.15%</td>
</tr>
<tr>
<td>4</td>
<td>Causes Relationship Problems at Home</td>
<td>7</td>
<td>10.61%</td>
</tr>
<tr>
<td>5</td>
<td>Pollutes the Environment</td>
<td>6</td>
<td>9.09%</td>
</tr>
</tbody>
</table>

# Students reported more than one Negative Smoking Consequence

As can be seen from Table 4, two thirds of the students were not motivated to quit as they did not perceive smoking to be a problem. They were unconcerned about the potential harm from smoking and felt that since they were still young, the adverse effects would not be a matter of concern. This indicates that these adolescents are at risk for health problems if they continue to smoke. This subgroup would require focused interventions to motivate them to quit smoking and enable them to remain abstinent.

Table 4: Reasons for Motivation to Quit#

<table>
<thead>
<tr>
<th>Sl. No</th>
<th>Motive to Quit</th>
<th>Total</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Against society’s norms</td>
<td>21</td>
<td>31.82%</td>
</tr>
<tr>
<td>2</td>
<td>Hazardous to health</td>
<td>20</td>
<td>30.30%</td>
</tr>
<tr>
<td>3</td>
<td>Parental criticism of smoking</td>
<td>13</td>
<td>19.70%</td>
</tr>
<tr>
<td>4</td>
<td>Spoils Future and Relationships at Work</td>
<td>11</td>
<td>16.67%</td>
</tr>
<tr>
<td>5</td>
<td>Loss of Social Prestige</td>
<td>9</td>
<td>13.64%</td>
</tr>
</tbody>
</table>

#Students reported more than one Reason for Motivation to Quit.

One third of the students had contemplated quitting smoking as it violated societal and family norms and could harm relationships with others. They were embarrassed to be seen openly smoking and were worried about their social image. They were also worried about the reactions of their parents if they were caught smoking or if their smoking behaviour became known to their parents and other family elders. Negative consequences for health were also acknowledged as one of the reasons for considering quitting smoking.

DISCUSSION

The finding of 30.60% smokers among college students in the present study is lower when compared to the figures reported by Nichter et al. (2004) who had found in their study that 45% of college students surveyed had used tobacco products. However, the figures of the present study are higher than those reported by the Global Youth Tobacco Survey (Sinha et al, 2008) and the findings of Gururaj and Girish (2007). This may be due to the fact that their surveys consisted mainly of school students while the current study was on a sample of college students. This indicates that prevalence and risk for smoking increases with age. The figures found in the present study are closer to those reported by Otten et al. (2007) who found that out of 7426 adolescents, 65.70% had not experimented with smoking while 28% had tried smoking.

The finding of significant peer influence on smoking is similar to results obtained in previous studies by Robinson et al. (1997) and McVicar (2011). Another important pathway
to smoking, that is, to reduce tension, which indicates negative reinforcement from smoking, may also be the reason why students try to cope with family problems by smoking. This finding is similar to that reported by Carvajal, et al (2006) that adolescents with lower parental relatedness were more likely to initiate smoking. Similarly, Gau et al. (2009) had also noted that college smokers, compared to nonsmokers, reported that their fathers showed less affection and care and mothers less overprotection toward them. Family cohesion was also perceived to be lower in the smokers than in the nonsmokers. These results indicate the need to probe into family circumstances that might be related to adolescent smoking. Further, smoking to cope with academic stress indicates the need to teach healthier coping strategies to college students.

Most of the smoking related expectancies reported in the present study are similar to those reported by adolescents in other countries (Guo 2007; Kassel et al., 2007). As Correia, et al (2006) noted, daily smokers reported more positive consequences than occasional smokers, who in turn reported more positive consequences than former and non-smokers. Health messages in prevention programs must hence emphasize the point that smoking has little or no positive consequences. Ramsay and Hoffman (2004) developed a peer-led smoking cessation program for undergraduate students consisting of both individual and group sessions. Each session provided education and training in stress management, nutrition and exercise habits, managing environmental smoking triggers, and coping in social situations. They recommended that college administrators and health educators should develop integrated tobacco management strategies on college campuses.

Negative consequences from smoking were perceived to be not only lesser but also as not directly affecting the individual smoker (eg, smoking pollutes the environment and causes relationship problems). This is strikingly similar to findings reported by Gau et al. (2009) who found that smokers perceived fewer objections to smoking and also failed to recognize substance use as harmful to physical health. Other negative consequences reported by the students in the current study, such as smoking reduces appetite, and causes weight problems, are also of a fairly mild nature of consequences. Although health risks were acknowledged, students in the present study were not very aware of the nature of health risks or the seriousness of potential health problems due to smoking. This indicates that programs such as those proposed by Sun, et al. (2007) who developed an effective classroom-based curriculum for tobacco use prevention and cessation programs, are also required for Indian students.

The dominance of social and family reasons for considering quitting smoking indicates the powerful influence of sociocultural factors in regulating health behaviours. This may also be one of the reasons for more than three fourths of the smokers refusing to take part in the interview. It is possible that stigma attached to adolescent smoking may have made them wary of giving consent in spite of the assurance of confidentiality. As recommended by Stephens et al. (2009), targeting normative beliefs about smoking and attitudes to smoking, as well as targeting intention to smoke among adolescents, can be effective approaches to prevent smoking and reduce harm from smoking. Further, as suggested by Huver et al. (2006), interventions aimed at prevention of smoking should encourage those anti-smoking parenting practices that influence adolescent smoking-related cognitions in a favorable manner.

CONCLUSION
The study highlights the importance of screening college students for tobacco use. Early detection of established smokers can lead to early interventions and reduce harm from tobacco use. Novice smokers or occasional users will also benefit from indicated prevention programs or early intervention. Early interventions are most effective in motivating occasional smokers to quit tobacco use completely. Efforts must also be made to examine if there are other problems affecting the students and an appropriate
professional should address those problems. This will reduce maintaining factors such as emotional distress and academic stress and enable better chances of quitting smoking.

REFERENCES


Research Article

Socio-demographic Correlates of Children Suffering from Juvenile Delinquency

Shweta Sharma¹, J Mahto² and Deapti Mishra³

ABSTRACT

The criminal behaviour is most often advocated as result of certain social, psychological atrocities. Present study aimed to know socio demographic variables, which are responsible for criminal behavior because criminals are not born they are made, and if we as a society can make them then we as a society also have the power to cure them. A Juvenile Delinquent, a person who is under age (below 18), who is found to have committed a crime in states which have declared by law that a minor lacks responsibility and thus may not be sentenced as an adult. The sample of the present study form 50 male delinquents children from “Bal-Sampreshan Grah”, Manacamp, Raipur (C.G.) were purposively selected for the study. These juvenile delinquents sometimes have mental disorders/behavioural issues such as post traumatic stress disorder or bipolar disorder, and are sometimes diagnosed with conduct disorder partially as a result of their delinquent behaviours. Many factors like schools, neighbourhood, Family, Society, Situations are equally responsible for the degradation or fall of a child. Hence, instead of labelling them as one we must try and find ways, rectify the errors in their lives which led them to behave in this manner. Children can be easily rehabilitated and psychological rehabilitation can be helpful to take them back in society.

Key Words: Juvenile Delinquent, Behavioural Issues, Conduct Disorder, Anti Social Elements and Criminals.

INTRODUCTION

Reports in various researches and surveys show an increase in delinquent behaviour of the students aged 14-20 years[World youth report,2003] not only in developed countries but also in developing countries like India. Juvenile Delinquent is a person who is under age (usually below 18), who is found to have committed a crime in states which have declared by law that a minor lacks responsibility and thus may not be sentenced as an adult (Welbush, 2008). These juvenile delinquents sometimes suffers mental disorders/behavioural issues such as post traumatic stress disorder or bipolar disorder, and are sometimes diagnosed with conduct disorder. Many factors like schools, neighbourhood, family, society, situations are equally responsible for the degradation or fall of a child. Hence instead of labelling them as one we must try and find ways, rectify the errors in their lives which led them to behave in this manner. Children needs to be taken for reforms/ rehabilitation an proper guidance for corrective measures where they may learn some skills and positive behaviour. In this study efforts have been made to know the socio-demographic variables playing measure role in the development the behaviour which is in conflict with law.

METHODOLOGY

The present study was aimed to find out socio-demographic variables of children suffering from juvenile delinquency.

Sample:

The Sample consisted of 50 male delinquent children from “Bal- Sampreshan Grah”, Manacamp, Raipur was collected by following inclusion adn exclusion criteria.
Inclusion Criteria:
• Diagnosed children of Delinquency.
• 12 to 18 years of age.

Exclusion Criteria:
• Below 12 years and above 18 years of age.
• For whom consent was not given.
• Whose detailed information was not available.

3. Tools:
Socio-demographic data sheet, especially designed for this study was used to collect the demographic information of the sample.

RESULTS
Table 1: Socio-demographic Characteristics of Juvenile Delinquents (JD)

<table>
<thead>
<tr>
<th>Variable</th>
<th>Group = JD (N=50)</th>
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</thead>
<tbody>
<tr>
<td></td>
<td>F</td>
</tr>
<tr>
<td>Rural</td>
<td>14</td>
</tr>
<tr>
<td>Urban</td>
<td>13</td>
</tr>
<tr>
<td>Slum-urban</td>
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H/o Studies of Juvenile Delinquents

<table>
<thead>
<tr>
<th>Variables (N=50)</th>
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<th>%</th>
</tr>
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<tbody>
<tr>
<td>Performance in Study</td>
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<td></td>
</tr>
<tr>
<td>Average in studies</td>
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<td>20</td>
</tr>
<tr>
<td>Poor in studies</td>
<td>29</td>
<td>58</td>
</tr>
<tr>
<td>Breakdown in Study</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Yes</td>
<td>32</td>
<td>64</td>
</tr>
<tr>
<td>No</td>
<td>7</td>
<td>14</td>
</tr>
</tbody>
</table>

Types of the Family, N=50

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<tbody>
<tr>
<td>Nuclear</td>
<td>36</td>
<td>72</td>
</tr>
<tr>
<td>Joint</td>
<td>14</td>
<td>8</td>
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</table>

Family Situations of Juvenile Delinquents N=50

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<table>
<thead>
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<tbody>
<tr>
<td>Broken Home</td>
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<td>18</td>
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<tr>
<td>Parental Rejection</td>
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<td>6</td>
</tr>
<tr>
<td>Faulty discipline</td>
<td>7</td>
<td>14</td>
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<tr>
<td>Well Adjusted</td>
<td>31</td>
<td>62</td>
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Parental Status of Working N=50

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<tbody>
<tr>
<td>Single</td>
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<td>64</td>
</tr>
<tr>
<td>Both</td>
<td>17</td>
<td>34</td>
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Time spent by Father &/or Mother with the Delinquents N=50

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<thead>
<tr>
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<tbody>
<tr>
<td>Time Spent By Father</td>
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<td></td>
</tr>
<tr>
<td>None</td>
<td>19</td>
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<tr>
<td>2-4 Hours</td>
<td>19</td>
<td>38</td>
</tr>
<tr>
<td>5-8 Hours</td>
<td>9</td>
<td>18</td>
</tr>
<tr>
<td>More than 8 Hours</td>
<td>2</td>
<td>4</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Time Spent By Mother</td>
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<td></td>
</tr>
<tr>
<td>None</td>
<td>14</td>
<td>28</td>
</tr>
<tr>
<td>2-4 Hours</td>
<td>13</td>
<td>26</td>
</tr>
<tr>
<td>5-8 Hours</td>
<td>14</td>
<td>28</td>
</tr>
<tr>
<td>More than 8 Hours</td>
<td>8</td>
<td>16</td>
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Number of Friends

<p>| | | |</p>
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<thead>
<tr>
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<tbody>
<tr>
<td>2</td>
<td>8</td>
<td>16</td>
</tr>
<tr>
<td>2 to 6</td>
<td>26</td>
<td>52</td>
</tr>
<tr>
<td>More than 6</td>
<td>11</td>
<td>22</td>
</tr>
<tr>
<td>No Friends</td>
<td>5</td>
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With Whom They Share Their Secretes

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<tr>
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<tbody>
<tr>
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</tr>
<tr>
<td>Freinds</td>
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<tr>
<td>Sister</td>
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<td>6</td>
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Social Environment of Juvenile Delinquents

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<table>
<thead>
<tr>
<th></th>
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<tbody>
<tr>
<td>Good</td>
<td>15</td>
<td>30</td>
</tr>
<tr>
<td>Poor</td>
<td>35</td>
<td>70</td>
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Crime Record of Juvenile Delinquents

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<thead>
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<tbody>
<tr>
<td>Murder</td>
<td>16</td>
<td>32</td>
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<tr>
<td>Murder Attempt</td>
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<tr>
<td>Rape</td>
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<td>6</td>
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<tr>
<td>Stealing</td>
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<td>Drug Trafficking</td>
<td>1</td>
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</tr>
<tr>
<td>Kidnaper</td>
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<td>2</td>
</tr>
<tr>
<td>Arms Act</td>
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<tr>
<td>Currency duplicacy</td>
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Age at the Time Crime was Committed

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<table>
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<tr>
<th></th>
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<tbody>
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<td>11yrs</td>
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<tr>
<td>12yrs</td>
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<td>16yrs</td>
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</tr>
<tr>
<td>18yrs</td>
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Family History of Criminal Act

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<td>Yes</td>
<td>6</td>
<td>12</td>
</tr>
<tr>
<td>No</td>
<td>44</td>
<td>88</td>
</tr>
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Occupation / Work H/o Juvenile Delinquents

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<thead>
<tr>
<th></th>
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</thead>
<tbody>
<tr>
<td>Below 8 Years</td>
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<td>4</td>
</tr>
<tr>
<td>9-12 Yrs</td>
<td>13</td>
<td>26</td>
</tr>
<tr>
<td>13-16 Years</td>
<td>21</td>
<td>42</td>
</tr>
<tr>
<td>16-18 Years</td>
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<td>4</td>
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Nature of work

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<tr>
<th></th>
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</thead>
<tbody>
<tr>
<td>Waiter</td>
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<td>6</td>
</tr>
<tr>
<td>Labour</td>
<td>11</td>
<td>22</td>
</tr>
<tr>
<td>Farmer</td>
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<td>6</td>
</tr>
<tr>
<td>Shop Keeper</td>
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<td>36</td>
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<tr>
<td>Driver</td>
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<td>6</td>
</tr>
<tr>
<td>Student</td>
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Monthly Income

<p>| | | |</p>
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<td>1000-2000</td>
<td>16</td>
<td>32</td>
</tr>
<tr>
<td>3000-5000</td>
<td>17</td>
<td>34</td>
</tr>
<tr>
<td>5000 &amp; Above</td>
<td>5</td>
<td>10</td>
</tr>
</tbody>
</table>
The results presented on table 1 shows that nearhalf of the population of present study was from urban slum area and 26 were belonging to urban and 28% from rural area. results in table reveals majority were from nuclear family (72%) and interestingly 62% were reported from well adjusted fmily. Another interesting findings in table 2 is that majority (64%) of children in conflict law were having single parent by any reason but it is evident that parental vacume of either can leads to very serious consequences to children may be serious crime like murder etc. Table furhter indicate that the children in conflict with lawof them majority reported that their either parents were not giving the proper time to share or discuss the issues related to them or giving very less time and subsequently tmajority (52%) were not having more nuber of freinds rather their social circe was also very restricted. resuts of the tabe further indicate that such children were involved in various antisocial activities including serious crime like murder but most of them (46%) were found involved in stealing. Majority were form lower socio economic conditions and haing the h/o abuse.

**DISCUSSION**

Juvenile delinquents were mostly in the age group of 15 to 17 year with a rapid decline in 18 years of age. Majority belonged to slum urban background followed by rural and urban areas. They were mostly educated up to primary level,were poor in studies,had left studies due to lack of interest or financial problems and wanted to resume their studies. Majority belonged to nuclear family. Parents had little time to spent with them and had poor social environment though they had average 2 to 6 friends and could share their secrets with their friends. Majority of them had lower middle to poor socio-economic status and fewer physically abused in their childhood frequently. Majority of them involved in stealing followed by murder and rape. These findings are consistent with earlier findings too.

Warr (1933) who stated that delinquency escalates rapidly as individuals enter their ten years and then declines almost as rapidly as they enter their late teens and early twenties. Poverty and poor living condition is associated with juvenile delinquency (William,1999). Socio-economic status and family status have been reported to make both joint and independent contributions to deviant behavior,may be because these children are unable to get proper education due to poverty and they have to do some work for income and their childhood is snatched from him. Matherne and Thomas (2001) also viewed that children/youth from non-traditional families (single parent, reconstituted) have a far greater chance of engaging in delinquent behavior than children/youth from traditional families. One of the reason why children from joint family may be less likely to engage in delinquency is the presence of family resources (Matherne & Thomas, 2002). Parents who are poor in communication skills,unable to establish
strong emotional ties and/or provide little to no support for children risk seeing them engage in delinquent behavior (Keller, et al, 2002). Type of society and neighbourhood also marks an individual’s ability to deal with delinquency. This can be explained in the light of the social learning theory of Albert Bandura (1977), in which he postulated that the child observes and then imitates the behavior of adults or other children around him or her. Poor or inadequate peer group influences resulted in deviant behavior. Vitaro, Brendgen and Tremblay (2002) stated that “Spending time with deviant friends exerts a great deal of pressure on a young person to adopt the same behaviours. Finding of the present study related to physical abuse are in accordance with Hoge (1994); Mason (2001) whose findings were convincing that early child physical abuse to be a key factor of delinquent behaviour.

Physical abuse was found to be positively correlated (P<.05 level) with type of crime, those with history of physical abuse were involved in crimes like murder, rape and stealing.

CONCLUSION

As it is evident from the above findings that it’s not just the will of an individual which makes person into the world of wrong deeds, all other factors like schools, neighbourhood, family, society, situations are equally responsible for the degradation or fall of a child. A grave problem such as juvenile delinquency can't solved by means of legislation and government efforts alone. As far as India is concerned in many of the states Child Protection Acts have not been effectively enforced. Government as well as private agencies must work hand in hand with all sincerity and seriousness to find an effective remedy for the problem of juvenile delinquency. The public attitude towards Juvenile delinquents must also change. A juvenile delinquent is a product of unwholesome environment congenial for the development of his faculties in conformity with social expectations.

REFERENCES


A Study of Socio-demographic Variables and Personality Profile of Persons with Homicidal Behaviour in Clinical Settings

Samir Sarma¹, Kangkan Pathak² and Maitreyee Dutta ³

ABSTRACT
Mentally ill patients with history of homicidal act or attempt are often encountered in psychiatric practice. Multiple factors interact in shaping such behaviour. In this study we attempted to find out the various socio-demographic characteristics and personality profile of mentally ill persons with history of homicidal behaviour. The sample (N = 30) was selected from inpatient ward of LGBRIMH – Tezpur (Assam), using random sampling technique. After collecting relevant history and socio-demographic data, personality profile was assessed using MCMI – III and impulsivity was assessed using BIS – 11 scales. BPRS (18 item) score of 41 was taken as a cut-off prior to evaluations, above which personality assessments were not carried out. Majority of the subjects were male (93.3%), mean age was 35.13 yrs. In majority of cases, the victim was a family member (70%). 80% of the subjects had a primary clinical diagnosis of psychosis. MCMI – III results showed that 70% of the subjects had at least one personality disorder. DSM – IV cluster – A personality disorders (43.3%) were the most prevalent. Scores on BIS – 11 revealed that 53.3% have pathological levels of impulsivity, especially in the domain of non-planning impulsivity (93.3%). The study also found significant negative correlation between age and impulsivity. Impulsivity was higher among cluster – B and lower among cluster – C personalities. Cluster – B disorders were more among younger age group.

INTRODUCTION
Violence, including homicide is common in society and is also frequently encountered in psychiatric practice.

World Health Organization in the year 2002 published the “World report on violence and health”. This report was the first comprehensive summary of the problem of violence including suicide, homicide & various war related violence on a global scale. It advocated a public health approach to violence in a more comprehensive and holistic manner.

In the year 2000, an estimated 1.6 million people worldwide lost their lives to violence – a rate of nearly 28.8 per 100,000. Around half of these deaths were suicides, nearly one-third were homicides, and about one-fifth were casualties of armed conflict (W.H.O., 2002).

The World report on violence and health used an ecological model to understand the multifaceted nature of violence. The model assists in examining factors that influence behaviour-- or which increase the risk of committing or being a victim of violence -- by dividing them into four levels. These 4 levels are--
1. Individual factors,
2. Relationship factors,
3. Community contexts &
4. Societal factors.

Several studies have reported unique characteristics of persons with homicidal behaviour. However, the number of previous studies on persons with homicidal behaviour is few in this part of the country.

We, at LGB Regional Institute of Mental Health – Tezpur (Assam), often get to see mentally ill patients, with history of homicidal act or attempt, both as inpatient as well as outpatient. Therefore, we have selected this group of patients as the subject of our study, and tried to assess their socio-demographic

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characteristics, psychopathology and personality profile.

**METHOD**

The study was carried out during a 1 year period starting from August – 2011. Cases with history of homicide (act or attempt) were collected from LGBRIMH- Tezpur in-patients. Consecutive sampling technique was employed. All the indoor patients, with history of homicidal act or attempt that the investigator came across during the study period were selected, until the predetermined number of 30 valid samples was reached. Persons with mental retardation and severe cognitive impairment were excluded from the study sample.

Written informed consent was taken from all the participants & they were free to withdraw it at any time. Relevant history was collected from persons concerned & also from family members. Data regarding socio-demographic variables were collected. Thorough mental status examinations were carried out. Brief Psychiatric Rating Scale (BPRS) (18-item) was administered to rule out acute psychotic exacerbations. Evaluation was not carried out during acute phase of psychosis. A score of >= 41 on BPRS (18-item) was taken as the cut off for exclusion. This cut off score has been selected as BPRS score = 41 correspond to CGI (Clinical Global Impression) score = 4, which indicates “moderately severe” illness (Leucht, S. et al., 2005).

Thereafter, personality assessment was done using Millon Clinical Multiaxial Inventory-III (MCMI-III) and impulsivity was assessed using Barratt Impulsiveness Scale (BIS – 11).

Data was then statistically analysed to find out any significance of the observed findings.

A total of 32 individuals were interviewed during this period, of which 2 persons, who gave invalid & inconsistent responses on personality assessments were excluded from the study.

**Statistical Analysis**

Statistical Program for Social Sciences (SPSS - Version 20) was used for all the statistical analysis. Pearson’s correlation coefficient & Pearson’s chi-square values were calculated to find out any significant correlations or associations among the different study variables. Fisher’s exact test was used, where ever Pearson’s chi-square test could not be applied due to smaller (< 5) expected frequencies in > 20% of the cells on 2×2 tables. Significance level was taken at p (Probability) value less than 0.05.

**RESULTS**

<table>
<thead>
<tr>
<th>Table 1: Showing Socio demographic Characteristics</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>AGE GROUPS</strong> (Mean Age = 35.13 yrs)</td>
</tr>
<tr>
<td>18 – 29 Yrs</td>
</tr>
<tr>
<td>30 – 39 Yrs</td>
</tr>
<tr>
<td>40 – 49 Yrs</td>
</tr>
<tr>
<td>50 – 59 Yrs</td>
</tr>
<tr>
<td>60 Yrs &amp; Above</td>
</tr>
<tr>
<td><strong>GENDER</strong></td>
</tr>
<tr>
<td>Male</td>
</tr>
<tr>
<td>Female</td>
</tr>
<tr>
<td><strong>MARITAL STATUS</strong></td>
</tr>
<tr>
<td>Married</td>
</tr>
<tr>
<td>Unmarried</td>
</tr>
<tr>
<td>Separated</td>
</tr>
<tr>
<td><strong>RELIGION</strong></td>
</tr>
<tr>
<td>Hindu</td>
</tr>
<tr>
<td>Muslim</td>
</tr>
<tr>
<td>Christian</td>
</tr>
<tr>
<td>Others</td>
</tr>
<tr>
<td><strong>MOTHER TONGUE</strong></td>
</tr>
<tr>
<td>Assamese</td>
</tr>
<tr>
<td>Hindi</td>
</tr>
<tr>
<td>Bodo</td>
</tr>
<tr>
<td>Nepali</td>
</tr>
<tr>
<td>Bengali</td>
</tr>
<tr>
<td>Naga</td>
</tr>
<tr>
<td>Tea-tribe languages</td>
</tr>
<tr>
<td><strong>EDUCATIONAL STATUS</strong></td>
</tr>
<tr>
<td>Illiterate</td>
</tr>
<tr>
<td>Primary School</td>
</tr>
<tr>
<td>Secondary School</td>
</tr>
<tr>
<td>Graduate</td>
</tr>
<tr>
<td>Postgraduate &amp; Higher</td>
</tr>
</tbody>
</table>
OCCUPATION

<table>
<thead>
<tr>
<th>Occupation</th>
<th>Count</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Unemployed</td>
<td>8</td>
<td>26.7%</td>
</tr>
<tr>
<td>Govt. Job</td>
<td>0</td>
<td>0.0%</td>
</tr>
<tr>
<td>Private Job</td>
<td>1</td>
<td>3.3%</td>
</tr>
<tr>
<td>Agriculture</td>
<td>14</td>
<td>46.7%</td>
</tr>
<tr>
<td>Daily Labour</td>
<td>5</td>
<td>16.7%</td>
</tr>
<tr>
<td>Others</td>
<td>2</td>
<td>6.7%</td>
</tr>
</tbody>
</table>

DOMICILE

<table>
<thead>
<tr>
<th>Domicile</th>
<th>Count</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rural</td>
<td>28</td>
<td>93.3%</td>
</tr>
<tr>
<td>Urban</td>
<td>2</td>
<td>6.7%</td>
</tr>
</tbody>
</table>

MONTHLY FAMILY INCOME

<table>
<thead>
<tr>
<th>Income</th>
<th>Count</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>&lt; 10,000 INR</td>
<td>23</td>
<td>76.7%</td>
</tr>
<tr>
<td>&gt; 10,000 INR</td>
<td>7</td>
<td>23.3%</td>
</tr>
</tbody>
</table>

RELATION WITH THE VICTIM

<table>
<thead>
<tr>
<th>Relation</th>
<th>Count</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Family Member</td>
<td>21</td>
<td>70.0%</td>
</tr>
<tr>
<td>Known person, other than family member</td>
<td>9</td>
<td>30.0%</td>
</tr>
<tr>
<td>Stranger</td>
<td>0</td>
<td>0.0%</td>
</tr>
</tbody>
</table>

MCMI-III: Data from MCMI-III yielded the following results.

### Table 2: Distribution of MCMI-III Personality Patterns in the Study Sample

<table>
<thead>
<tr>
<th>MCMI-III Codes</th>
<th>LEVEL OF PERSONALITY PATHOLOGY</th>
<th>PRIMARY CLINICAL DIAGNOSIS</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>1 (Score=0-59) Insignificant N (%)</td>
<td>2 (Score=60-74) Personality Features N(%)</td>
</tr>
<tr>
<td>1 Schizoid</td>
<td>5 (16.7%)</td>
<td>15 (50.0%)</td>
</tr>
<tr>
<td>2A Avoidant</td>
<td>9 (30.0%)</td>
<td>7 (23.3%)</td>
</tr>
<tr>
<td>2B Depressive</td>
<td>10 (33.3%)</td>
<td>11 (36.7%)</td>
</tr>
<tr>
<td>3 Dependent</td>
<td>9 (30.0%)</td>
<td>15 (50.0%)</td>
</tr>
<tr>
<td>4 Histrionic</td>
<td>24 (80.0%)</td>
<td>5 (16.7%)</td>
</tr>
<tr>
<td>5 Narcissistic</td>
<td>15 (50.0%)</td>
<td>10 (33.3%)</td>
</tr>
<tr>
<td>6A Antisocial</td>
<td>12 (40.0%)</td>
<td>14 (46.7%)</td>
</tr>
<tr>
<td>6B Sadistic (Aggressive)</td>
<td>4 (13.3%)</td>
<td>23 (76.7%)</td>
</tr>
<tr>
<td>7 Compulsive</td>
<td>11 (36.7%)</td>
<td>15 (50.0%)</td>
</tr>
<tr>
<td>8A Negativistic (Passive-Aggressive)</td>
<td>1 (3.3%)</td>
<td>17 (56.7%)</td>
</tr>
<tr>
<td>8B Masochistic (Self-Defeating)</td>
<td>5 (16.7%)</td>
<td>14 (46.7%)</td>
</tr>
<tr>
<td>S Schizotypal</td>
<td>4 (13.3%)</td>
<td>19 (63.3%)</td>
</tr>
<tr>
<td>C Borderline</td>
<td>7 (23.3%)</td>
<td>17 (56.7%)</td>
</tr>
<tr>
<td>P Paranoid</td>
<td>3 (10.0%)</td>
<td>7 (23.3%)</td>
</tr>
</tbody>
</table>

Table 2 Shows the frequency distribution of various MCMI-III personality features (Score=60-74) / traits (Score=75-84) / disorders (Score=85-115) in the study sample. The prevalence of DSM-IV personality disorder clusters in the study sample is presented in table -3.
Table 3: Prevalence of Personality Disorders (MCMI-III Score = 85 -115) in the study Sample

<table>
<thead>
<tr>
<th>Personality Disorder (MCMI-III)</th>
<th>Cluster-A Personality Disorder (DSM-IV)</th>
<th>Personality Disorder (DSM-IV Cluster-B)</th>
<th>Personality Disorder (DSM-IV Cluster-C)</th>
<th>Personality Disorder - NOS (DSM-IV)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Present</td>
<td>21 (70.0%)</td>
<td>13 (43.3%)</td>
<td>7 (22.3%)</td>
<td>10 (33.3%)</td>
</tr>
<tr>
<td>Absent</td>
<td>9 (30.0%)</td>
<td>17 (56.7%)</td>
<td>22 (72.3%)</td>
<td>20 (66.7%)</td>
</tr>
<tr>
<td>Total</td>
<td>30 (100.0%)</td>
<td>30 (100.0%)</td>
<td>30 (100.0%)</td>
<td>30 (100.0%)</td>
</tr>
</tbody>
</table>

BIS-11:

Barratt (Barratt et al. 2005) has suggested that a total score of 70 or higher indicates pathological impulsivity. Computing the observed data at this level shows that 53.3% (N=16) of the study subjects has impulsivity at pathological level.

Table 4: Level of Pathological Impulsivity in the Study Sample

<table>
<thead>
<tr>
<th>BIS-11 total score</th>
<th>Level of Impulsivity</th>
<th>Frequency (N)</th>
<th>Percentage (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>0 - 69</td>
<td>Non-pathological</td>
<td>14</td>
<td>46.7%</td>
</tr>
<tr>
<td>70 - 120</td>
<td>Pathological</td>
<td>16</td>
<td>53.3%</td>
</tr>
<tr>
<td>Total</td>
<td></td>
<td>30</td>
<td>100%</td>
</tr>
</tbody>
</table>

BIS – 11 has 3 sub-scales (Attentional Impulsiveness, Motor Impulsiveness, and Non-Planning Impulsiveness) with 6 factors:

1. Attention: “focusing on a task at hand”.
2. Motor impulsiveness: “acting on the spur of the moment”.
3. Self-control: “planning and thinking carefully”.
5. Perseverance: “a consistent life style”.
6. Cognitive instability: “thought insertion and racing thoughts”.

Among the 3 BIS-11 subscales, 60% (N=18) of the subjects has higher scores on attentional impulsiveness sub-scale [Factors: Attention & Cognitive Instability], 56.7% (N=17) has higher score on motor impulsiveness sub-scale [Factors: Motor & Perseverance] & 93.3% (N=28) has higher scores on non-planning impulsivity sub-scale [Factors: Self-Control & Cognitive Complexity].

Results on non-planning impulsivity sub-scale has been found to be statistically significant on chi-square (goodness of fit) test (p < 0.01).

Table 5: BIS – 11 Sub-scales Scores

<table>
<thead>
<tr>
<th>BIS – 11 Sub-scales</th>
<th>Level of Impulsivity</th>
<th>Frequency (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Attentional Impulsiveness [Factors: Attention &amp; Cognitive Instability]</td>
<td>Low</td>
<td>12 (40%)</td>
</tr>
<tr>
<td>Motor Impulsiveness [Factors: Motor &amp; Perseverance]</td>
<td>Low</td>
<td>13 (43.3%)</td>
</tr>
<tr>
<td>Non-Planning Impulsiveness [Factors: Self-Control &amp; Cognitive Complexity]</td>
<td>Low</td>
<td>2 (6.7%)</td>
</tr>
<tr>
<td></td>
<td>High</td>
<td>18 (60%)</td>
</tr>
<tr>
<td></td>
<td>High</td>
<td>17 (56.7%)</td>
</tr>
<tr>
<td></td>
<td>High</td>
<td>28 (93.3%)</td>
</tr>
</tbody>
</table>

DISCUSSION

This study observed several important findings. Significant male preponderance has been seen among mentally ill persons with homicidal behaviour. 28 out of 30 (93.3%) of the study sample were male. Mean age of the sample was 35.13 years with a range of 22–55 years and a standard deviation of 9.6 years. Both of these findings are in accordance with several well documented previous studies. Studies done by Shaw et al. (2006) in England and Wales, Simpson et al. (2004) in New Zealand, Koh et al. (2006) in Singapore, Fazel and Grann (2009) in Sweden, Ogungbemi and Ahmed (1993) in Nigeria, Yarvis R. M.(1995) in California, Kishore et al. (1970) in Amritsar, India, all these studies have previously demonstrated male predominance among homicide perpetrators.

Most of the subjects in the current study were married (56.7%), 70% were Hindus, majority (46.7%) were Assamese speaking, 60% of them received education up to secondary school level, majority (46.7%) were cultivators, 76.7% had a family income less than 10,000 INR per month and vast majority were from rural background (93.3%). These observations are understandable considering the population from which the sample has been selected.

One important observation of this study is that the victims were always either a family member (70%) or other known person (30%). In none of the cases strangers were involved. This is not in accordance to several previous studies. Study by Yarvis R.M. (1980-1988) found that 32% of the offenders killed a stranger. Shaw et al. (2006) found that 25% of the subjects in their national clinical survey of homicide in England and Wales killed a stranger.
In present study, majority committed the homicidal act under a psychotic process (73.3%) and significant majority of the subjects had the primary clinical diagnosis of psychosis (70% had schizophrenia and another 10% had other psychotic disorders). These observations are understandable considering the institutional setting from which the sample is selected.

Personality assessment using MCMI – III revealed that 70% (n=21) of the study subjects have at least one personality disorder. Among the various DSM-IV personality disorder clusters, Cluster - A is found to be most prevalent 43.3% (n=13). High prevalence of personality disorders and especially, Cluster – B disorders among homicide perpetrators has been well documented in literature. Increased prevalence of Cluster – A personality in our study sample can probably be explained considering the high number of psychotic patients and, also the mental hospital inpatient setting from where the sample was selected. This explanation is supported by a recent literature review by Adam et al. (2013) which states that many patients who later develop schizophrenia or delusional disorder have a premorbid cluster – A personality. Regarding impulsivity, 53.3% of the subjects had pathological levels of impulsivity, especially in the domain of non – planning impulsivity (93.3%), suggesting impairment in factors ‘self – control’ (planning and thinking carefully) and ‘cognitive complexity’ (enjoying challenging mental tasks).

Several previous studies have reported high level of impulsivity and low planning among psychotic murderers. Rath and Dash (1990) found that insanity related homicide as compared to non – psychotic homicide were characterized by absence of malice aforethought, application of excessive violence, presence of high impulsivity and lack of meticulous planning. Homicides committed by psychopathic offenders were significantly more instrumental (i.e. premeditation) in nature, whereas homicides committed by non-psychopaths often were “crimes of passion” associated with a high level of impulsivity, reactivity and emotionality (Woodworth & Porter, 2002). Several significant correlations and associations were observed following statistical analysis of the results.

Age and impulsivity had significant negative correlation. It means that younger subjects have higher impulsivity and level of impulsivity decreases with age. Literature does support findings of present study. Steady decline in impulsiveness with age (Eysenck,1985) and found age differences in impulsivity reported by, (Steinberg et al., 2008) which follows a linear pattern, with impulsivity declining steadily from age 10 onwards.

Pathological impulsivity was found to be significantly higher among persons with DSM-IV cluster-B personality disorders, whereas cluster C and cluster A personalities were associated with low impulsivity. In a study by Steel and Blaszczynski (1998) on pathological gamblers, positive correlation was found between impulsivity and their impulsivist-antisocial personality construct (which included DSM-III-R cluster-B disorders of antisocial, narcissistic, borderline, histrionic personality and some cluster-C disorders including dependent, avoidant and passive-aggressive personality). They also found negative correlation of impulsivity and DSM-III-R obsessive-compulsive personality disorder. In another study Blackburn R. (1969) found association between sensation seeking, impulsivity and psychopathic personality traits.

The relationship between age and various MCMI-III personality scores. Results showed significant negative correlations (p < 0.05) of age with sadistic [aggressive], negativistic [passive-aggressive] and borderline personality scores, indicating that these personality characteristics were commoner among subjects of younger age group. Significant association was also found between DSM – IV cluster C personality disorders and higher age group.

Although, it is widely believed that personality remains stable over a person’s lifetime, several previous studies have yielded some interesting findings. Amad A. et al. (2012), in a review of literature, on personality and personality disorders in the elderly, found that personality is not fixed and can change across the life-time including in the elderly. Longitudinal observations generally supported that the “immature” personality disorders (cluster B) show improvement over time, while the more
“mature” (clusters A and C) personality disorders are characterized by a more chronic course. Many patients with late onset schizophrenia or delusional disorder have a premorbid cluster A personality. Specht, Schmukle and Egloff (2011) have concluded that personality is not fixed and may in fact be more flexible in later life than at earlier stages. Gutiérrez, F., Vall, Peri, Baillés, Ferraz, Gárriz, and Caseras (2012) in their study of personality disorder features through the life course, concluded that personality disorders are more fluid through the life course than previously thought and pathological features show age related decrease and increase. In conclusion, we would like to highlight the need of further studies in this area with larger sample size and also, use of both projective as well as objective personality tests for eliciting more useful results.

REFERENCES


Case Report

Efficacy of Psychodrama in Individuals with Alcohol Dependence

Narendra Nath Samantaray1, Priti Singh2, Amool R Singh3, K S Sengar4 and Archana Singh5

ABSTRACT

Alcohol is an illness known as illness of family and whole family face the consequences of the alcoholism. The problem of alcohol addiction / dependence has becomes a major source of stress for whole family and relatives due to recurrent nature of the problem and its increasing cost in the form of monetary loss, treatment, unemployment or non working condition of the individual. Studies have indicated the importance of psychodramatic procedures in management of Alcohol dependent patients. The present case report is a demonstration to bring an observational and phenomenological analysis of the applicability of psychodrama in the management of conflict and manifestation of assertive behavior in alcohol dependent patients. Mr B, 30 years old, male, graduate hails from middle socio economic family of urban area of Ranchi, Jharkhand was admitted at RINPAS on 5.09.12 for alcohol dependence syndrome. Assessment and Intervention involved 16 sessions. Post therapy and follow up report indicated improvement.

Key Words: Psychodrama, Alcohol dependence, Conflict Management, Assertive Training, Case report

INTRODUCTION

Moreno defined “psychodrama” (1946) as the science which explores the truth by dramatic action”. Psychodrama was further refined and defined by Kipper, (1997) as “a method that uses dramatizations of personal experiences through role-playing enactments under a variety of simulated conditions as a means for activating psychological processes”.

In psychodrama the process that takes place in a group or in individualized session is a way of looking at one's life as it moves. It is a intrinsic symbolic of looking at what happened and what didn't happen in a given situation. All scenes take place in the present, even though a person may want to enact something from the past or something in the future. It imbibes a person to be more constructively spontaneous. The objectives of insight and cathartic release play their part in unblocking the person's, perception and ability to deal with change (Costa, 1992).

Psychodrama therapy as promotes an environment in which addicted clients can openly express emotions, explore a drug-free future, develop communication skills and make personal connections. Clients are urged not to rationalize or deny addiction; rather, through the dramatic process, they are challenged to face their issues directly and truthfully.

Research and therapeutic works has indicated the effectiveness of psychodramatic procedures and other form of action oriented therapies incorporating of various social skills and management of conflicts with individuals with substance dependence.

Dayton (2000) discussed efficacy of psychodrama who were dealing with addiction and trauma. Marayam (2012) examined the effectiveness of dramatic procedures in improving social skills like refusal training. Greenwald et al. (1980) found effectiveness of action oriented therapy for alcohol addicted individuals in the development of adaptive refusal and social skills. Loughlin (1992) his study aimed to investigate the perceived effectiveness of dramatic procedures in the treatment of women with alcohol problems mostly by resolving of conflicts. Dushman (1991) found psychodrama to be effective in addicts as a means of catharsis which can be too used for social skill training necessary for relapse prevention and abstinence.

The present case report is an illustration of the effectiveness of psychodrama on alcohol dependence individual in management of conflict and improving assertive skills.

BRIEF CLINICAL HISTORY

Mr B, 30 years old, male, graduate, at present unemployed, unmarried, hindu, hails from middle
socio economic family of urban area of Ranchi, Jharkhand was admitted at RINPAS on 5.09.12 for alcohol dependence syndrome. He has been taking alcohol for last 8 years. The first exposure of alcohol was with his friends circle. Initially the amount used to be taken was 200-400ml approx/day, varying twice or thrice in a month. But after two years, the frequency reached to twice in a week. The amount during that time too increased at each time varied from approx. 200-400ml /day and during outing and parties with friends its quantity increased. Approximately, three years later, the alcohol was taken nearly every day due to combined factors of family conflicts and friends influence, which are briefly discussed later. During that time, the amount taken varies from 500-600 ml daily and occasionally in every week it increases up to 5-6 quarters (approx. 800-900ml /day). The period of abstinence during these periods were limited to a few days, at best two three days. He spent all his saved money on alcohol an started borrowing from brother, friend and other relatives. Not only due to his cravings but also it was fuelled by poor coping skill, misleading of his friends, provocation from them and the family’s conflict. The history is suggestive of further deterioration in relationship with parents and siblings due to his alcohol addiction.

FAMILY DYNAMICS, FRIENDS CONFLICTS AND ADDICTION:

He is second to his elder brother and has two younger sisters. His family, father and elder brother now, runs a private hostel for male students at Ranchi. His married elder brother, other than him, takes alcohol in his family but occasionally. His relationship with his father is strained. He could never communicate his needs, desires and wishes to his father properly. He believes father is too much favours his elder brother. He always hesitates to ask any major help. And whenever he minimally tried his father was negative and apprehensive on his demands. The relationship with his father became understandably more strained following his severe alcohol dependence for last 3 years. Relationship with his brother, before alcohol dependence, was marked with mixed feelings. He perceives his brother as a hardworking and responsible member, but he thinks he limits his responsibility to his wife, father and elder sister. He “actually” never really understood him and never extended a much greater effort when he required it the most. After his graduation he joined his family business of running private hostel but after six months he was given responsibility to run a “small” hostel in the sub urban area of Ranchi, but the land on which they had hostel was in court litigation which caused further he has to bear a loss of three lakh rupee. At this his father became very critical and always commented that he should never have been given charge. After that he was never given a chance to run another separate business. After the loss and frequent criticism he always made to be felt ridiculous in home, he considered himself very guilty and become an easy ally to alcohol. His addiction further intensified the severity of cold war between his father, he rarely talks him, he is so scared, dysphoric and hurt that he hesitated for making a simple request or help to either of his father or elder brother. Though he remained in home but his dysphoric, guilty and critic feelings become a fiery unbreakable fence confining him into untouchable territory. The more he tried to analyze the others attitude the more gloomy reflection of others doomed him. In verse of painful seclusion in home he found his friends and alcohol a more inseparable more inevitable support. In quest of solace, he glued with his friends than before. Though he knew these solace from friends and alcohol were temporary in nature, but he thought himself more week and become more passive to immediate gratification of temporary pleasure. This fueled as more clear inroads to his habit of addiction and when it became a part and parcel the rest evil hall mark came from physiological dependence. After the wrath of physiological withdrawal he was left with no choice but to accept the slavery of alcohol.

The same trajectory of poor self control, criticism of father, poor communication, poor assertiveness coupled with poor ego strength continued even after the first discharge from de addiction centre. The intensity and severity of despondency were at zenith after the playback of his father’s cold war with him after his return from Patna. The more he tried to assimilate strength by staying in his family the more he interpreted every move as silent satire to him. Slowly but steadily he again repetitively tried his old solace from friends circle and trapped again with alcohol with more ease.
ASSESSMENT
A base line data for conflict was taken with the help of Sack’s Sentence Completion test and for assertiveness the self prepared Assertiveness Checklist were administered. Qualitatively severe level of conflict was found regarding the “attitude towards father” a sub domain of Family area. And on assertiveness checklist, score of 5 suggesting, poor assertive level.

THERAPEUTIC PROCESS (Participant Observant and Phenomenological approach)

Mr B’s after being finalized as a participant his management was started with a more inquisitive in depth history about structure, interaction, aspiration and dynamics about his family and himself who is presented above in his case record section which constitutes initial three sessions.

Initial sessions focused on more development of therapeutic alliance. In 4th sessions, the actual psychodramatic procedure began. The warm up was done first so that the Protagonist, Mr B, can learn something about the other group members and to allow a room to approach the problem gradually. The techniques of verbal warm up was used in two sessions are “Ball Toss” and “Introduction” methods. In ball toss methods he along with the other was allowed to ask questions to other, with whom the ball was in hand, as they wished and in “Introduction” method he opted to act as his own mother and introduced about the son, Mr B, to audience.

Empty Chair Technique and Catharsis (5th to 6th Sessions)

It involved an individual session, where he was allowed to talk with his assumed father who was sitting to the next kept empty chair whatever he wants, the director instructed him to think of anything any topic that he wished to discuss with his father but could never. Here during enactment, he initially hesitated but later in second session he discussed with his father regarding his wish and fear regarding his brother, he discussed that he always felt cold towards both of them and never discussed his problem as he felt that would more hamper his relationships. He elaborated to his father that he felt he would be angrier, so through catharsis he pent upped the fears regarding his brother and urged him to give his a chance to overcome his mistake. While playing the other role of father he too explained that it is his actuality taken for granted which brought an aura of tension and pleaded him that to discuss every matter that is concerning him and not to assume any negative thoughts rather to clarify.

After the session a subjective report is taken, here he admits that actually he always assumed that his father would never understand him and hence, he was very reluctant to discuss as here he discussed. He wished as he could have done the same thing in past and then he hoped that at this his father could have given a second thought but the same time he was afraid that his father may not have behaved as he just enacted now. However, he felt relax and more assertive after discussing about his brother’s problem. The director instructed him to write his experience and learning in his note book so that he can utilize this when he goes back to his home.

7th to 9th session: Simple Enactment and Later Role Reversal:

The protagonist here is said temporarily to become his father by adopting the position, characteristics and behavior of the father. The auxiliary performing occupies the part of the protagonist role as Mr B (Here the auxiliary is played by the director for first fifteen minutes then when the audience understood one of them played Mr B in later part). A situation was given to him, as his father has to discuss about Mr B with his elder brother. In instruction the director, (researcher), instructed that no matter any how the father has to give rational about his behavior towards his son. Then enactment unfolded, it involved interaction with the father with Mr B who tries him to explain what he felt about him and how much pressure their family went through due to his loss. How has his negligence caused harm to her sister’s reputation and what pain he is going through? Here the protagonist by playing his role of father enables him to see the world from the perspective of the father, his mind was expanded to seek really understand what it is like to be other person.

Subjective Report after the Session by the Protagonist:

The subject here admits that it was not an easy to be his father, though he earlier understands the difficulty and responsibility his father has but still he thought the fathers should have given more time and thought and moreover, few more chance
with him. But he in the act tries to empathize with his father and he explains that if “I won’t be serious about my life and my earnings then what my father can do! But all I wanted that he should have more understood me and this time when I go back I need to discuss a lot with him with ease mind”. “I also understand my father’s fear in giving me more responsibility, he fears that my further loss will effect my family status but also my sister wedding which is round the corner”.

**Application of Meta Role: (Used in 5th and 7th Session along with Simple Enactment and Empty Chair Sessions.**

When the protagonist in empty chair (second session of empty chair) was progressing he was becoming deviant, the director has to cut the scene and “froze”. Initially director discussed as his instruction was to discuss with his father about his wishes and fears he otherwise avoids to discuss, rather he was discussing trivial, he was made to have an insight to think when one does the role and to evaluate at the same time that what he does is actually helpful or all in vain. Also how to make apologies rather focusing only on rationalization was too aimed in meta role.

**Application of Double Technique:**

As the director (researcher) knew the history and dynamics of the Protagonist, he became his double in empty chair technique and also in simple enactment play in 7th session. As the Protagonist, initially, was not coming with his wish and fears while talking with his father, Director as a double to him gave voice over and raised the fear and uncomfortable tongue tiredness he has with his brother, upon a minor stimulation he later elaborated and it gave him the ignition or initiation that he wanted but was hesitating. Same was happening when he was praising too much initially about his father in simple enactment rather coming to the actual feelings. Also how to make apologies rather focusing only on rationalization was too aimed in double.

**10th Session: Catharsis of Integration:**

Focusing on self explanation of what he learnt from his mistakes and loss in business and unhealthy friend circle

**Working on Assertive Behavior (11th to 16th Session):**

Scenes and Instruction given to the protagonist, he was told to think of a real situation or event in past where he has failed to be assertive mostly relating to where he could not refuse his friend for alcohol, for the evening outing with them or a visit to a bar or any scene related to it. Then he has to enact it in a role play, for the others role he may select any member from group or audience with whom he felt comfortable. While the group member or the auxiliaries will try their best to pursue him to become ally to their demands but he has to strongly resist by adopting novice way to oppose them using his creativity and spontaneity, and the methods have to be practical.

**Techniques Used:**

Role playing, Coaching, Meta Role, Mirror and Replay Technique.

He was challenged to use his spontaneity and creativity to generate new but practical authentic ways to deny such lure during scene enactment. Initially two trials he was not being interfered and the director let his inner skill flourish as much as possible, but after it the director noted the changes and mole in his attitude with guidelines and modifications without much tampering his originality. The guidelines were given with the help of psychodramatic techniques noted above. However, not a particular technique is mostly involved the integration of techniques keeping the view of best interest of required skills. Wherever, he was found that what he is doing in order to avoid or refuse, it could be done in much assertive manner and effective manner, the scene was frozed, and he was made to pause and ponder to think better rational and more effective ways than earlier, this too checks his flow of emotion. He was repeatedly being realized that the present psychodrama sessions were the opportunities to learn how inculcate these actions in real life, so that at other times in his life when he is in a tight situations, he can imagine that he is in psychodrama and mentally step back and rethink the situation the way he was doing that in drama.

Aside Technique and Doubling technique by the director, where he felt the need to be used. In same manner refining and enriching his skills are done by the help of director playing the double when he felt the protagonist is becoming weak. He was hesitant but the double helped him to strengthen his ego and effort in refusing others in a very firm, clear but in a very acceptable manner. Upon the initial hesitant in later attempts the protagonist successfully and confidently faced the others lure.
Post Test Measure:

It includes interviewing regarding conflict scales, after the end of 16th session, the Sack’s Sentence Completion Test (SSCT) and the Assertiveness questionnaire was re administered, but while qualitative assessment of SSCT special importance is given on those items where conflict is found earlier like “attitude towards father” a sub domain of Family area. The post assessment highlights the progress towards resolution is in process in case of attitude towards his family. On Assertiveness Scale both on quantitative measure he scored 10 which indicate of change attitude towards assertive behavior. Behavioural observation during the progress of dramatic procedures noticed changes in assertive behavior as compared to follow up (after one month)

PROGRESS REPORT AFTER ONE MONTH OF FOLLOW UP

After one month on follow up when he was interviewed how he progressed, he was content with his progress. He replied that he has already discussed in details with his father regarding his future plan, and father too was ready for lending him money by the help of bank, which he has to pay back. Earlier his father was not ready for any kind of monetary help but he expressed that this time he has conveyed and showed a lot promise in his words and deeds and for this reason he was convinced. Telephonic interview with his father revealed that he is happy to see improvement/ change in his son. Regarding his friends, he expressed that actually none of his friends has forced him for alcohol, and few relatives in social gathering offered him for alcohol he refused it firmly. But says that some time he develops wish to drink but he has not allowed it he feels that he has overcome on the problem.

TREATMENT IMPLICATIONS OF CASE

A significant implication of this study from a clinical perspective involves the applicability of psychodrama in the conflict management and assertive skill developing of alcohol dependent patients. As in this case, psychodrama can be used to address a wide variety of issues including those in the past, present, and even future possibility, of those that involve the internal conflict or interpersonal realm. Psychodrama can provide the context for dealing with guilt and practicing making amends. In addition to providing the opportunity for emotional release, as we have seen this case. Psychodrama can be used to facilitate discharge planning and preparation for life outside of the treatment. Psychodrama role-playing teaches empathy skills par excellence. During dramatization through empty chair, role reversal and double, Mr B quite literally put themselves in the place of the other person and effort was there to experience the world from their point of view. The psychodramatic approach can be readily integrated with many other approaches to psychotherapy. As here we have assimilated certain behavioural techniques in psychodramatic mould mostly in case of teaching of assertive skills. Individuals like here can be challenged and nourished to hone their spontaneity and creativity to generate novice items. Hence, Psychodrama can give a significant advantage in changing behavior both through exploratory, healing role play and role training or practicing more functional behaviours. It offers a living laboratory in which a one can view and experience their own life, comparing and contrasting differing sets of behaviours, separating the past from the present and making conscious choices as to what may work best for them as move towards recovery.

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Case Report

Efficacy of Cognitive Behavior Therapy on Person with Obsessive Hoarding

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ABSTRACT

OCD is a debilitating manifaceted mental health problem with variable symptomatology which leads to significant impairment in personal, social and occupational impairment and needs multimodal therapeutic process for the management. The individual may face different type of symptoms OCD e.g. checking, washing hoarding etc. Hoarding is one of the rare entity may be because its nature of confinement to the individual. One may give very logical justification in case of hoarding and also it has no impact on others as sufferer feels. Management of the OCD specially as hoarding is challenge for mental health professionals. Nevertheless cognitive behaviour therapy and some especially tailored procedure of behaviour therapy has shown promising results in the management of such problem

Key Words: Hoarding, OCD, Cognitive Behavior Therapy, Management

INTRODUCTION:

Obsessive – Compulsive Disorder is the most distressing disorders among the anxiety disorders as the sufferer has full knowledge of his symptoms and in spite of having full insights is unable to control it. There is increasing evidence that OCD is a heterogenous condition, where a person experiences frequent intrusive and unwelcomed obsessional thoughts, impulses, and images which often are followed by repetitive compulsions, avoidance and assurances. In fact it can be so debilitating and disabling that WHO has ranked OCD in the top 10 of most disabling illnesses of any kind in terms of lost earnings and quality of life.

OCD sufferers experiences obsessions which take the form of persistent and uncontrollable thoughts, images, worries, impulses, fears or doubts. They are often intrusive, undesired, disturbing and significantly interfere with socio-occupational functioning. When the person gets too much distressed with unwanted thoughts he is compelled to indulged in many mental thoughts, rituals or actions in order to relieve in fact the repetition of the actions give way to increase the intensity and frequency of obsession.

Typically persons of OCD fall into one of the four main categories.

Checking
Contamination
Hoarding
Ruminations

Paradoxical hoarding behavior has from an historical perspective, been documented with various psychiatric disorders as OCD, OCDP, dementia, schizophrenia and depression. Frost and Gross (1993) defined it as the repetitive acquisition of large quantities of useless or poorly usable possession with failure to discard. Frost and Hartl (1996) have conceptualized compulsive as multifaceted stemming from information processing deficits, difficulties in forming emotional attachment, behavioural avoidance and faulty beliefs about the nature of saving and possessions.

Hoarding compulsions may be a result of specific hoarding obsession or may be a

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consequence of a range of preceding symptoms including contamination, aggressive or symmetry obsessions (Matsunaga, Hayashida, Kirikie, Nagata, & Stein, 2010).

CASE HISTORY

Mr. X a 43 year old married male, BAMS running his private clinic of approx. 80-100 OPD. His wife was a pharmacist, had one daughter and a son 18 and 11 years old respectively. He was presented with OCD symptoms of repeated checking of papers, documents, getting reassurance from significant others. Hoarding necessary/unnecessary papers, keeping his documents, currency in unorganized manner. Unable to discard prescription, leafs, pamphlets, bus/railway tickets, bills etc. Decreased social interaction, sleep and appetite. He was also dependent on three tablets orthodox. Precipitating factor was shifting of ayurvedic clinic by his father in law in the same street.

Amount of Clutter:

The diagnosis of hoarding was confirmed by some photographs of his drawers, tables and cupboards. There was a huge pile of papers. Drawers of tables and his pockets were full of currency notes, tickets.

Belief about Possession:

He expressed that he was unable to throw any of these documents with the belief that just in case the item is ever needed or throwing it may cause any major harm or loss. The other reason he has given the lack of confidence and energy. He wants to earn more and more money but managing them is a big problem to him.

Information processing deficits:- Because of anxiety of making any mistake and difficulty in making any decision. He also found difficulty in categorizing his possession because every item was unique for him.

Avoidance behavior: With the fear of discarding any item he prefers to put them in box, cupboard and in drawers.

Social and occupational functions: he avoids visiting his relatives, friends but interest in his profession was maintained.

Daily functioning: Besides his own daily functioning he handed over his daily obligations to his wife e.g. counting money, depositing in banks etc.

Insight: He was fully aware of his problem. He wants his dispensary to be spic and span as he was aware how his behavior and cluttering affecting his life.

Support system: Support from his family was very good. His wife visited at all sessions of psychotherapy. Even his wife asked her father to shift his clinic to some other place.

TREATMENT PLAN

He was put on pharmacological treatment Tab Fluxetine 60mg, fluvoxamine 100mg and Clomipramine 75mg along with 8 weekly sessions of Cognitive-Behaviour Therapy 45 minutes each. CBT was designed with psycho-educational intervention, Jacobson Progressive Muscular Relaxation, Behavioural Analysis, graded exposure and response prevention as well cognitive restructuring.

First two sessions were designed to relax him. Further sessions were meant for exposure and response prevention (ERP) by emptying his pockets, categorizing currency, bills, bus tickets useful papers, useless papers, then in graded way throwing useless papers, bills and tickets. The anxiety graph was noted in the form of palpitation, sweating, uneasiness. He was instructed for relaxation. Home assignment was given for one week. Next week ERP done for another pocket with same procedure. Anxiety graph was decreased. Rest of the session done by categorizing his cupboards, drawers, table items in graded way, currency was organized, his useful items papers, documents were organized in different office files having labels and tags on them.

RESULTS AND DISCUSSION

After 8 sessions of CBT his hoarding obsession decreased significantly and he did not show any anxiety symptom except that he
could not reduce his tab orthodox upto 1 tab/ day. Therefore combining CBT with medication is optimal treatment for compulsive hoarding as with the other symptoms of OCD. Saxena & Karron (2004); Mataix, et al. (2002) Abramowitz, J S., Franklin et al. (2003) have shown benefits of CBT for compulsive hoarding although with poorer response and higher rates than non hoarding OCD patients. Exposure and response prevention focuses on preventing further hoarding, discarding, organizing and response prevention. Cognitive restructuring is done on focusing information processing, obsessional anxiety associated with hoarding then with discarding and avoidance decision. Patient was asked to have a daily log of everyday item they acquire or buy to build his awareness of what triggers his behaviours. For desensitization repeated exposure with anxiety, anger while discarding item and making decision done. He was motivated to provoke anxiety, anger by discarding then keeping only necessary items. His erroneous belief of discarding valuable thing was restructured that he has to challenge dire consequences of discarding them. In order to maintain his progress and reduce relapse risk the patient was taught to create a realistic schedule that would include time for himself, his work, his family, recreation etc.

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